

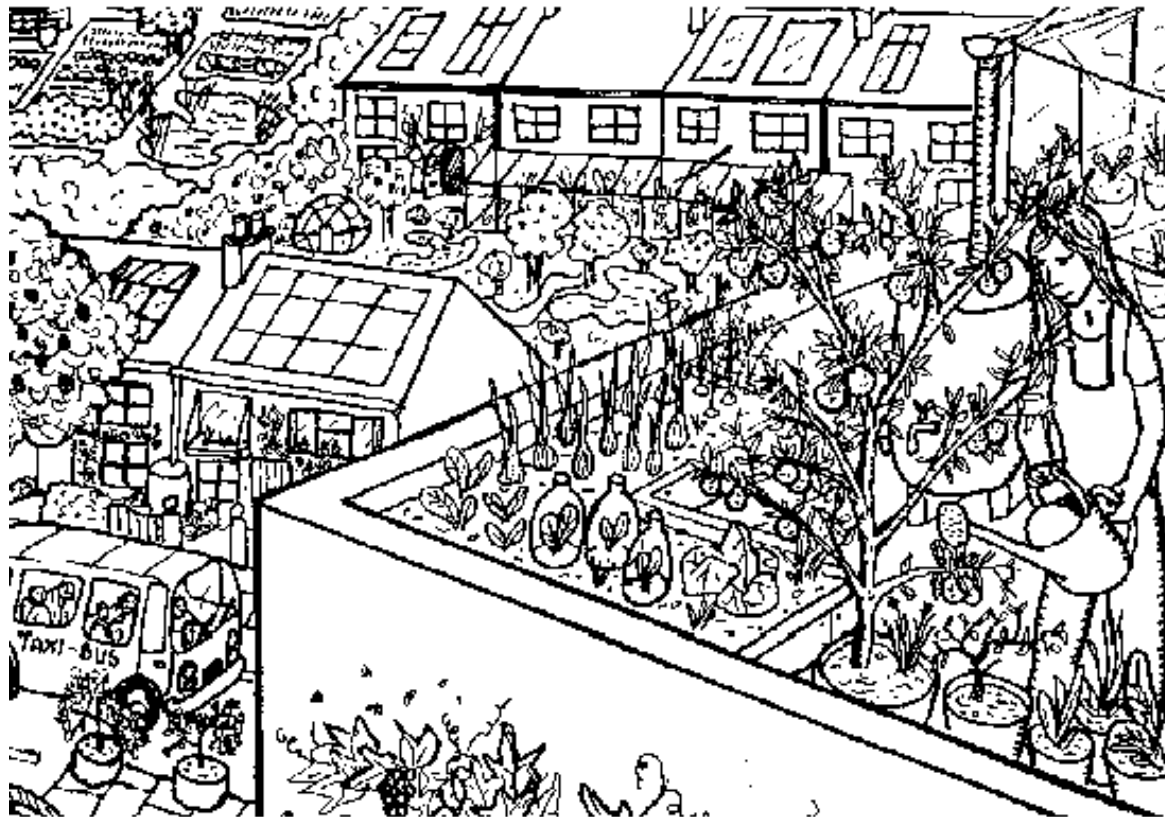


Permaculture- A Beginner's Guide

Permaculture- A Beginner's Guide

Contents

1. [Permaculture- A Beginner's Guide](#)
2. [The Industrial Cup Of Tea...](#)
3. [The Permaculture Cup Of Tea...](#)
4. [What Is 'Permaculture'?](#)
5. [Permaculture Ethics...](#)
6. [Permaculture Principles...](#)
7. [Work With Nature, Not Against](#)
8. [See Solutions, Not Problems...](#)
9. [Every Function Should Be Supported By Many Elements](#)
10. [Every Element Should Serve Many Functions](#)
11. [Yield Is Limited Only By Imagination](#)
12. [Increasing Edge](#)
13. [Stacking](#)
14. [Succession](#)
15. [Everything Cycles- Outputs Are Inputs](#)
16. [Relative Placement- Zones & Sectors](#)
17. [Slopes](#)



"Permaculture offers a radical approach to food production and urban renewal, water, energy and pollution. It integrates ecology, landscape, organic gardening, architecture and agro-forestry in creating a rich and sustainable way of living. It uses appropriate technology giving high yields for low energy inputs, achieving a

18. [Rolling Permaculture](#)
19. [Zone '0'- At Home](#)
20. [Zones '1' & '2'- In The Garden](#)
21. [Some Design Ideas](#)
22. [Zones '3' & '4'- Broadscale Strategies For a Sustainable Future](#)
23. [Down On The Permaculture Farm...](#)
24. [Community Economics](#)
25. [LETS Work Together](#)
26. [Local Distinctiveness](#)
27. [More Information...](#)

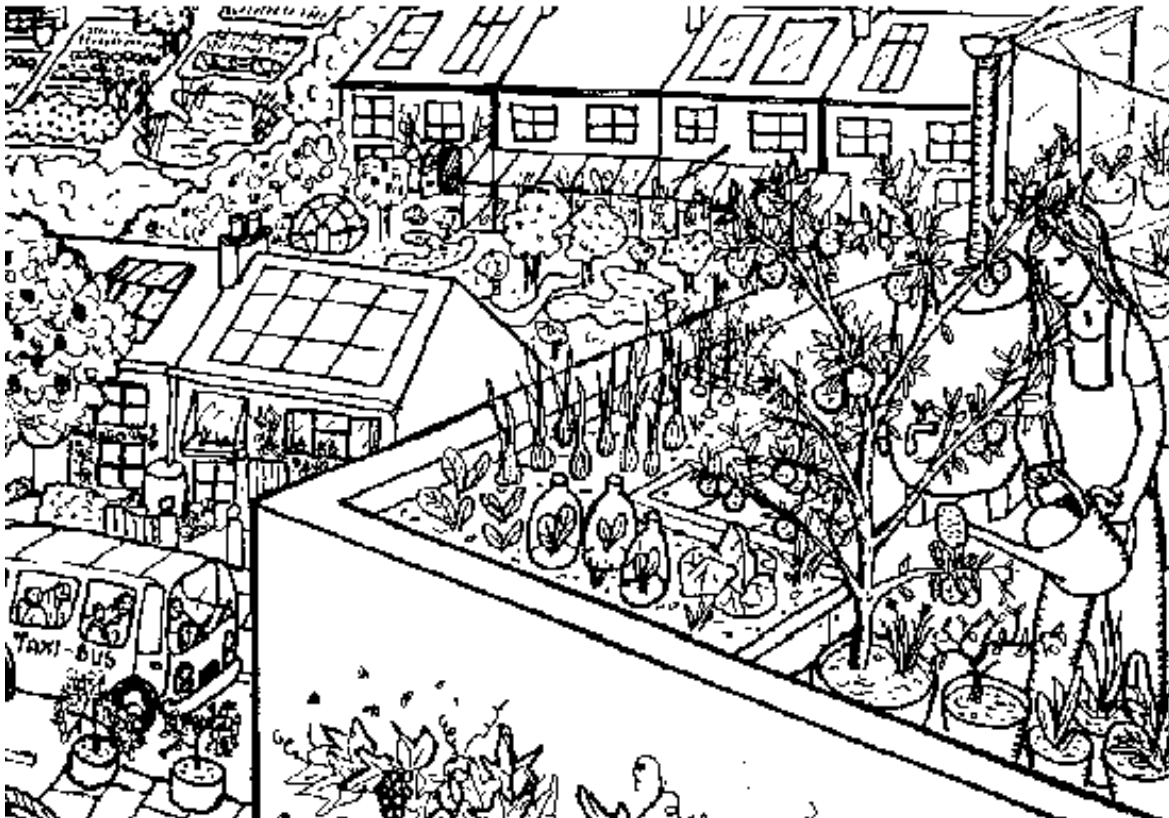
resource of great diversity and stability. The design principles are equally applicable to both urban and rural dwellers"- Bill Mollison

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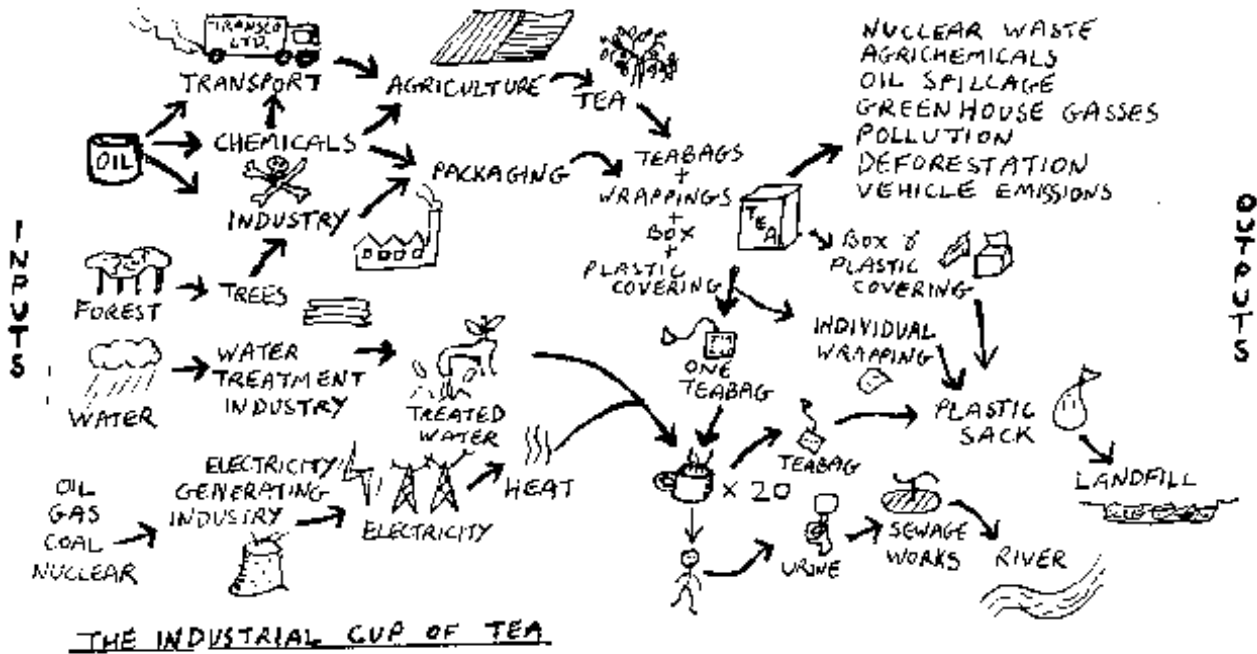
"Permaculture offers a radical approach to food production and urban renewal, water, energy and pollution. It integrates ecology, landscape, organic gardening, architecture and agro-forestry in creating a rich and sustainable way of living. It uses appropriate technology giving high yields for low energy inputs, achieving a resource of great diversity and stability. The design principles are equally applicable to both urban and rural dwellers"- Bill Mollison

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The Industrial Cup Of Tea...



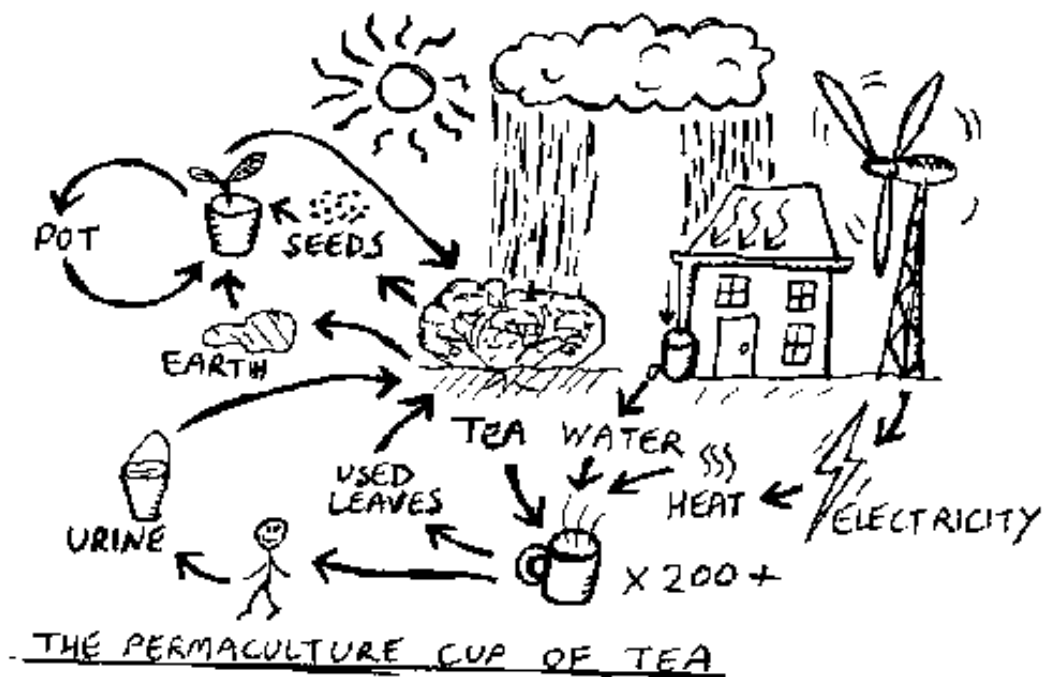
It's become a cliché to say that we are living on the edge of eco-disaster. It's also a reality which cannot be overstated. The ecology of Gaia is an interface between land (the Geosphere), air (the Atmosphere), water (the Hydrosphere) and life (the Biosphere), a delicate web of interconnections formed over millions of aeons on the verge of unravelling before our eyes... If the earth's 4.5 billion year history could be compressed into 30 days, life in the form of simple bacteria appeared on the tenth day whilst the first vertebrates crawled onto the land around the twenty fifth. Homo sapiens (peoplekind) appeared at about 1 minute to midnight on the thirtieth. The industrial revolution would have happened within the last fraction of a second of that minute, yet within this instant, the face of the planet has changed almost as much as within all the previous aeons.

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The Permaculture Cup Of Tea...



The Eco-crisis is largely a consequence of the way that we in the West consume. Permaculture is about recognising this and taking responsibility for our actions and for our planet, and turning around our behaviours of consumption and exploitation so that we can recreate a world without destruction and pollution. Where all can enjoy clean air, fresh water, good quality food, and meaningful work and leisure. Where we can repair the earth and move society towards a better relationship with the natural world of which we are all a part.

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What Is 'Permaculture'?





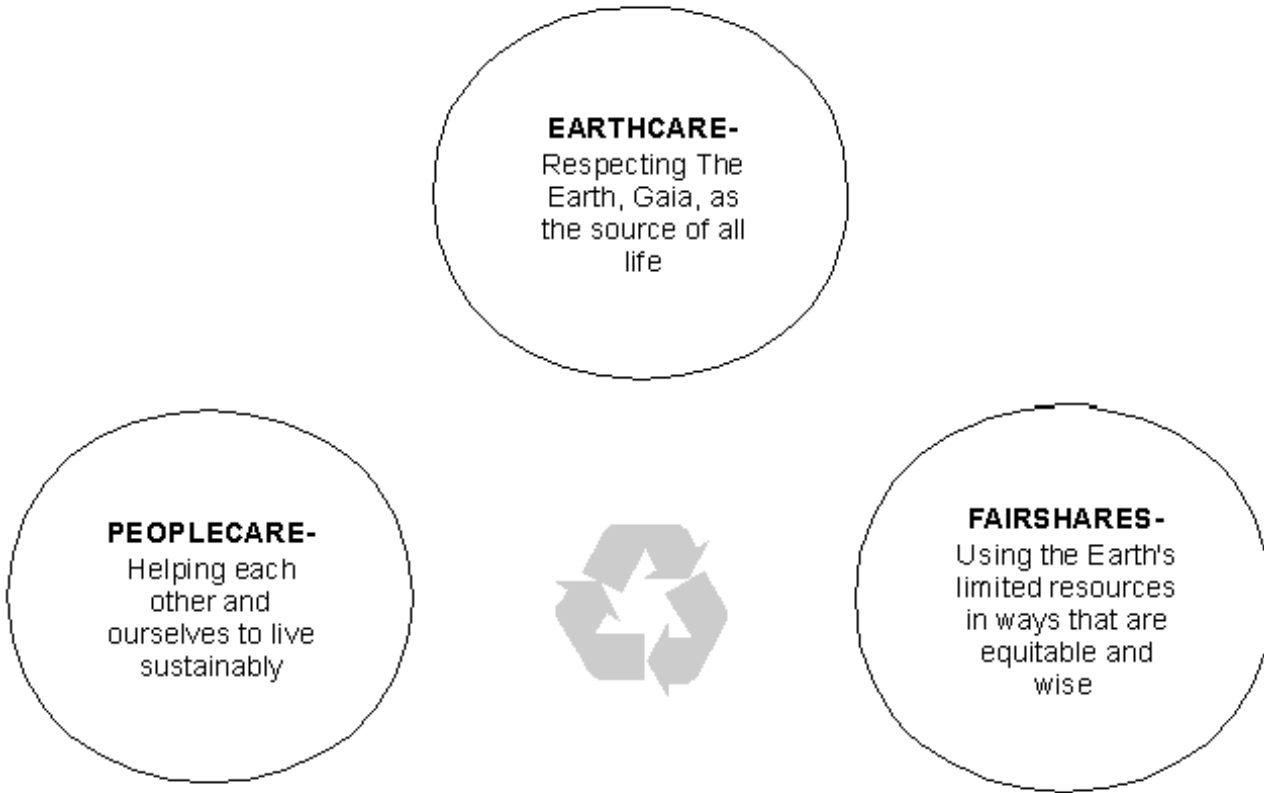
'PERMACULTURE' is a word that was originally coined in the mid seventies by two Australians, David Holmgren and Bill Mollison, to describe the design system pioneered as a response to what they, and many others globally, saw as serious challenges to the survival of all of us. Originally derived from the words 'PERMANent agriCULTURE', permaculture has gone beyond it's roots in looking at strategies to create sustainable food growing methods to become a worldwide movement encompassing all aspects of how we as human beings can live harmoniously in relation to our Earth and it's finite resources- A PERMANent CULTURE. Permaculture now probably has as many defintions as there are practitioners, but one that is particularly useful might be- "CREATING SUSTAINABLE HUMAN HABITATS BY FOLLOWING NATURE'S PATTERNS"

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Permaculture Ethics...



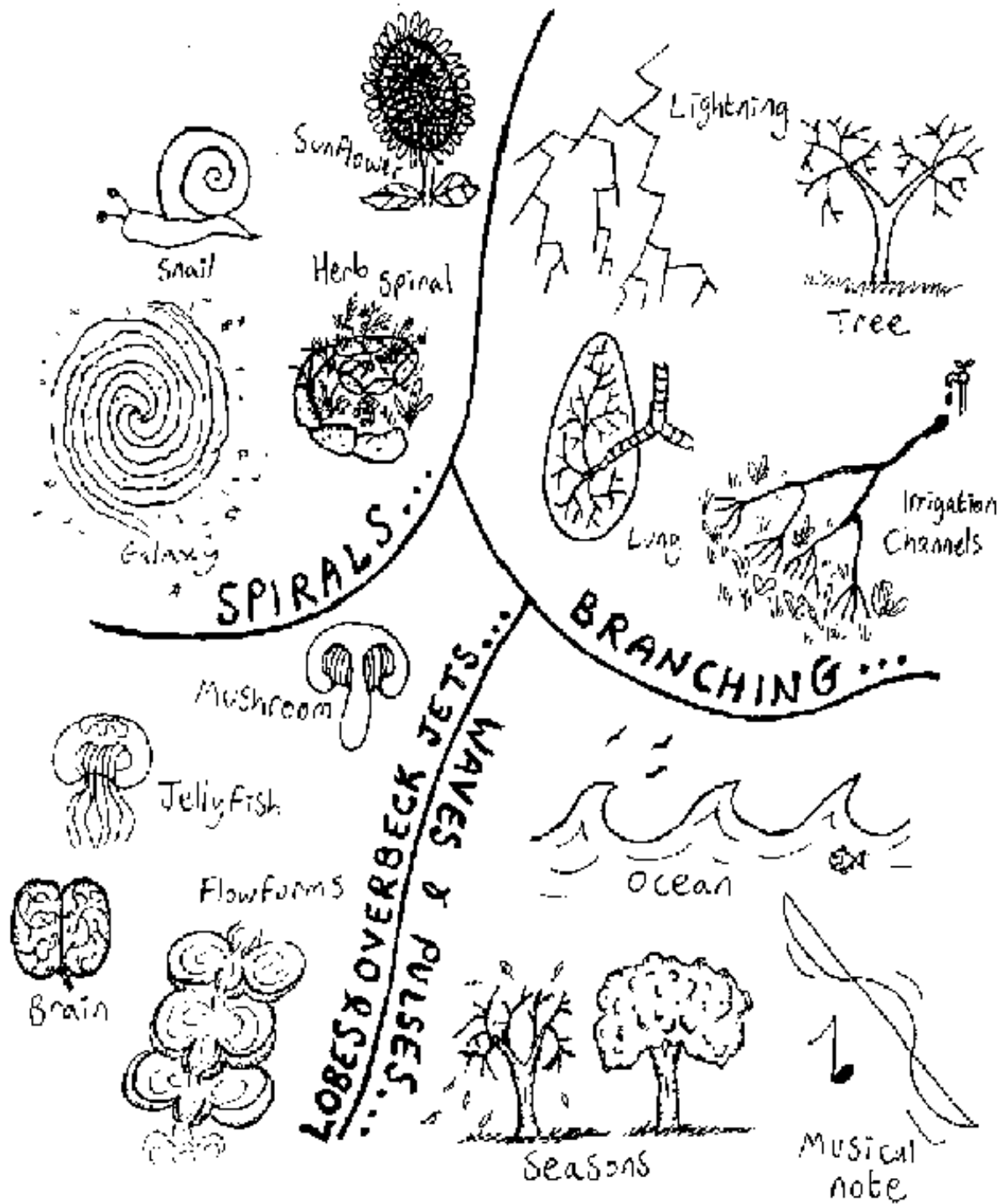
Permaculture is a broad based and holistic approach that has many applications to all aspects of life. At the heart of all sustainable design and practice however is a fundamental set of 'core values' or ethics which remain constant whatever our situation, whether we are creating systems for town planning or trade, whether the land we care for is a windowbox or a 2000 hectare forest.

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Permaculture Principles...



Permaculture isn't about is having to get your head around untold facts, figures, Latin names and complicated

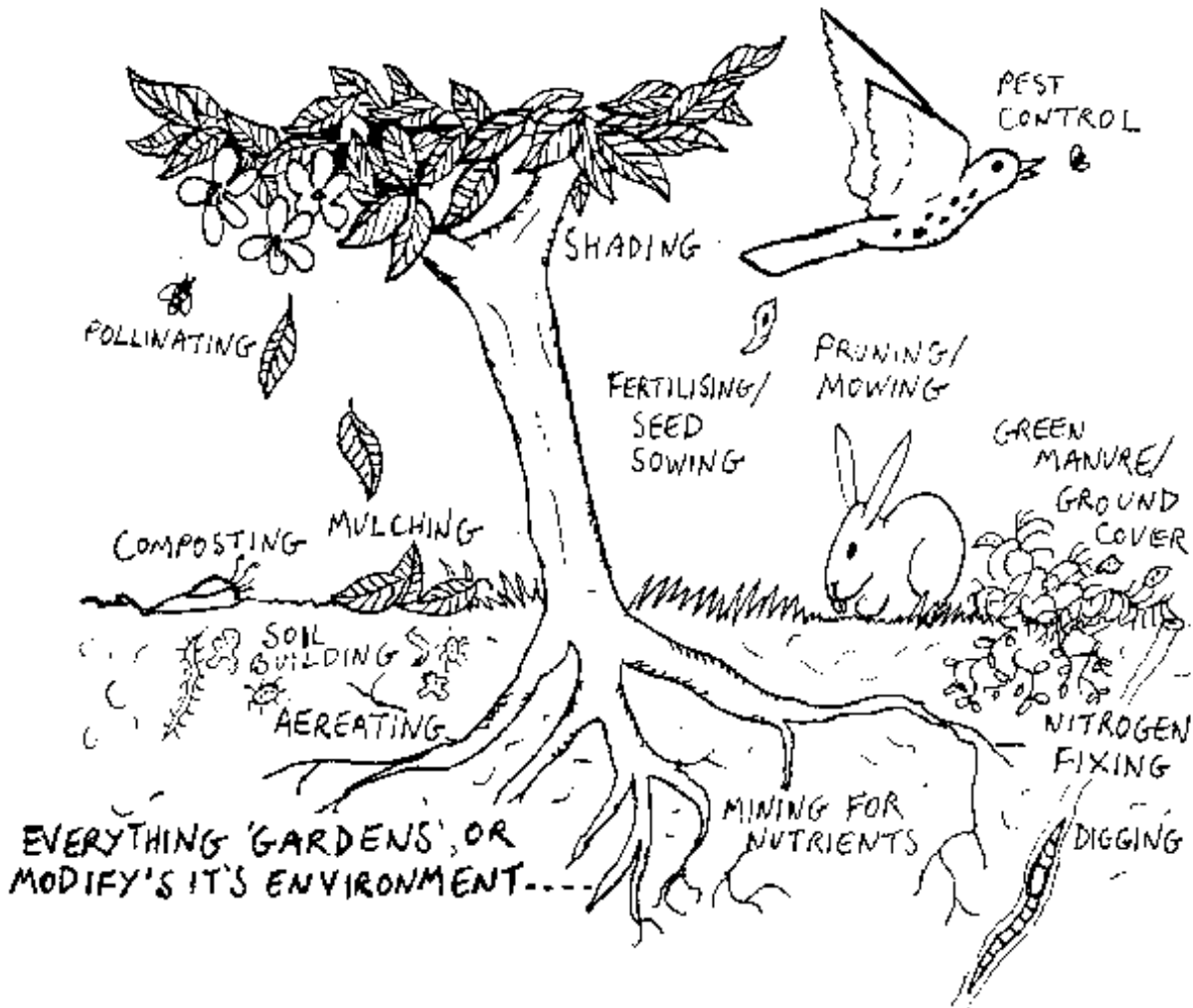
techniques, rather it is about recognising universal patterns and principles, and learning to apply these 'ecological truisms' to our own gardens and life situations. We can identify the underlying forms that recur throughout the natural world and learn to understand and utilise them in designed ecologies...

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Work With Nature, Not Against



Putting massive effort into attempting to 'tame nature', such as by damming valleys and flood plains or creating and maintaining bare soil by plough, is not only energy consuming, unsustainable and destructive, it is also unnecessary when we can meet the needs of people and the environment by working in harmony with, or even directly utilise, natural systems. Instead of using massive chemical inputs to control pests, why not encourage predators such as ladybirds and hoverflies to do our work for us? Or why not construct homes that utilise passive solar energy and wind power rather than building nuclear power stations?

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See Solutions, Not Problems...



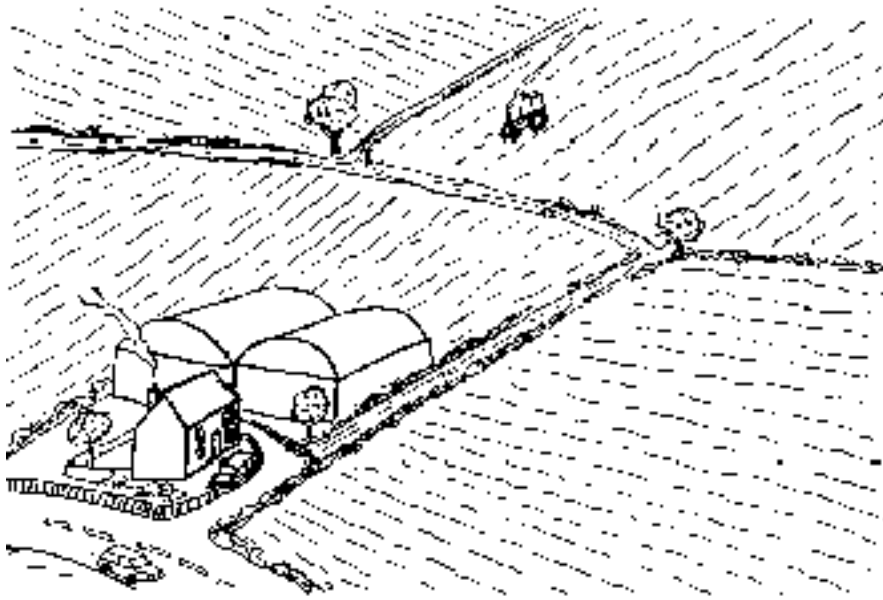
It is how we look at things that makes them advantageous or not, or, as Bill Mollison once said, “You havn’t got an excess of slugs, you’ve got a duck deficiency”.

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Every Function Should Be Supported By Many Elements



If we give all of our land over to one crop (a monoculture) and it fails, we starve...

...but if we grow as wide and diverse a range of edible plants as possible (a polyculture), we still get to eat if some of them don't make it to harvest



Nothing should be indispensable as it's loss or failure can then be disastrous. If, on the other hand, every system has a back up, it can continue to function. Similarly in our day to day lives it makes sense to learn as wide a range of skills as possible- a person who has had only one well paid but specialised job throughout their working life would be far less able to cope with being made redundant than somebody who has several smaller incomes earned from a variety of sources.

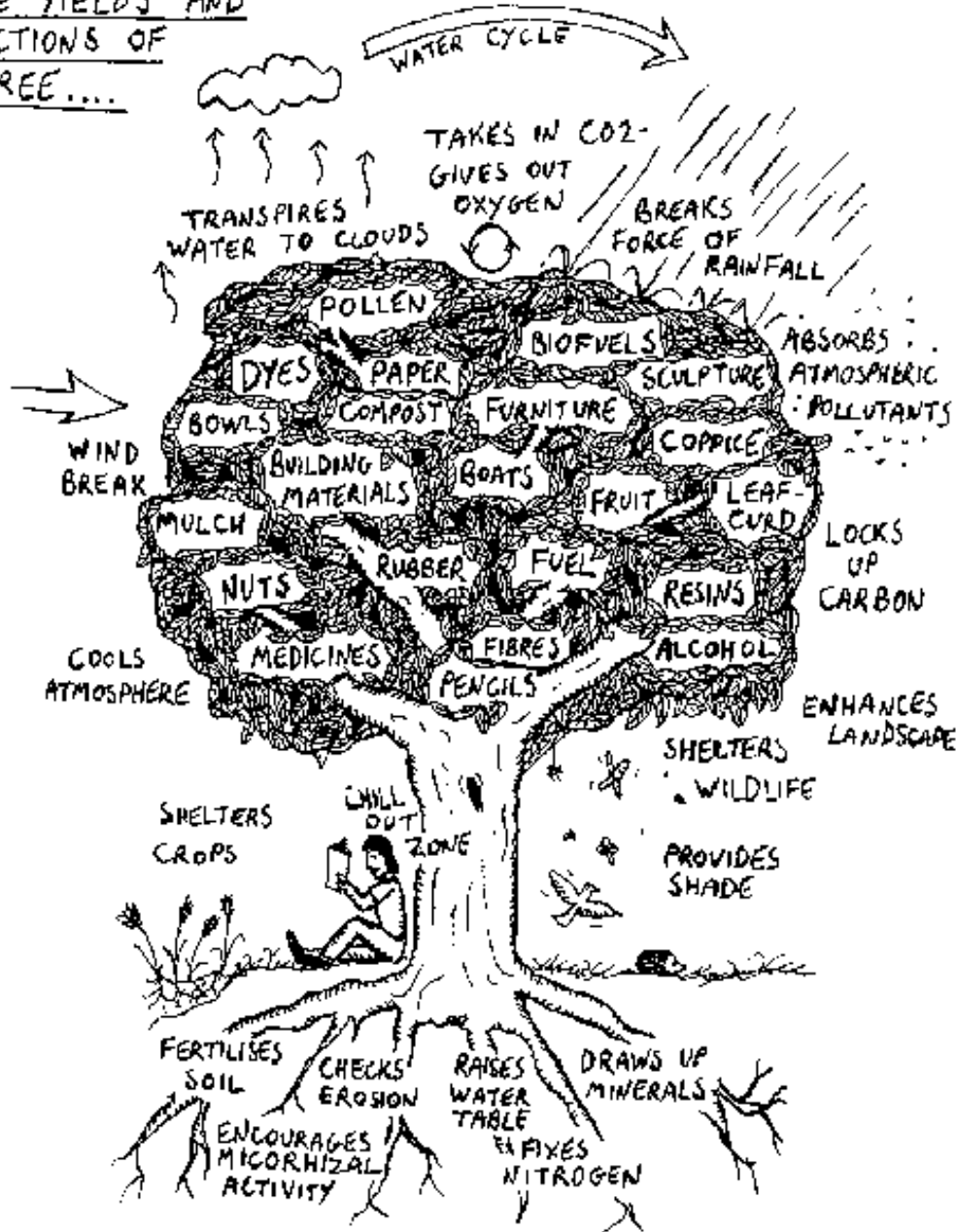
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Every Element Should Serve Many Functions

SOME YIELDS AND FUNCTIONS OF A TREE....



Effectively the other side of the coin... If you have learned the skills to prune apple trees, mend a computer, play the guitar, cook for a crowd, entertain children, operate a printing press, fix a downpipe, draw and paint, drive a

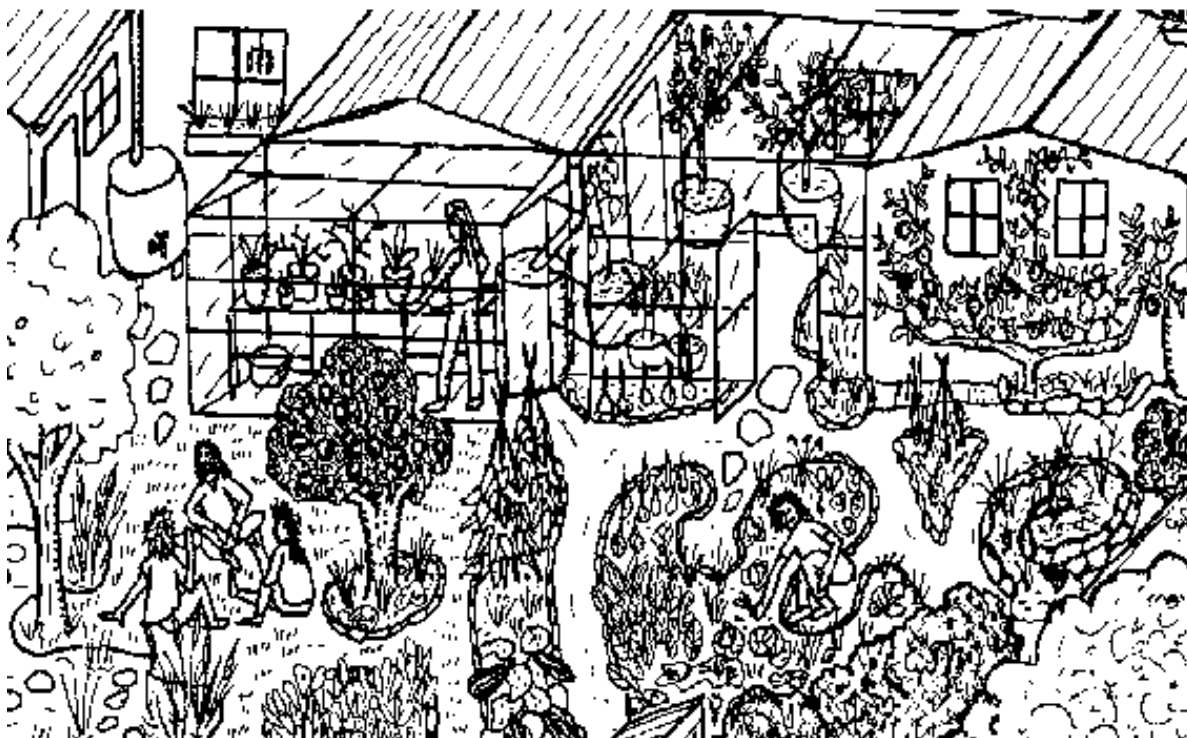
tractor, use a word processor, install a wind generator, give a massage, juggle, run a photography workshop and build a compost bin, not only are you better able to earn a living in a variety of circumstances; YOU also become more valuable in terms of what you are able to OFFER to others...

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Yield Is Limited Only By Imagination



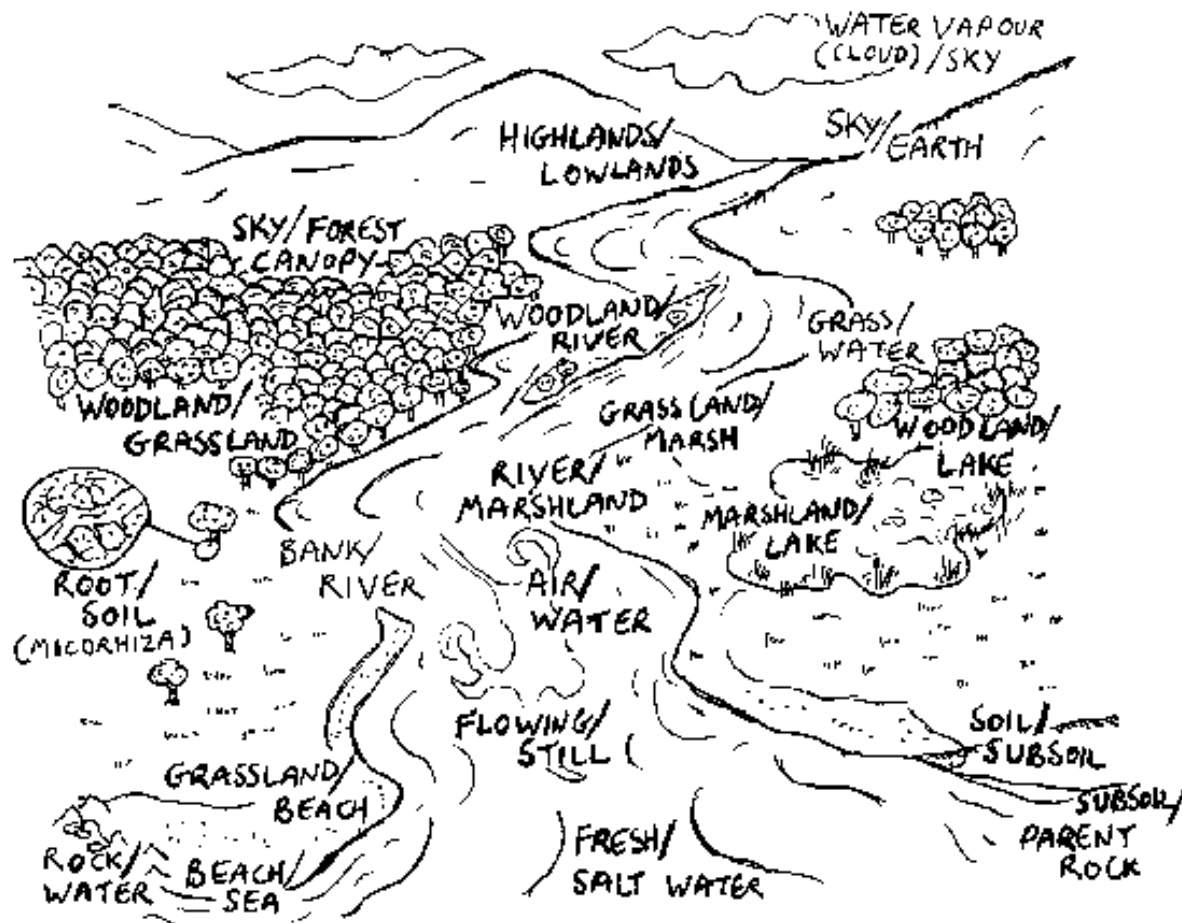
Traditionally, 'yield' is thought of as quantity of material output (eg, amounts of potatoes, grain, etc) calculated against resources or effort put in, but there's no reason why we can't widen our definition to include information, lessons learned, experience, the health benefits of exercise and being outdoors, or even just plain fun... Within a permaculture design, we will constantly be finding new niches to utilise, new beneficial guilds, learning new techniques, trying out fresh ideas, be gathering knowledge. By comprehending and copying natural systems, we can develop techniques in order to consciously multiply such opportunities...

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Increasing Edge



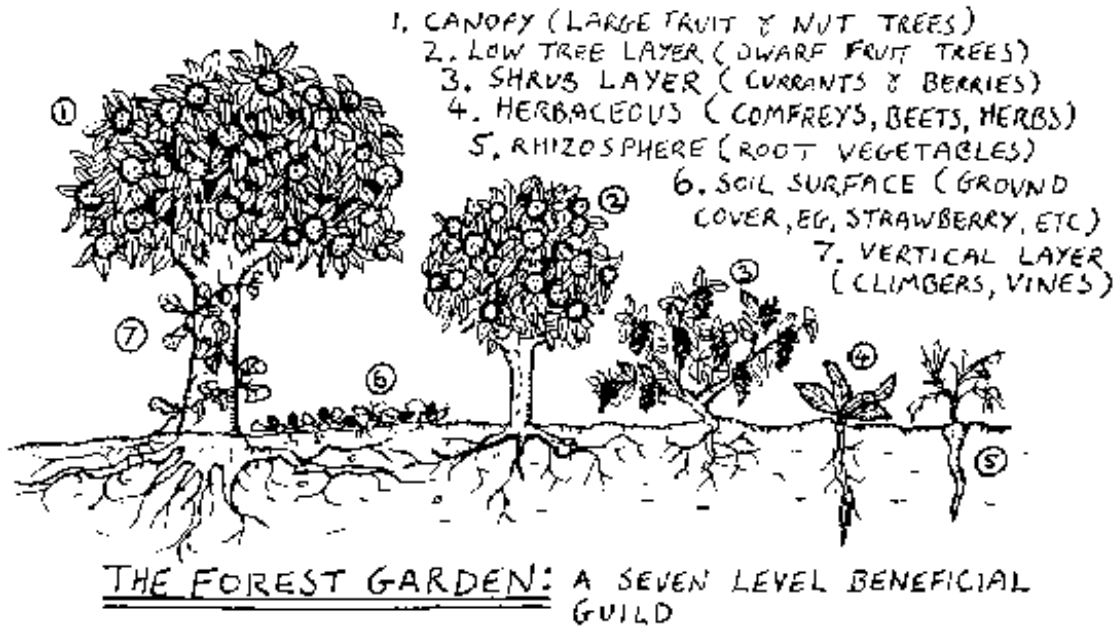
The 'Edge' or Ecotone is the place where two ecologies meet, such as the woodland edge or the seashore. Such an environment tends to be more synergistic, supporting biological activity from either side of this 'boundary' zone as well as species particular to it's own conditions, thus making it a highly productive region... Permaculture design seeks to increase edge and it's beneficial effects wherever possible, including between people and ideas...

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Stacking



Unlike many contemporary cultivated gardens, nature does not neatly compartmentalise her landscapes with ornamentals growing in one place, vegetables in another and fruit trees in yet a third location. In woodland several plants such as standard and half standard trees, shrubs, climbers and ground cover occupy the same area of space, each 'stacked' to find it's own requirements within it's particular 'level' in the system. The Forest Garden is an attempt to replicate this 'layering', replacing the wild plants of the woodland with fruits, herbs, vegetables and other plants that are useful to peoplekind.

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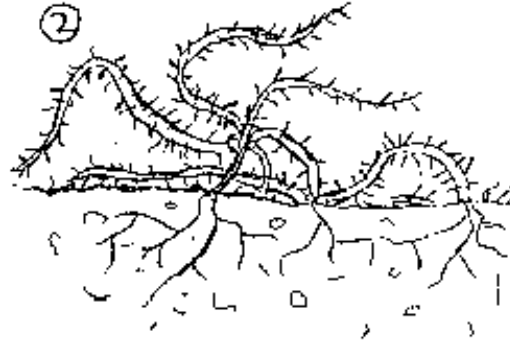
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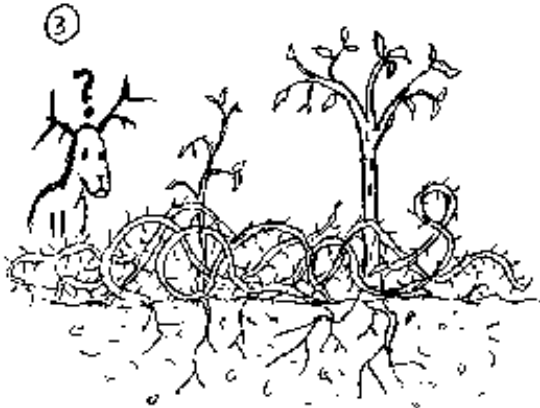
Succession



① WHEN A PIECE OF LAND, EG, A FIELD OR ALLOTMENT, IS TAKEN OUT OF PRODUCTION, IT IS QUICKLY COLONISED BY 'GROUND COVER' WEEDS SUCH AS CHICKWEED OR VETCHES, WHOSE SEEDS MAY ALREADY BE IN THE SOIL. THESE ARE SHORTLY FOLLOWED BY DEEP ROOTED 'NUTRIENT MINERS' SUCH AS DOCKS, DANDELIONS & THISTLES



② THESE 'RECONDITION' THE SOIL, RETURNING LOST FERTILITY & DEFICIENT MINERALS, PAVING THE WAY FOR THE NEXT PHASE OF 'SCRUB' SUCH AS BRAMBLE & FIRETHORN



③ PROTECTED BY THORNS FROM BROWSING WILDLIFE, SEEDLINGS OF PIONEER TREE SPECIES SUCH AS ELDER & BIRCH ARE ABLE TO ESTABLISH



④ IN TIME THESE RELATIVELY SHORT LIVED TREES WILL GIVE WAY TO SLOWER GROWING HARDWOODS SUCH AS OAK OR CHESTNUT. IF UNDISTURBED, CULTIVATED LAND WILL RETURN TO 'CLIMAX' FOREST IN A MATTER OF JUST A FEW YEARS

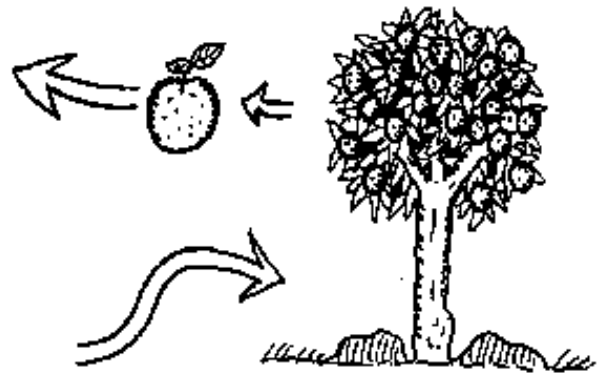
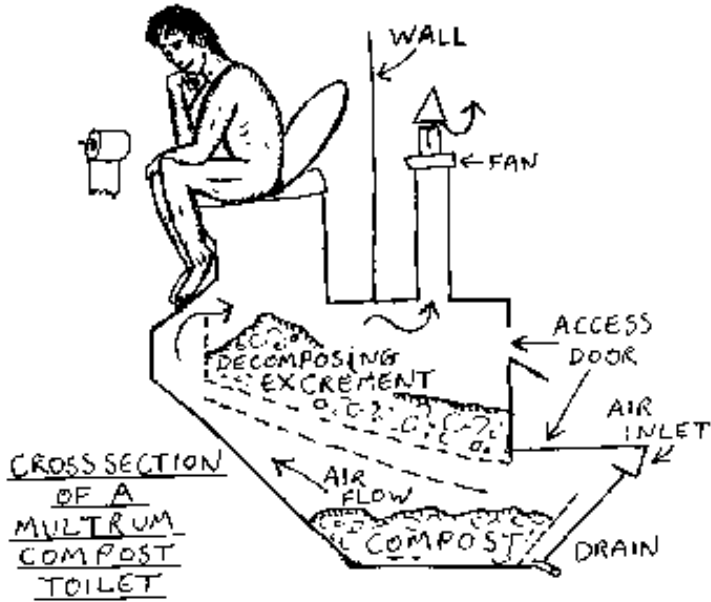
Succession is about the changes that place in the structure and function of an ecosystem over a period of time... Traditional techniques such as woodland management by coppicing and crop rotation are based on an understanding of the principles of 'stacking in the 4th dimension of time' that is succession.

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Everything Cycles- Outputs Are Inputs



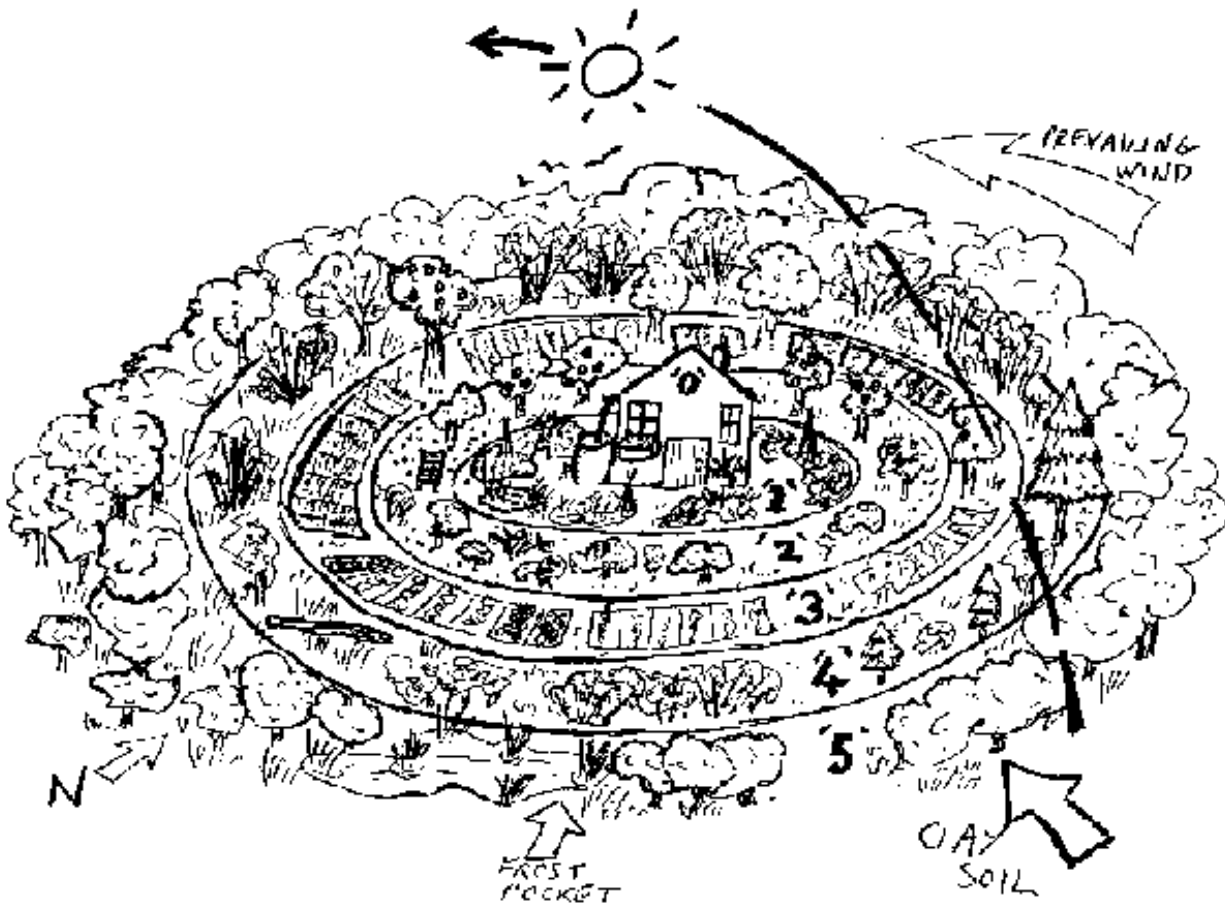
In the natural world, there is no such thing as 'pollution'. Within an eco- system, every 'waste product' is useful elsewhere within that system... When we flush our bodily wastes out to sea, not only are we causing pollution, we are at the same time wasting a valuable resource. Composting our shit mends the cycle of fertility...

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Relative Placement- Zones & Sectors



Zoning is about correct placement- positioning things in ways that are the most appropriate; Zones are numbered from 0 to 5, and can be thought of as a series of concentric rings moving out from a centre point, where human activity and need for attention is most concentrated, to where there is no need for intervention at all...

- ZONE 0... The house, or home centre. Here permaculture principles would be applied in terms of aiming to reduce energy and water needs, harnessing natural resources such as sunlight, and generally creating a harmonious, sustainable environment in which to live, work and relax
- ZONE 1... Is the zone nearest to the house, the location for those elements in the system that require frequent attention, or that need to be visited often, e.g., salad crops, herb plants, soft fruit like strawberries or raspberries, greenhouse and cold frames, propagation area, worm compost bin for kitchen waste, etc.
- ZONE 2... This area is used for siting perennial plants that require less frequent maintenance, such as occasional weed control (preferably through natural methods such as spot-mulching) or pruning, including currant bushes and orchards. This would also be a good place for bee hives, larger scale compost bins, etc.
- ZONE 3... Is the area where main crops are grown, both for domestic use and for trade purposes. After

establishment, care and maintenance required is fairly minimal provided mulches, etc. are used, e.g., watering or weed control once a week or so.

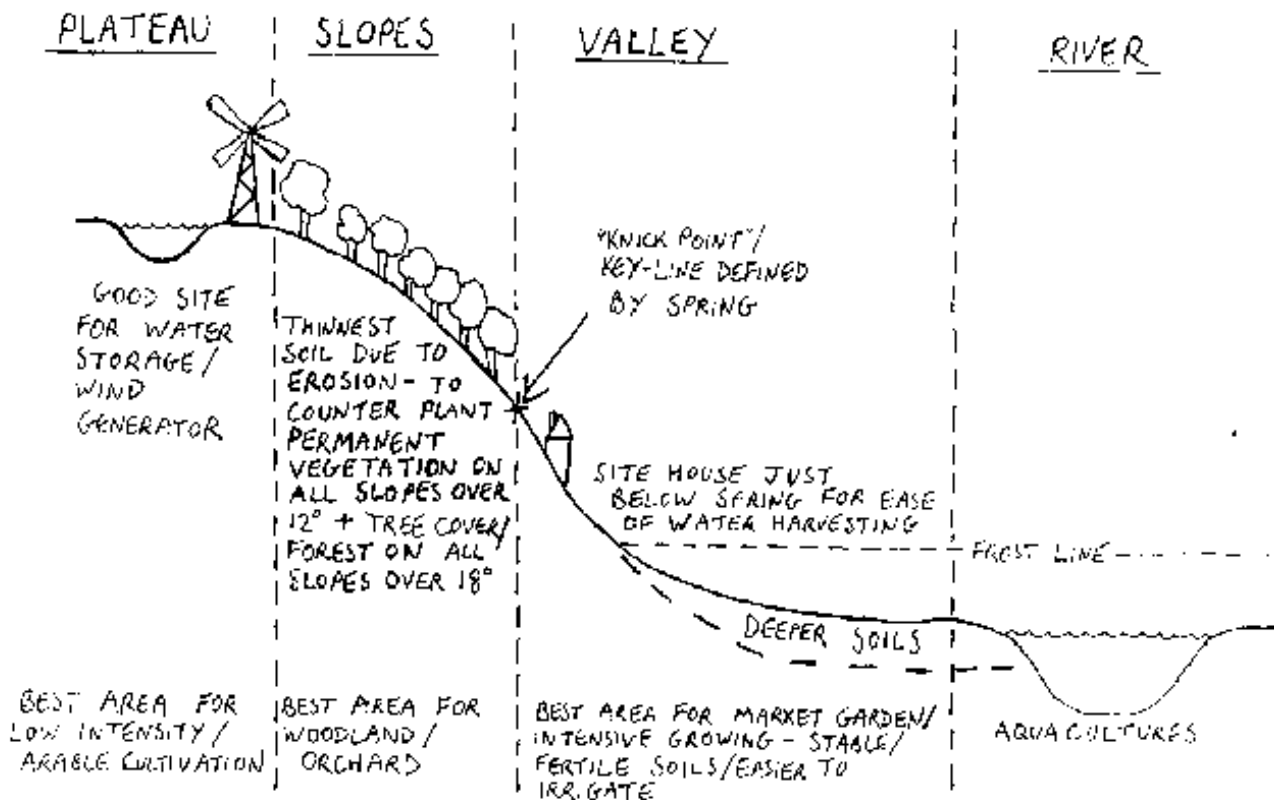
- ZONE 4... Is semi-wild. This zone is mainly used for forage and collecting wild food as well as timber production. An example might be coppice managed woodland.
- ZONE 5... The wilderness. There is no human intervention in zone 5 apart from the observation of natural ecosystems and cycles. Here is where we learn the most important lessons of the first permaculture principle of working with nature, not against.
- SECTORS are a way of considering the external energies that move through a system such as prevailing wind direction, site orientation and aspect (north, south, east, west, etc.), winter/summer sun paths, underlying geological make up (bed rock causing clay or sandy soil types, etc.), frost pockets and so on; and how we might best take steps to either utilise or counter such factors.

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Slopes



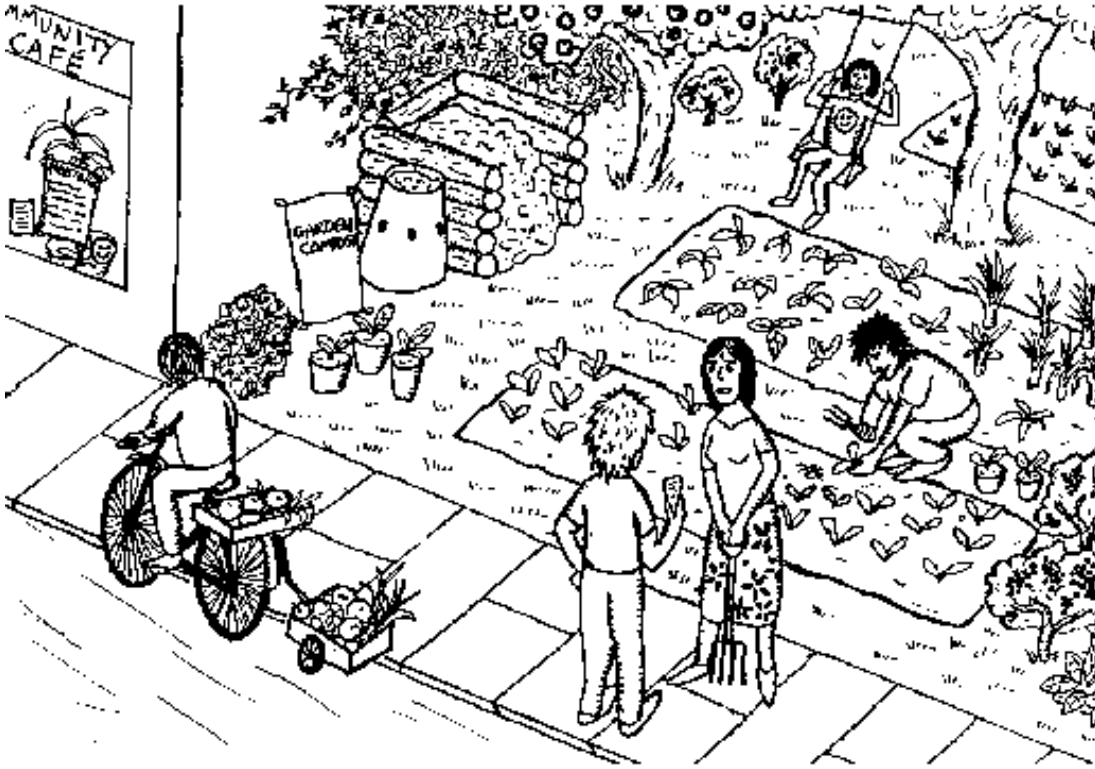
Consideration of zones and sectors gives us a comprehensive 2 dimensional image of our landscape. Yet no site is totally flat. Topography can have major effects on issues such as microclimate, water movement, erosion, and wind speed. Therefore we need to consider any SLOPES and CONTOURS which will have a bearing on design strategies.

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Rolling Permaculture



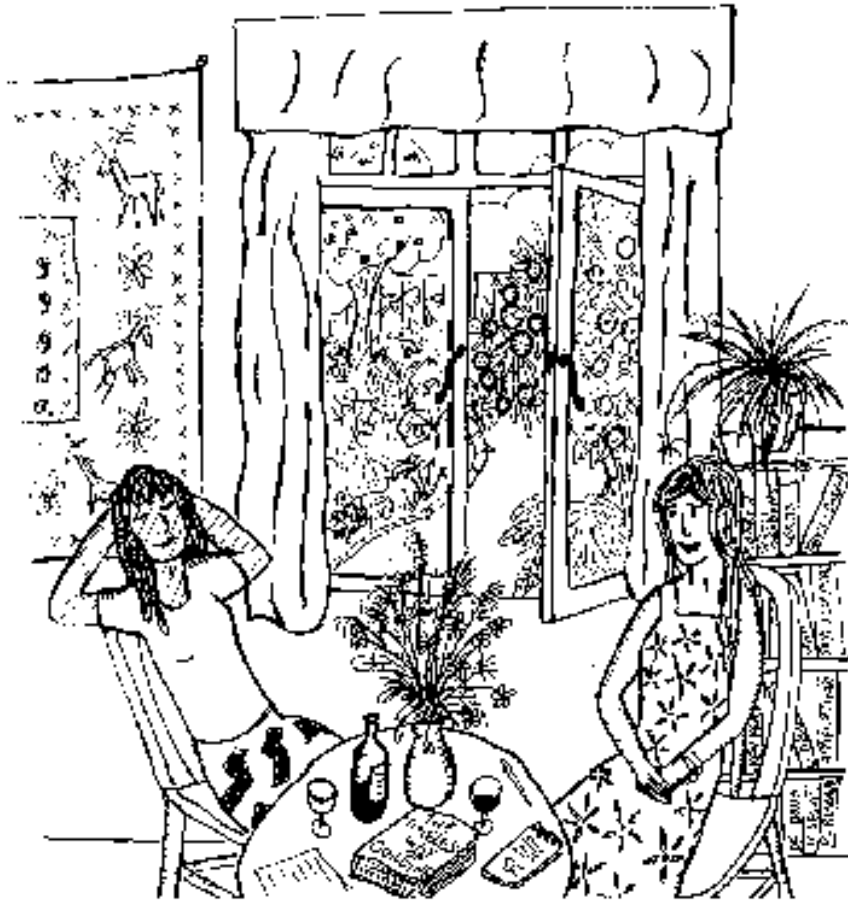
'Rolling Permaculture' is a term that is used to describe the incremental implementation of a sustainable design over a period of time. Industrialised agriculture is eroding and poisoning the land, but at the same time provides employment and feeds the population. Modern towns and cities house and create jobs and amenities for millions, but depend on environmentally harmful infrastructures. Replacement systems are obviously required, but immediate change would be impossible. So we start small; maybe working on the margins; a farmer might use permaculture techniques to make 'waste' land, maybe 'Set Aside' fields, productive, then gradually 'roll' the design across the rest of the site, with sustainable incomes slowly replacing those from destructive practices. ... Similarly, permaculture projects set up on otherwise derelict inner city sites can serve as examples and inspiration, spreading ideas of how we can all develop sustainable futures...

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Zone '0'- At Home



Home should be the place where the heart is, where we can come back to and centre ourselves and are able to feel safe and secure, our own 'Zone 0'. Whether a house, a cottage, a bedsit or a bender, wherever we live should be constructed and function in ways that are sustainable, energy efficient and ecologically harmonious. ... Choose locally available or renewable materials for construction; Houses which are sturdy, warm and comfortable can be built using wood, rammed earth or straw bales and have a fraction of the environmental impact of fired bricks or concrete. Site or design new buildings so that elements such as air flow, solar energy or water can be utilised as efficiently as possible in order to minimise non renewable energy inputs. ... Not all of us have the resources or opportunity to join an eco-village or build our own home, nor to carry out major retrofitting projects. In fact most of us, especially those who live in towns or cities, don't get a great deal of choice about where we live at all. But there are still steps that we can all take to make our homes more energy efficient, less wasteful of resources and friendlier, healthier environments to be in. ... Spend some time thinking about the inputs

and outputs of your house. For example, make a list of how many electrical appliances you use and how often, how much water you use in a day or the amount of rubbish that goes into your bin each week. Analyse this resource usage; how much is really necessary, how can it be reduced?

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Zones '1' & '2'- In The Garden

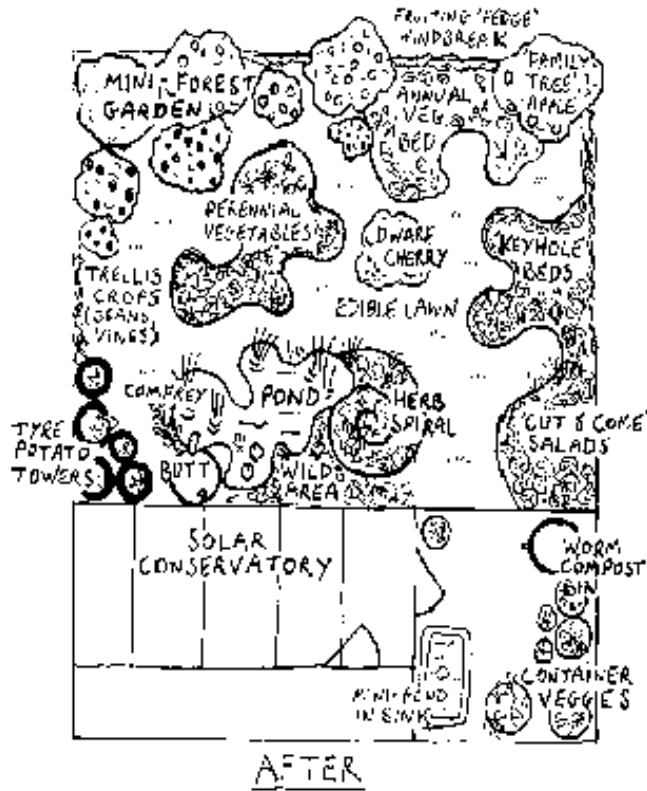
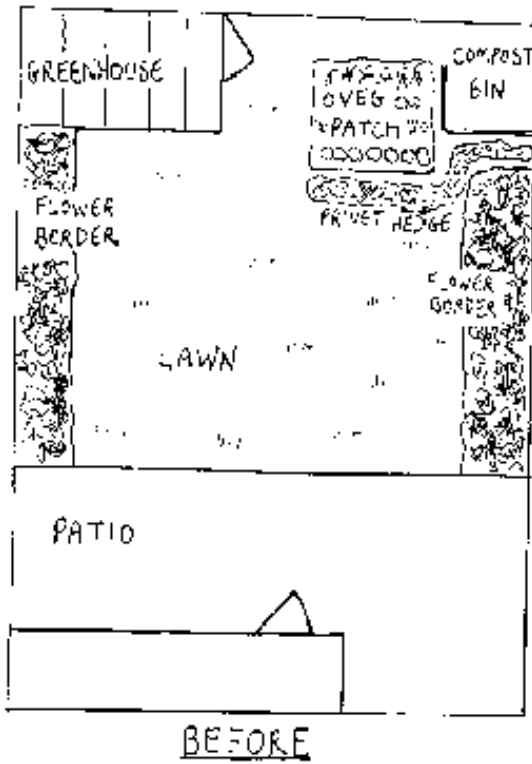


We all need to eat. That is why much of the emphasis of permaculture is on growing food. But if we are to feed ourselves sustainably we need to begin moving away from industrialised agriculture and more towards a gardening philosophy- less prairie farming of monocultures and more market and home gardens; places for creating edible landscapes, polycultures, forest gardens, designing plantings with multiple yields and functions. Of course, very few of us would be able to grow ALL of the food we need to live, but all of us can make an often significant contribution to our diets from our gardens, allotments or even balconies and windowboxes. ... As well as reducing the pressure that each of us places on precious land resources, growing our own reconnects us with skills and sensations that we have largely lost in the late 20th century.

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Some Design Ideas



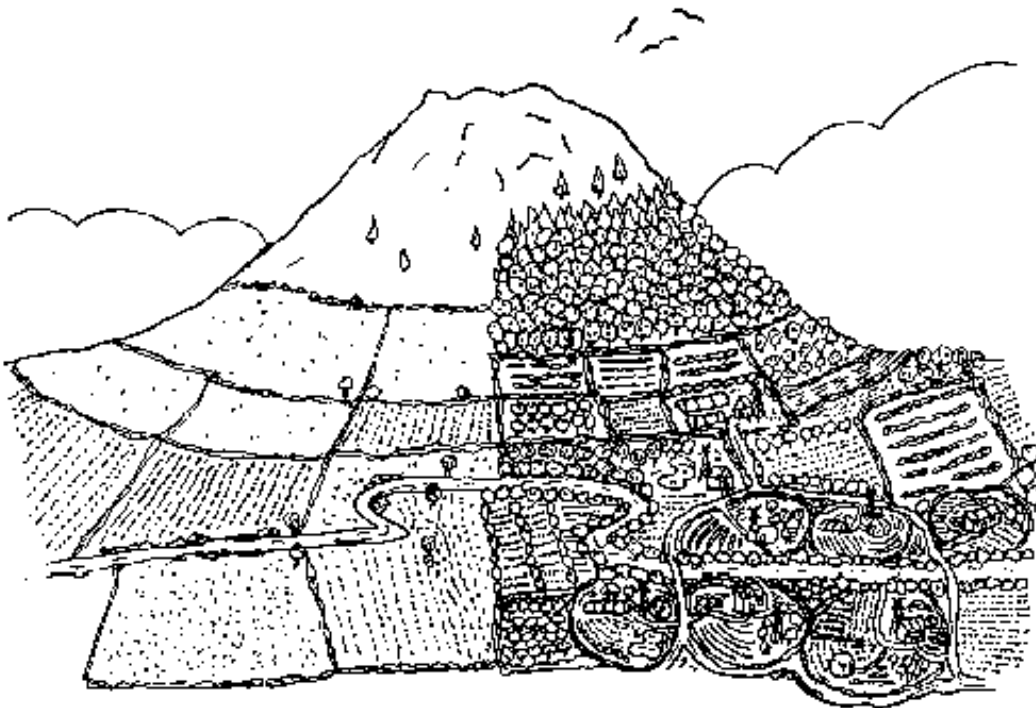
With intelligent design and ingenuity we can maximise the growing potential of even the smallest garden area...

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Zones '3' & '4'- Broadscale Strategies For a Sustainable Future



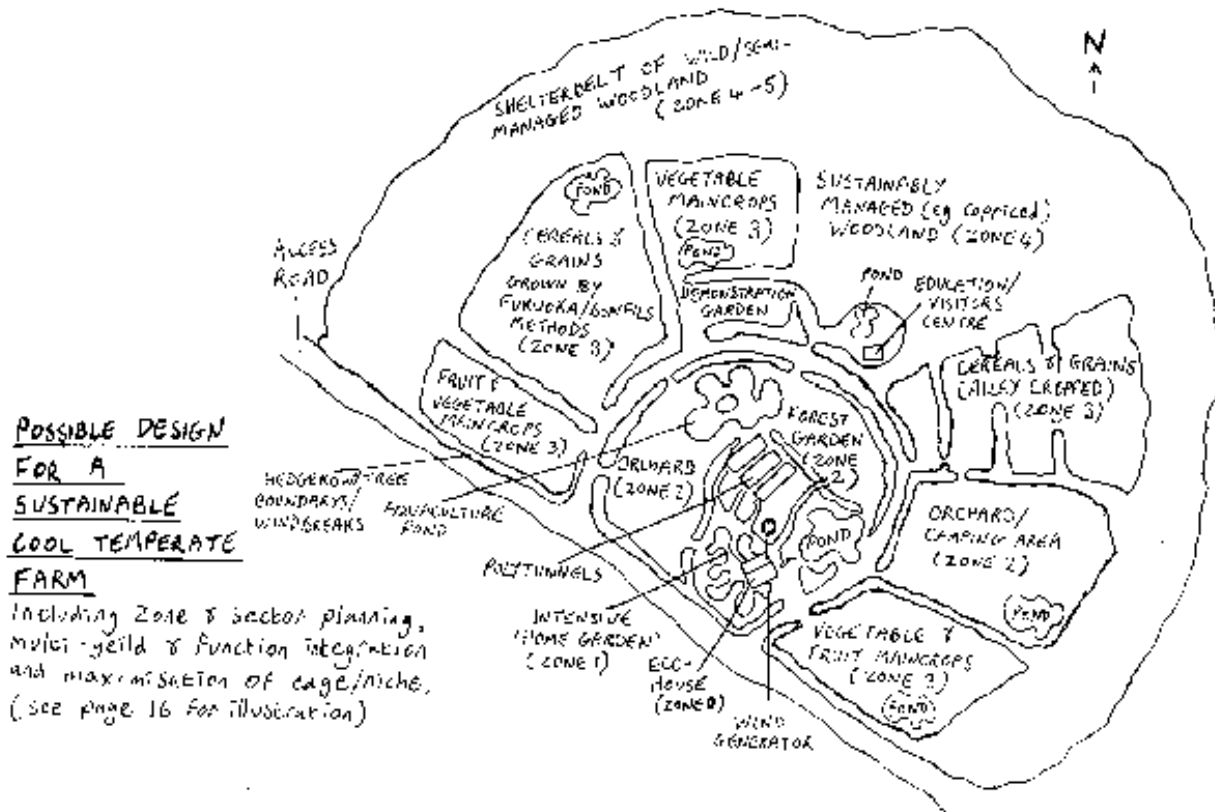
In the UK there are 43 million acres of farmland, consisting of one third rough grazing land (eg, moorland), one third permanent pasture (eg, hilly, water meadow, steep gradient, thin soils, etc) and one third arable land considered suitable for crop production by 'conventional' methods... Industrialised agriculture with it's high inputs of machinery and fossil fuels is diminishing, not increasing, the long term stability of fertile land as continuous ploughing, grubbing up of hedgerows, removal of trees and additions of chemical fertilisers and pesticides lead to problems like erosion, compacted soils and nitrate poisoning of our watercourses... Broadscale permaculture techniques and strategies seek to reverse this damage, as well as utilising land otherwise considered not suitable for cultivation...

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Down On The Permaculture Farm...



The farm layout depicted illustrates zonal placement, wherein those areas that require regular attention, such as the polytunnels and home garden where produce is picked on a continuous basis are placed closest to the house (Zone 1), through to orchards and forest garden areas (Zone 2) and main cropping areas for grain, fruit and vegetable production for trading (Zone 3), out to coppiced woodland areas that require seasonal attention only (Zone 4-5)... The 'keyhole' design creates a south facing sheltered sun trap effect, whilst surrounding the site with trees acts as a windbreak. This is further enhanced by planting mixed hedgerows as boundaries between growing areas, which also provides wildlife habitats, increases biodiversity and additional yields such as wild fruit and nuts, mulch material and includes nitrogen fixing species to further increase fertility... Where this farm design also differs from many contemporary agricultural models is its diversity of yields. Outputs include fruit and vegetables, cereal and grain crops and timber and coppice. Whilst the cash value of each of these crops is unlikely to be as great were any of these grown as a monocrop, the diversity of yields actually greatly increases the land's overall output. Other 'value added' products might include shitake mushrooms grown on logs, 'country' wines, rustic furniture, hurdles, charcoal, poles, honey, propagated unusual edible plants for sale or bottled comfrey and nettle liquid feed. Most produce is traded from the site or through local outlets including via box schemes and farmers markets. An education/visitors centre provides a venue for courses and school visits, etc, thus further value is added in terms of being a community resource... The site is also designed to be as self reliant as possible, thus minimising the need to import energy or fertility from outside. Wind energy is harvested, whilst solar energy is captured directly via photo-

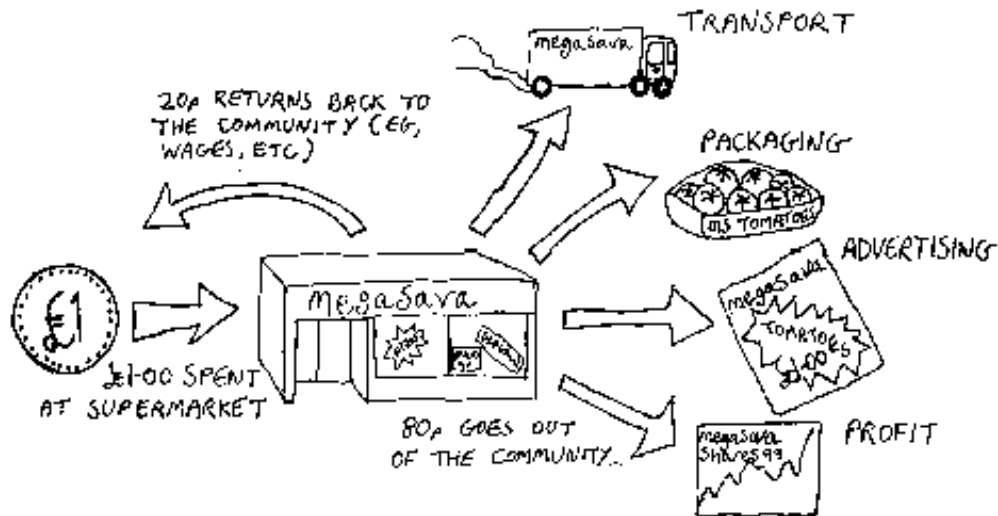
voltaic panels on the roof of structures, or indirectly via the bio-mass of the trees and woodland which can then be used as fuel. Water too is harvested and cycled as efficiently as possible, with collection and storage ponds doubling as wildlife havens (and pest control) and aquacultures. Grey water from the dwellings is used to irrigate fruit and bush crops, whilst compost toilets return otherwise wasted fertility to the soil.

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Community Economics



As well as providing the tools to create greater sustainability within our lifestyles, home environments, gardens and on our land, permaculture is just as importantly about finding ways of mending community and rebuilding our fragmented society... Every time we spend a pound in a chainstore or supermarket, 80p goes straight out of the community, swallowed up by costs of transport, packaging and advertising or straight into the coffers of the transnational corporations. And when we put our money into a high street bank we often have no way of knowing what will happen to it, whether it will be invested in interests like arms trading, factory farming, genetic engineering, the tobacco industry, speculation against 'Third World' currencies or whatever.

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LETS Work Together



But when we spend locally, or invest in people, in each other's skills and potential, rather than abstract concepts like 'Stocks & Bonds' or 'Futures Markets', we can have more control over where our energy is used and what we are supporting. 'Money' can become a tool of empowerment and liberation rather than oppression... The same pound spent with a local person making goods or providing services using local materials largely stays WITHIN the community to be continually reinvested to produce wealth for all. We can trade with each other on a face to face level and recreate local prosperity... Credit Unions are one way of keeping money local, particularly in impoverished communities, and at the same time help to avoid the often crippling interest rates charged by banks or moneylenders. Participants are able to invest in self-managed 'neighbourhood banks' which then make funds available for development projects and mutual benefit. Local Exchange Trading Systems (LETS) take community scale economics a step further by eliminating the need for 'cash' at all; instead members create their own local currency to enable the trading of skills, services and goods. A LETS group will periodically publish a

directory in which members' 'offers' and 'wants' are listed. Members then contact each other to trade, earning credit for services provided, which can then be 'spent' elsewhere within the system. LETS also promotes social contact and networking, and has been used to create a sustainable bedrock for several small locally based business ventures, who often use such complementary currencies and trading in parallel with Stirling.

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Local Distinctiveness



These days it seems you can walk down any high street from Bristol to Inverness and see exactly the same shop fronts selling identical goods wherever you go. It's a cultural version of the loss of biodiversity and homogenisation that is happening with industrialised agriculture, and in the same way leads to the impoverishment of our experience and existence. Promoting local distinctiveness reminds each of us of our unique regional heritage, whilst at the same time celebrates our cultural diversity... Community Orchards are living celebrations of local distinctiveness. The National Apple Collection at Brogdale includes over 2200 apples of UK origin, yet in the shops only some 5 or 6 varieties are generally available. Granny Smiths and Golden Delicious, with a texture like cotton wool and even less flavour can be bought anywhere, but what has happened to the Norfolk Biffen, the Chelmsford Wonder and Beauty Of Bath? As well as serving as a 'bank' to preserve the genetic resources of the region for a future when diversity and distinctiveness are once again valued over uniformity and supermarket blandness, such an orchard can be a bridging point between the traditions of the past, the awakening environmental awareness of the present, and are perhaps a more appropriate mark of sustainability for the new millennium than some toxic, non renewable dome in an inaccessible part of London.

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More Information...

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Local Distinctiveness



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LETS Work Together



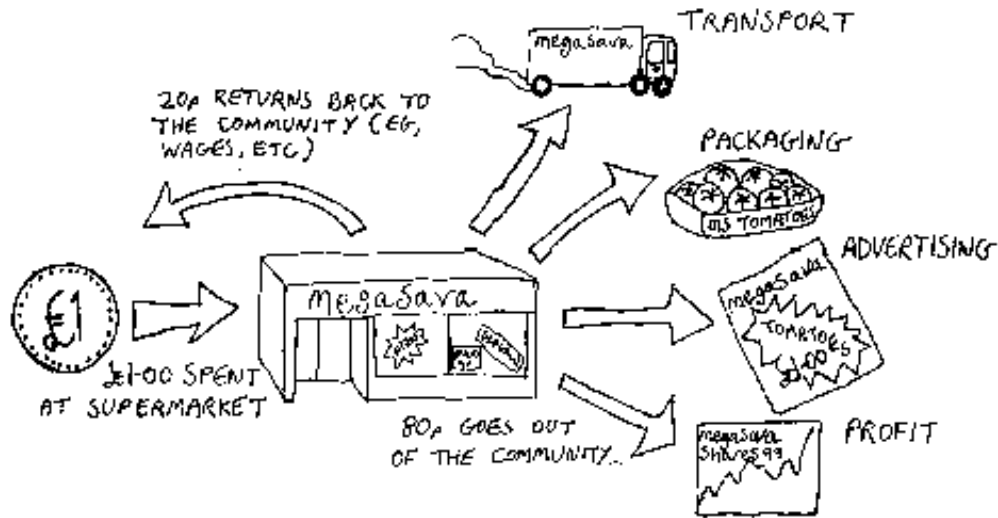
But when we spend locally, or invest in people, in each other's skills and potential, rather than abstract concepts like 'Stocks & Bonds' or 'Futures Markets', we can have more control over where our energy is used and what we are supporting. 'Money' can become a tool of empowerment and liberation rather than oppression... The same pound spent with a local person making goods or providing services using local materials largely stays WITHIN the community to be continually reinvested to produce wealth for all. We can trade with each other on a face to face level and recreate local prosperity... Credit Unions are one way of keeping money local, particularly in impoverished communities, and at the same time help to avoid the often crippling interest rates charged by banks or moneylenders. Participants are able to invest in self-managed 'neighbourhood banks' which then make funds available for development projects and mutual benefit. Local Exchange Trading Systems (LETS) take community scale economics a step further by eliminating the need for 'cash' at all; instead members create their own local currency to enable the trading of skills, services and goods. A LETS group will periodically publish a directory in which members' 'offers' and 'wants' are listed. Members then contact each other to trade, earning credit for services provided, which can then be 'spent' elsewhere within the system. LETS also promotes social contact and networking, and has been used to create a

sustainable bedrock for several small locally based business ventures, who often use such complementary currencies and trading in parallel with Stirling.

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Community Economics



As well as providing the tools to create greater sustainability within our lifestyles, home environments, gardens and on our land, permaculture is just as importantly about finding ways of mending community and rebuilding our fragmented society... Every time we spend a pound in a chainstore or supermarket, 80p goes straight out of the community, swallowed up by costs of transport, packaging and advertising or straight into the coffers of the transnational corporations. And when we put our money into a high street bank we often have no way of knowing what will happen to it, whether it will be invested in interests like arms trading, factory farming, genetic engineering, the tobacco industry, speculation against 'Third World' currencies or whatever.

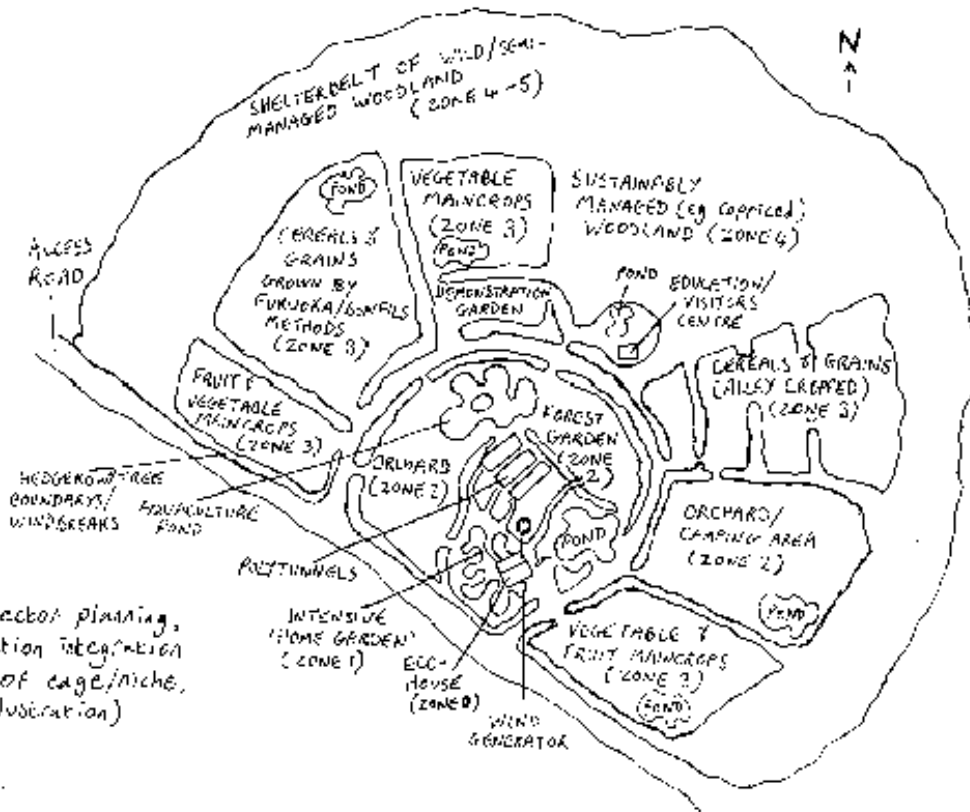
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Down On The Permaculture Farm...

POSSIBLE DESIGN FOR A SUSTAINABLE COOL TEMPERATE FARM

Including zone & sector planning,
multi-yield & function integration
and maximisation of edge/niche.
(see page 16 for illustration)



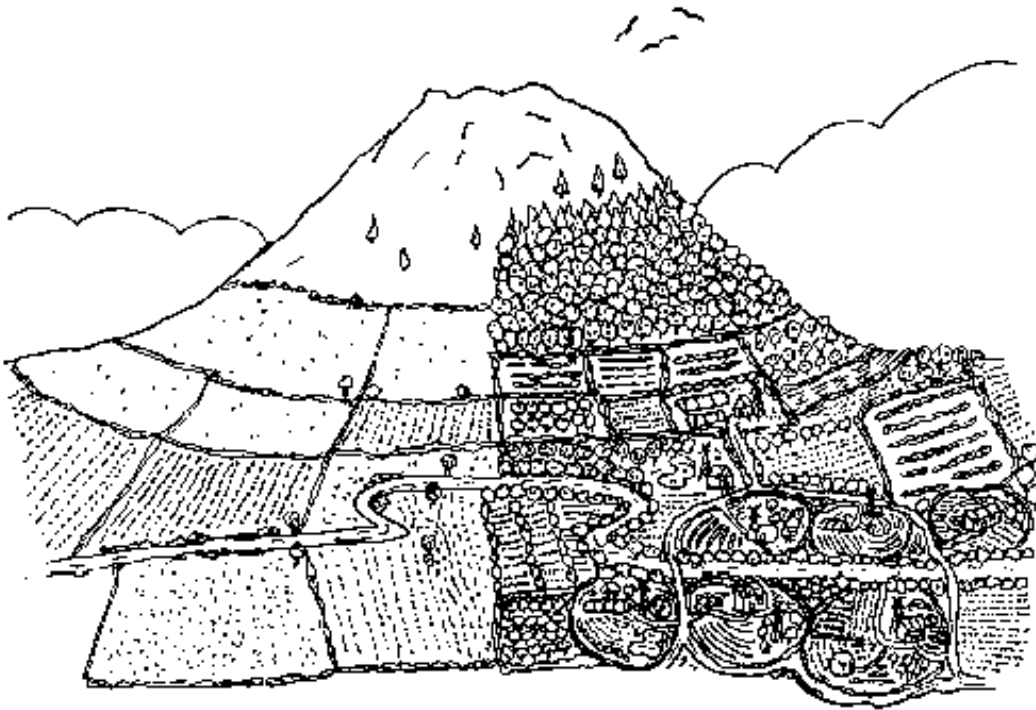
The farm layout depicted illustrates zonal placement, wherein those areas that require regular attention, such as the polytunnels and home garden where produce is picked on a continuous basis are placed closest to the house (Zone 1), through to orchards and forest garden areas (Zone 2) and main cropping areas for grain, fruit and vegetable production for trading (Zone 3), out to coppiced woodland areas that require seasonal attention only (Zone 4-5)... The 'keyhole' design creates a south facing sheltered sun trap effect, whilst surrounding the site with trees acts as a windbreak. This is further enhanced by planting mixed hedgerows as boundaries between growing areas, which also provides wildlife habitats, increases biodiversity and additional yields such as wild fruit and nuts, mulch material and includes nitrogen fixing species to further increase fertility... Where this farm design also differs from many contemporary agricultural models is its diversity of yields. Outputs include fruit and vegetables, cereal and grain crops and timber and coppice. Whilst the cash value of each of these crops is unlikely to be as great were any of these grown as a monocrop, the diversity of yields actually greatly increases the land's overall output. Other 'value added' products might include shitake mushrooms grown on logs, 'country' wines, rustic furniture, hurdles, charcoal, poles, honey, propagated unusual edible plants for sale or bottled comfrey and nettle liquid feed. Most produce is traded from the site or through local outlets including via box schemes and farmers markets. An education/visitors centre provides a venue for courses and school visits, etc, thus further value is added in terms of being a community resource... The site is also designed to be as self reliant as possible, thus minimising the need to import energy or fertility from outside. Wind energy is harvested, whilst solar energy is captured directly via photovoltaic panels on the roof of structures, or indirectly via the bio-mass of the trees and woodland which can then be used as fuel. Water too is harvested and cycled as efficiently as possible, with collection and storage ponds doubling as wildlife havens (and pest control) and aquacultures. Grey water from the dwellings is used to irrigate

fruit and bush crops, whilst compost toilets return otherwise wasted fertility to the soil.

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Zones '3' & '4'- Broadscale Strategies For a Sustainable Future

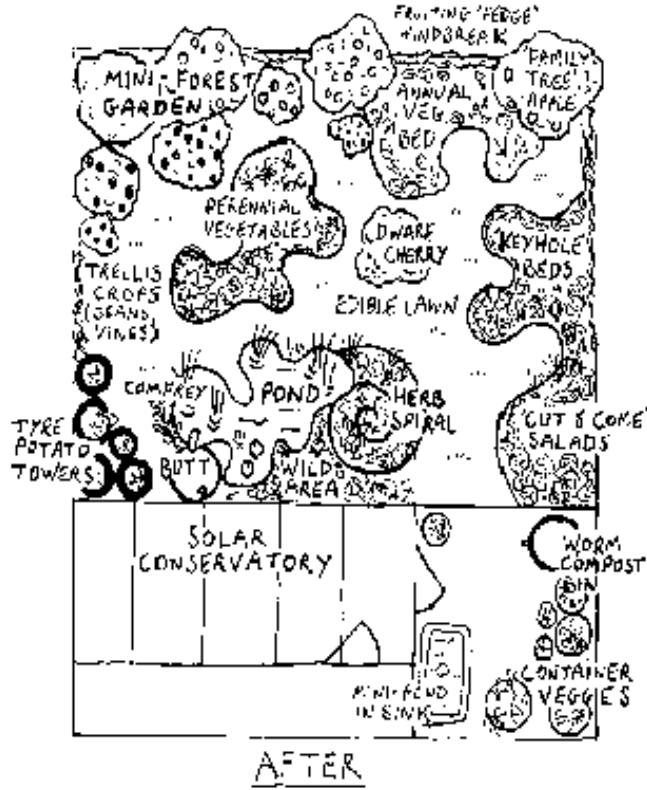
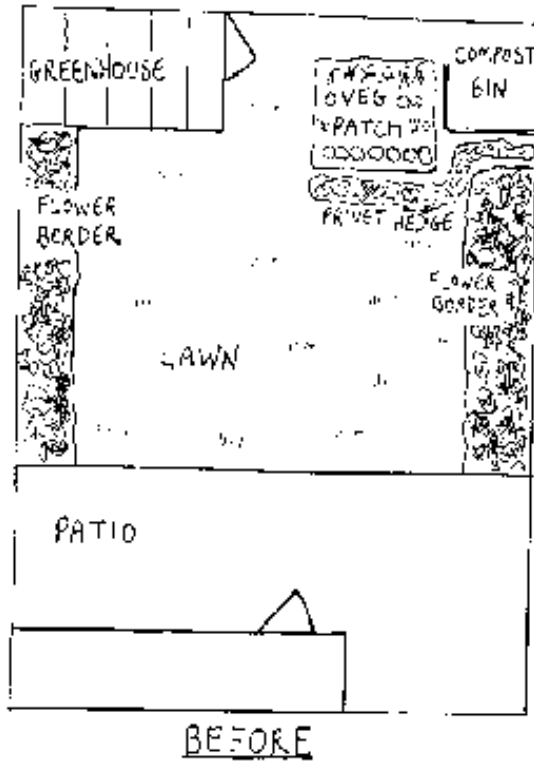


In the UK there are 43 million acres of farmland, consisting of one third rough grazing land (eg, moorland), one third permanent pasture (eg, hilly, water meadow, steep gradient, thin soils, etc) and one third arable land considered suitable for crop production by 'conventional' methods... Industrialised agriculture with it's high inputs of machinery and fossil fuels is diminishing, not increasing, the long term stability of fertile land as continuous ploughing, grubbing up of hedgerows, removal of trees and additions of chemical fertilisers and pesticides lead to problems like erosion, compacted soils and nitrate poisoning of our watercourses... Broadscale permaculture techniques and strategies seek to reverse this damage, as well as utilising land otherwise considered not suitable for cultivation...

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Some Design Ideas



With intelligent design and ingenuity we can maximise the growing potential of even the smallest garden area...

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Zones '1' & '2'- In The Garden

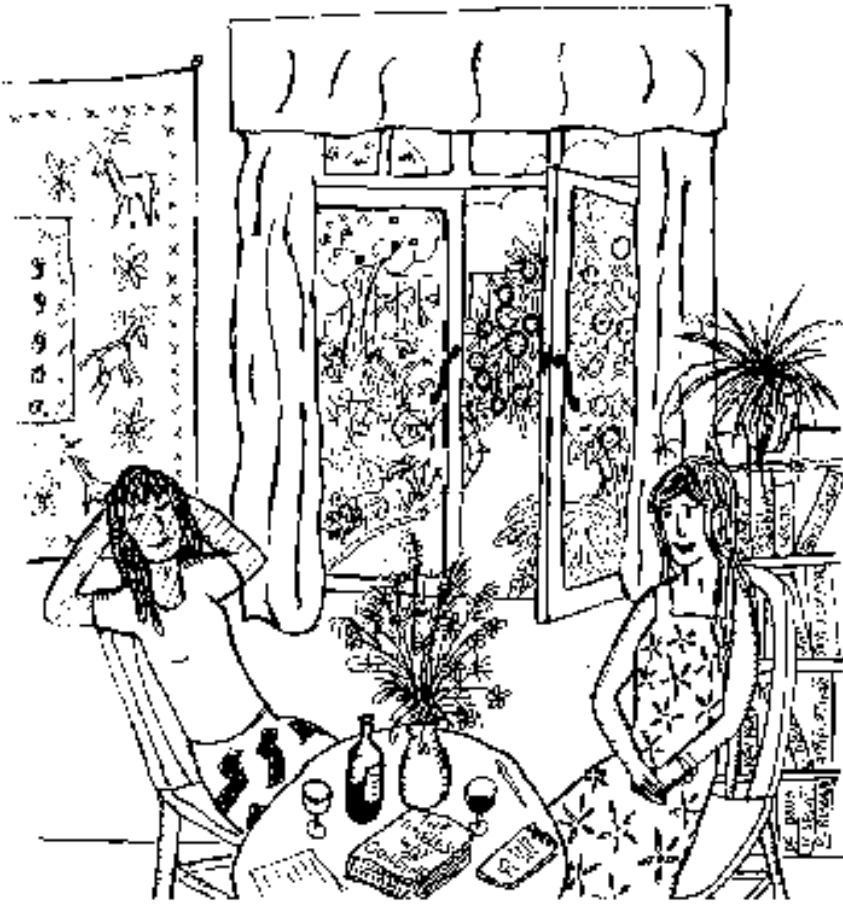


We all need to eat. That is why much of the emphasis of permaculture is on growing food. But if we are to feed ourselves sustainably we need to begin moving away from industrialised agriculture and more towards a gardening philosophy- less prairie farming of monocultures and more market and home gardens; places for creating edible landscapes, polycultures, forest gardens, designing plantings with multiple yields and functions. Of course, very few of us would be able to grow ALL of the food we need to live, but all of us can make an often significant contribution to our diets from our gardens, allotments or even balconies and windowboxes. ... As well as reducing the pressure that each of us places on precious land resources, growing our own reconnects us with skills and sensations that we have largely lost in the late 20th century.

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Zone '0'- At Home



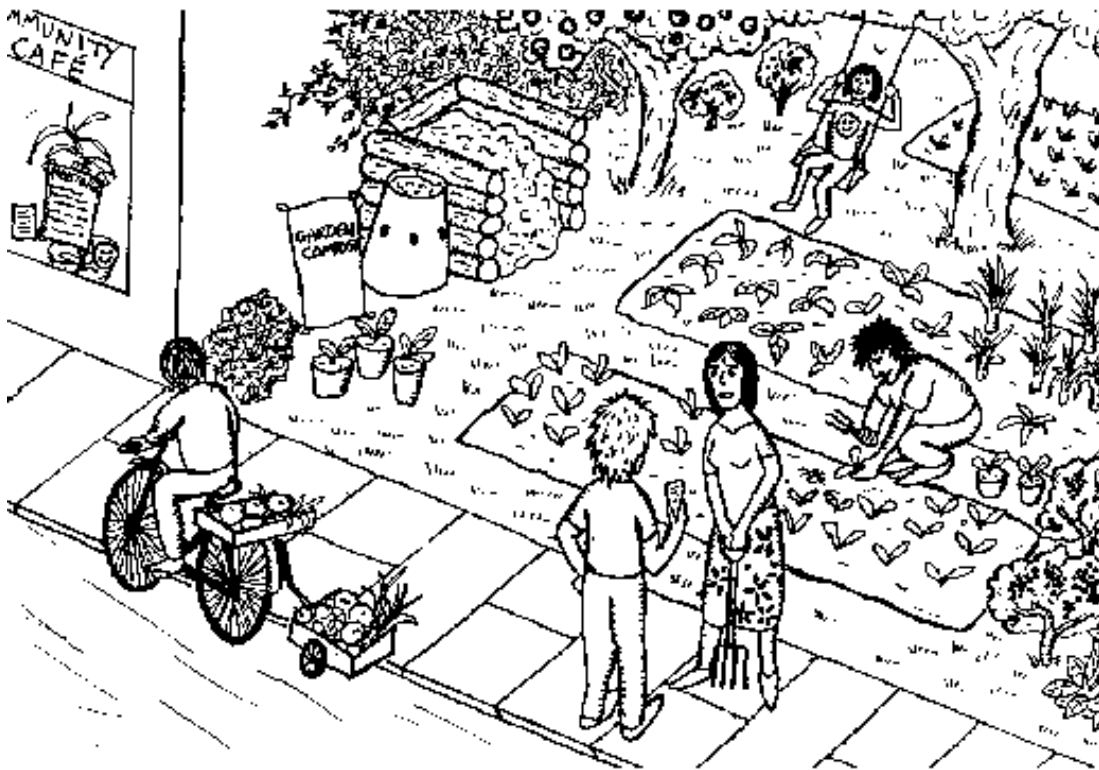
Home should be the place where the heart is, where we can come back to and centre ourselves and are able to feel safe and secure, our own 'Zone 0'. Whether a house, a cottage, a bedsit or a bender, wherever we live should be constructed and function in ways that are sustainable, energy efficient and ecologically harmonious. ... Choose locally available or renewable materials for construction; Houses which are sturdy, warm and comfortable can be built using wood, rammed earth or straw bales and have a fraction of the environmental impact of fired bricks or concrete. Site or design new buildings so that elements such as air flow, solar energy or water can be utilised as efficiently as possible in order to minimise non renewable energy inputs. ... Not all of us have the resources or opportunity to join an eco-village or build our own home, nor to carry out major retrofitting projects. In fact most of us, especially those who live in towns or cities, don't get a great deal of choice about where we live at all. But there are still steps that we can all take to make our homes more energy efficient, less wasteful of resources and friendlier, healthier environments to be in. ... Spend some time thinking about the inputs and outputs of your house. For example, make a list of how many electrical appliances you use and how often, how much water you use in a day or the amount of rubbish that goes into your bin each week. Analyse this resource usage; how much is really necessary, how can it be

reduced?

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Rolling Permaculture

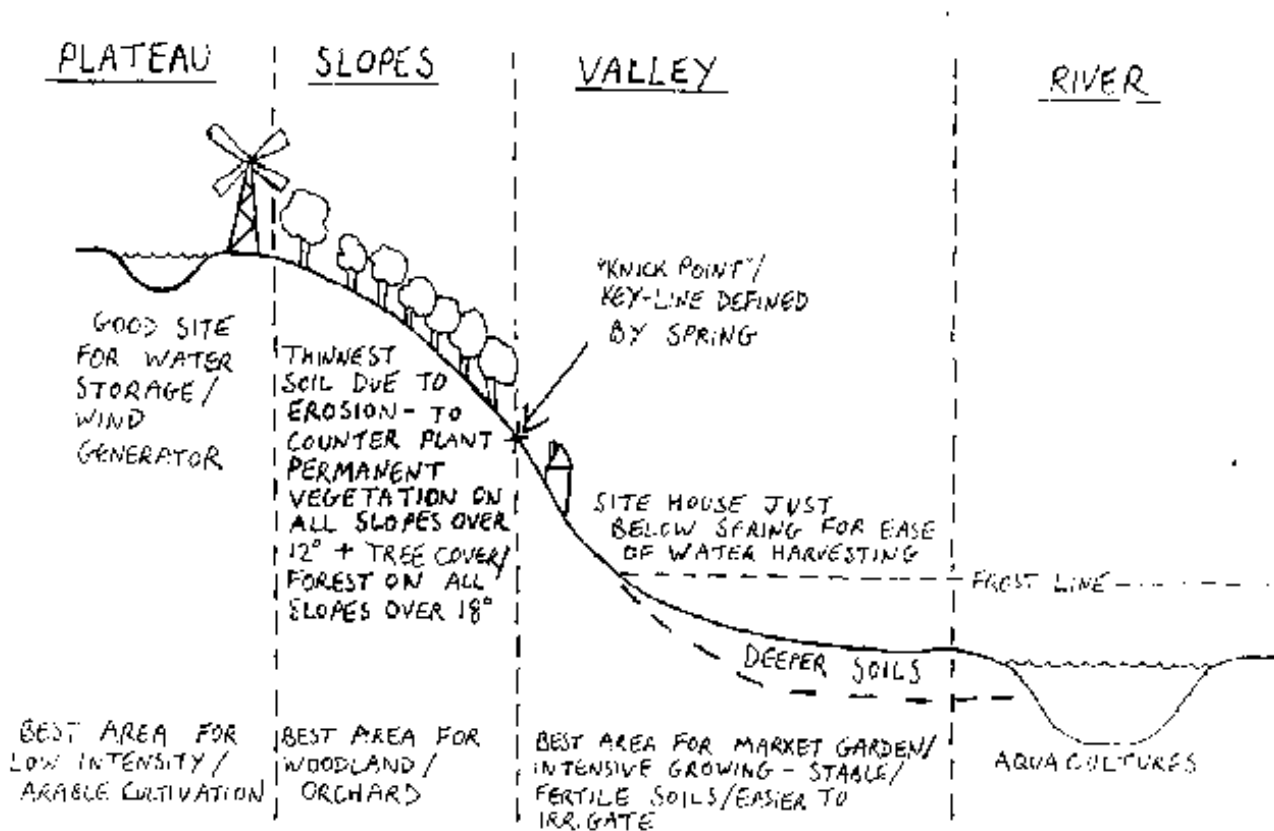


'Rolling Permaculture' is a term that is used to describe the incremental implementation of a sustainable design over a period of time. Industrialised agriculture is eroding and poisoning the land, but at the same time provides employment and feeds the population. Modern towns and cities house and create jobs and amenities for millions, but depend on environmentally harmful infrastructures. Replacement systems are obviously required, but immediate change would be impossible. So we start small; maybe working on the margins; a farmer might use permaculture techniques to make 'waste' land, maybe 'Set Aside' fields, productive, then gradually 'roll' the design across the rest of the site, with sustainable incomes slowly replacing those from destructive practices. ... Similarly, permaculture projects set up on otherwise derelict inner city sites can serve as examples and inspiration, spreading ideas of how we can all develop sustainable futures...

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Slopes

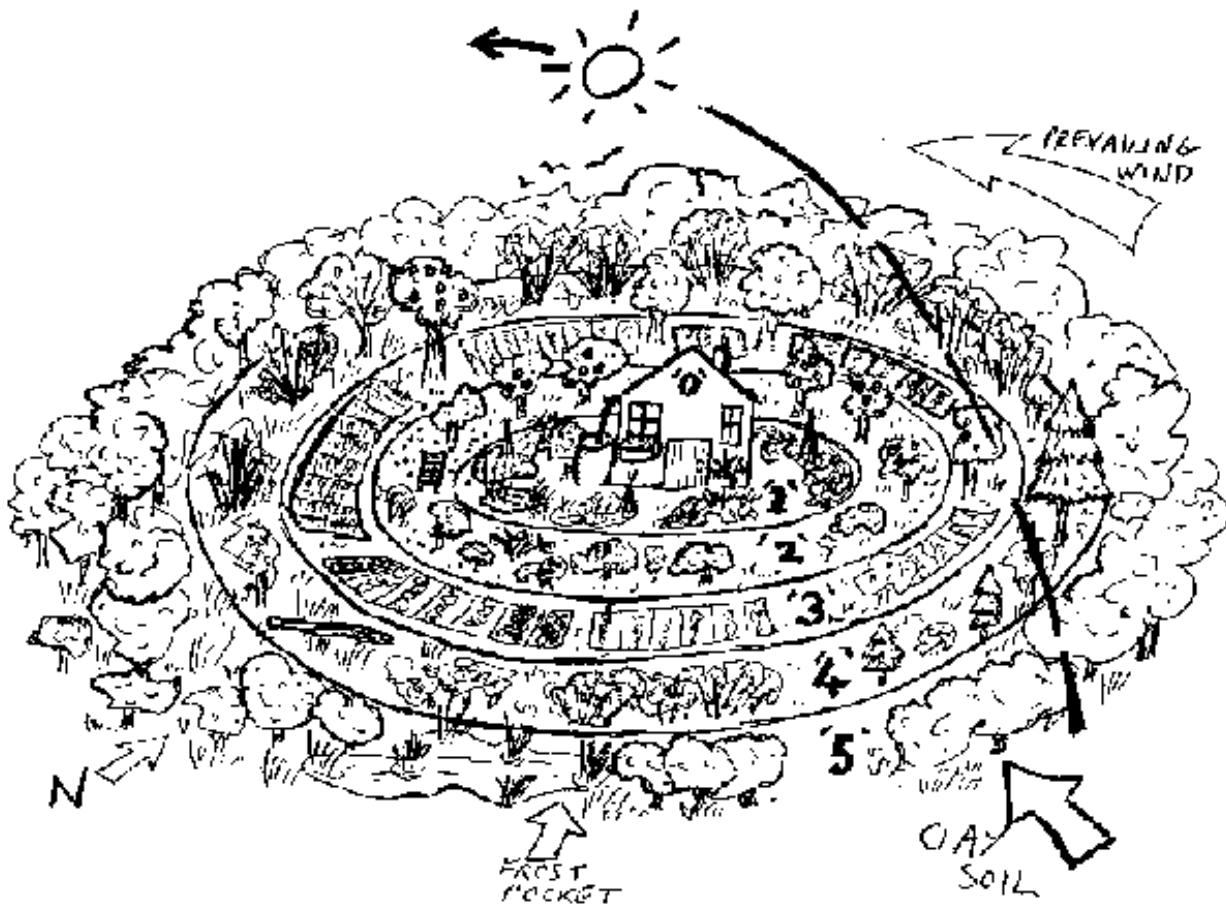


Consideration of zones and sectors gives us a comprehensive 2 dimensional image of our landscape. Yet no site is totally flat. Topography can have major effects on issues such as microclimate, water movement, erosion, and wind speed. Therefore we need to consider any SLOPES and CONTOURS which will have a bearing on design strategies.

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Relative Placement- Zones & Sectors



Zoning is about correct placement- positioning things in ways that are the most appropriate; Zones are numbered from 0 to 5, and can be thought of as a series of concentric rings moving out from a centre point, where human activity and need for attention is most concentrated, to where there is no need for intervention at all...

- ZONE 0... The house, or home centre. Here permaculture principles would be applied in terms of aiming to reduce energy and water needs, harnessing natural resources such as sunlight, and generally creating a harmonious, sustainable environment in which to live, work and relax
- ZONE 1... Is the zone nearest to the house, the location for those elements in the system that require frequent attention, or that need to be visited often, e.g., salad crops, herb plants, soft fruit like strawberries or raspberries, greenhouse and cold frames, propagation area, worm compost bin for kitchen waste, etc.
- ZONE 2... This area is used for siting perennial plants that require less frequent maintenance, such as occasional weed control (preferably through natural methods such as spot-mulching) or pruning, including currant bushes and orchards. This would also be a good place for bee hives, larger scale compost bins, etc.
- ZONE 3... Is the area where main crops are grown, both for domestic use and for trade purposes. After establishment, care and maintenance required is fairly minimal provided mulches, etc. are used, e.g., watering or weed control once a week or so.
- ZONE 4... Is semi-wild. This zone is mainly used for forage and collecting wild food as well as timber production.

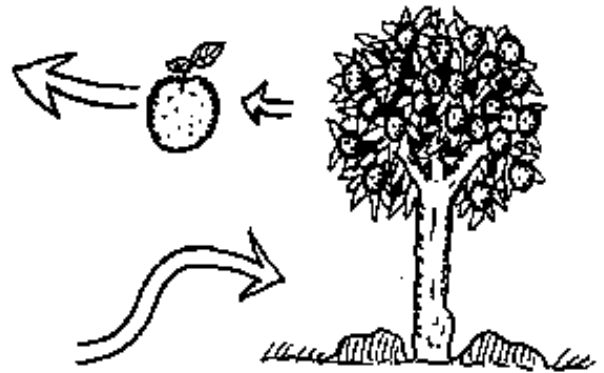
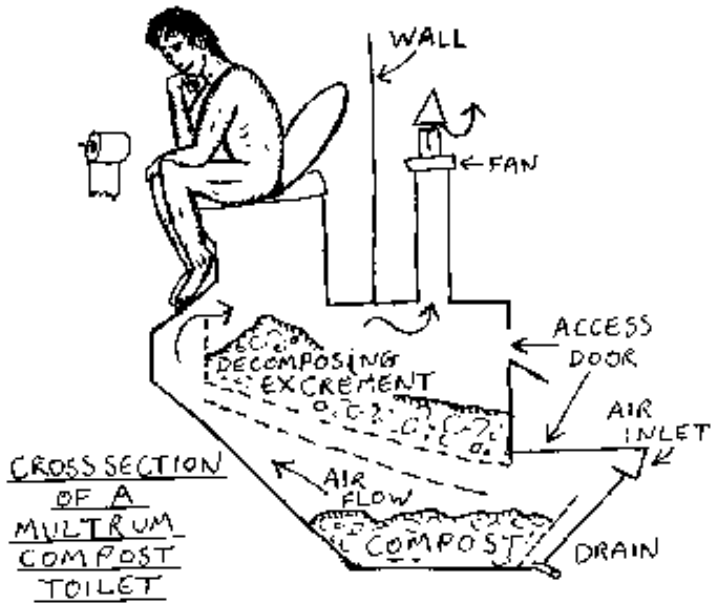
An example might be coppice managed woodland.

- ZONE 5... The wilderness. There is no human intervention in zone 5 apart from the observation of natural ecosystems and cycles. Here is where we learn the most important lessons of the first permaculture principle of working with nature, not against.
- SECTORS are a way of considering the external energies that move through a system such as prevailing wind direction, site orientation and aspect (north, south, east, west, etc.), winter/summer sun paths, underlying geological make up (bed rock causing clay or sandy soil types, etc.), frost pockets and so on; and how we might best take steps to either utilise or counter such factors.

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Everything Cycles- Outputs Are Inputs



In the natural world, there is no such thing as 'pollution'. Within an eco- system, every 'waste product' is useful elsewhere within that system... When we flush our bodily wastes out to sea, not only are we causing pollution, we are at the same time wasting a valuable resource. Composting our shit mends the cycle of fertility...

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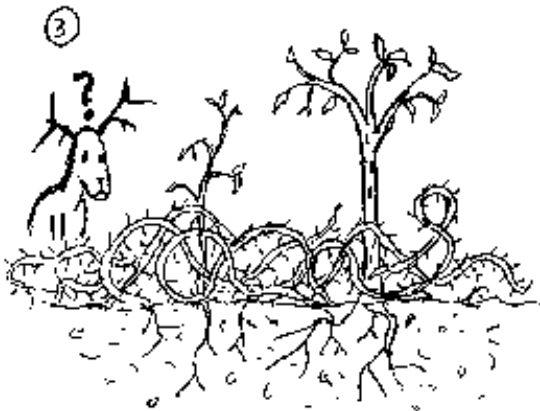
Succession



① WHEN A PIECE OF LAND, EG, A FIELD OR ALLOTMENT, IS TAKEN OUT OF PRODUCTION, IT IS QUICKLY COLONISED BY 'GROUND COVER' WEEDS SUCH AS CHICKWEED OR VETCHES, WHOSE SEEDS MAY ALREADY BE IN THE SOIL. THESE ARE SHORTLY FOLLOWED BY DEEP ROOTED 'NUTRIENT MINERS' SUCH AS DOCKS, DANDELIONS & THISTLES



② THESE 'RECONDITION' THE SOIL, RETURNING LOST FERTILITY & DEFICIENT MINERALS, PAVING THE WAY FOR THE NEXT PHASE OF 'SCRUB' SUCH AS BRAMBLE & FIRETHORN



③ PROTECTED BY THORNS FROM BROWSING WILDLIFE, SEEDLINGS OF PIONEER TREE SPECIES SUCH AS ELDER & BIRCH ARE ABLE TO ESTABLISH



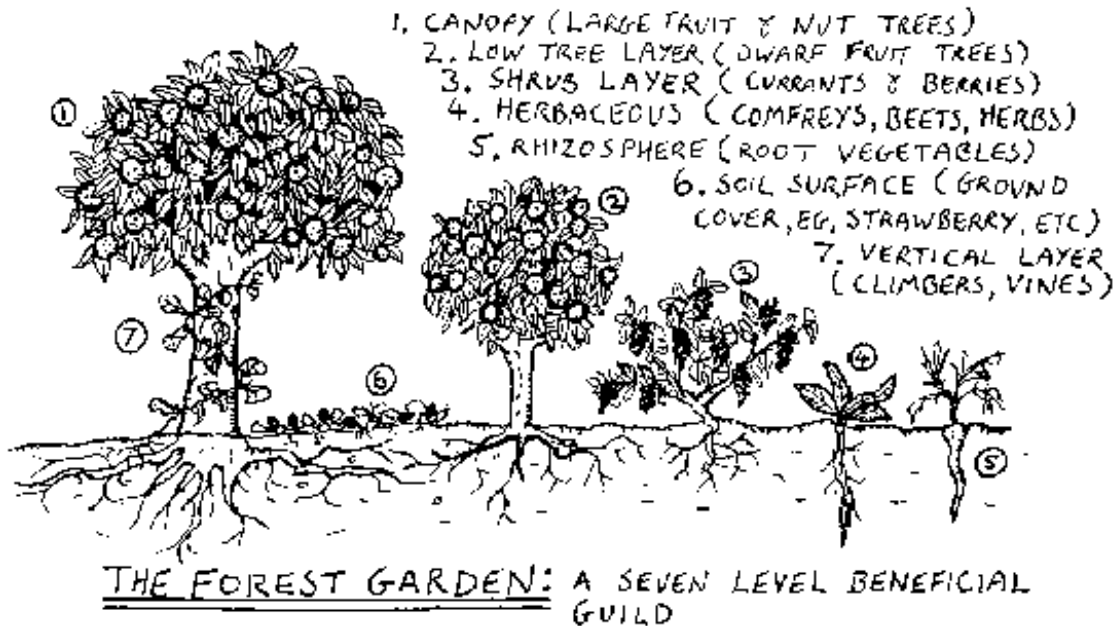
④ IN TIME THESE RELATIVELY SHORT LIVED TREES WILL GIVE WAY TO SLOWER GROWING HARDWOODS SUCH AS OAK OR CHESTNUT. IF UNDISTURBED, CULTIVATED LAND WILL RETURN TO 'CLIMAX' FOREST IN A MATTER OF JUST A FEW YEARS

Succession is about the changes that place in the structure and function of an ecosystem over a period of time... Traditional techniques such as woodland management by coppicing and crop rotation are based on an understanding of the principles of 'stacking in the 4th dimension of time' that is succession.

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Stacking

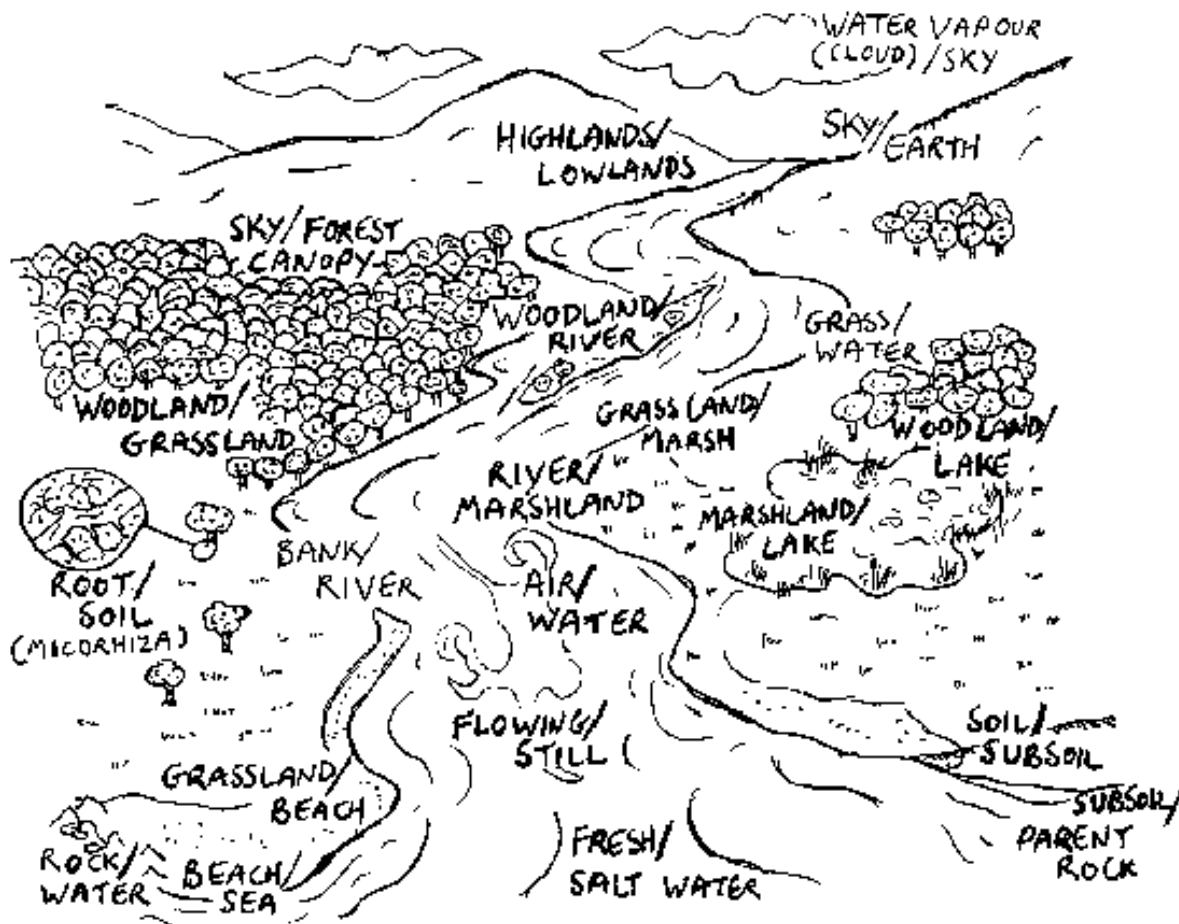


Unlike many contemporary cultivated gardens, nature does not neatly compartmentalise her landscapes with ornamentals growing in one place, vegetables in another and fruit trees in yet a third location. In woodland several plants such as standard and half standard trees, shrubs, climbers and ground cover occupy the same area of space, each 'stacked' to find it's own requirements within it's particular 'level' in the system. The Forest Garden is an attempt to replicate this 'layering', replacing the wild plants of the woodland with fruits, herbs, vegetables and other plants that are useful to peoplekind.

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Increasing Edge

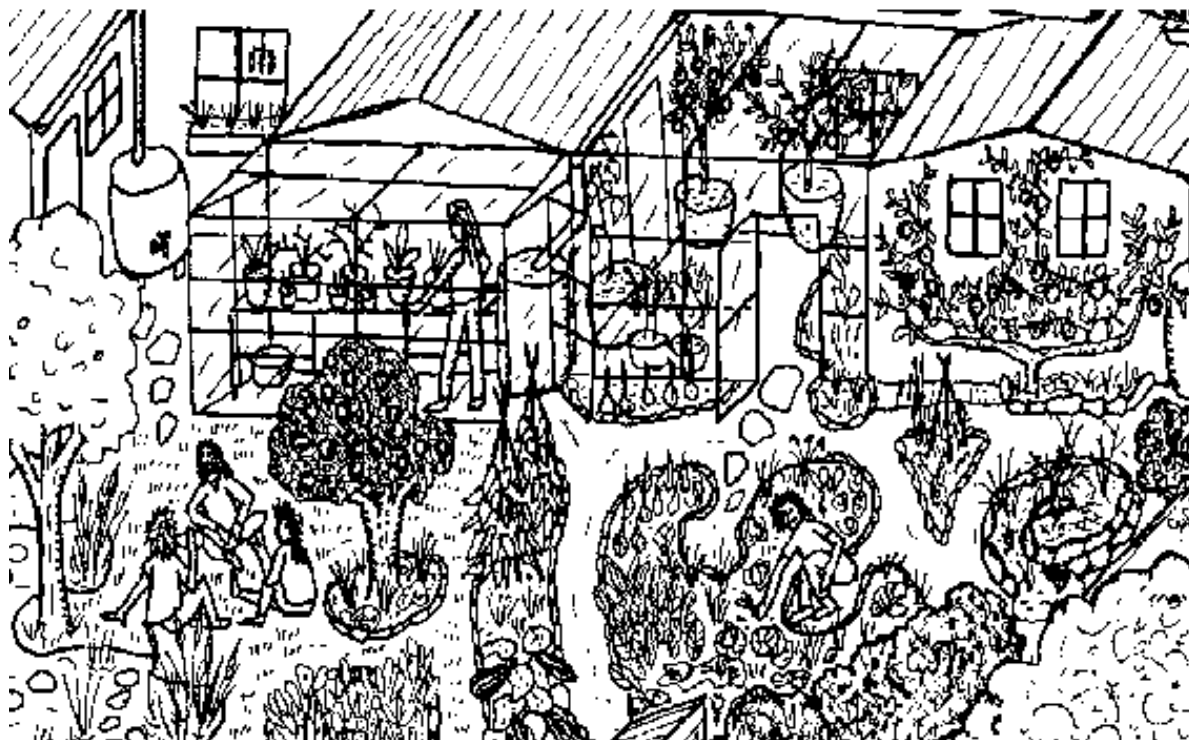


The 'Edge' or Ecotone is the place where two ecologies meet, such as the woodland edge or the seashore. Such an environment tends to be more synergistic, supporting biological activity from either side of this 'boundary' zone as well as species particular to it's own conditions, thus making it a highly productive region... Permaculture design seeks to increase edge and it's beneficial effects wherever possible, including between people and ideas...

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Yield Is Limited Only By Imagination



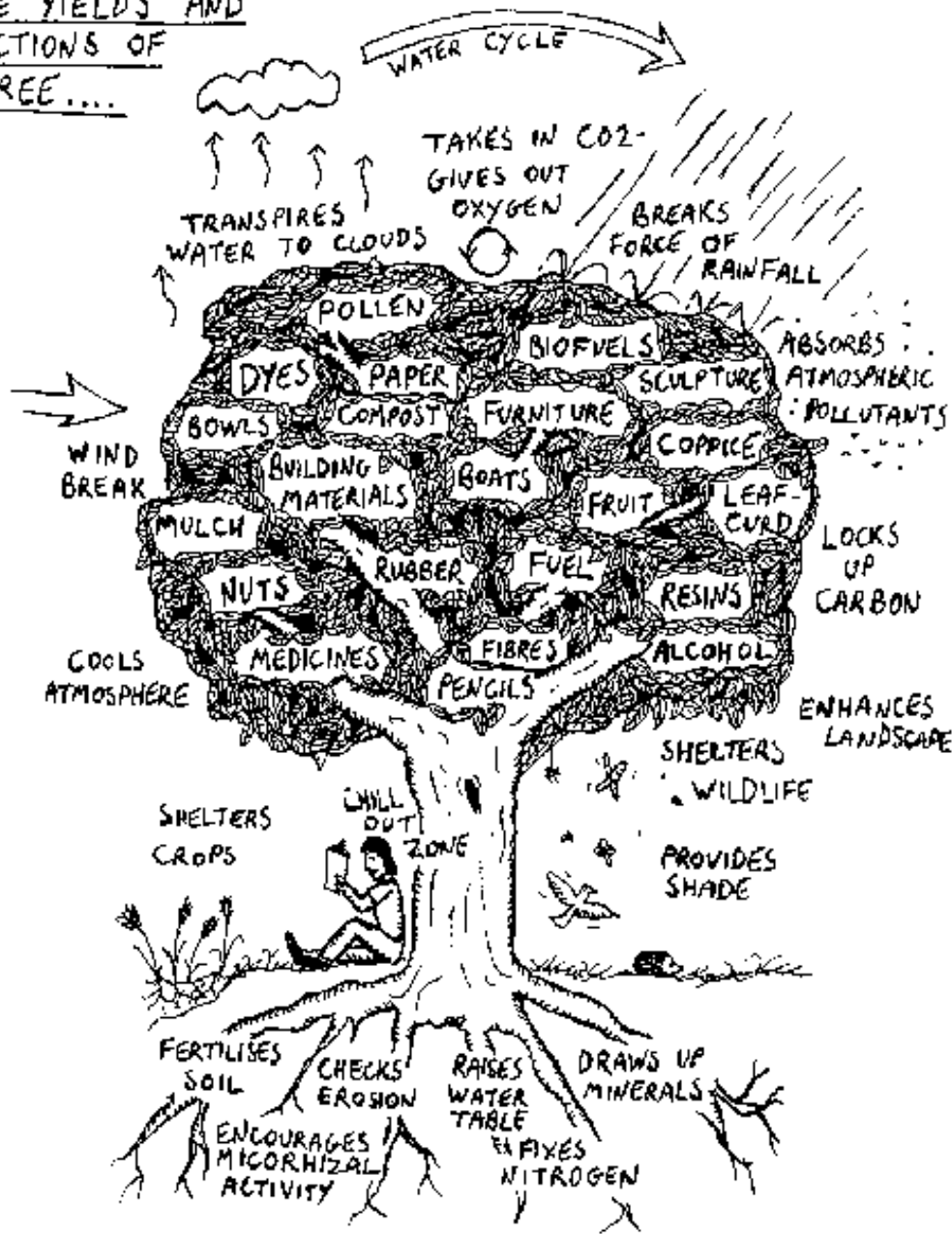
Traditionally, 'yield' is thought of as quantity of material output (eg, amounts of potatoes, grain, etc) calculated against resources or effort put in, but there's no reason why we can't widen our definition to include information, lessons learned, experience, the health benefits of exercise and being outdoors, or even just plain fun... Within a permaculture design, we will constantly be finding new niches to utilise, new beneficial guilds, learning new techniques, trying out fresh ideas, be gathering knowledge. By comprehending and copying natural systems, we can develop techniques in order to consciously multiply such opportunities...

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Every Element Should Serve Many Functions

SOME YIELDS AND FUNCTIONS OF A TREE....

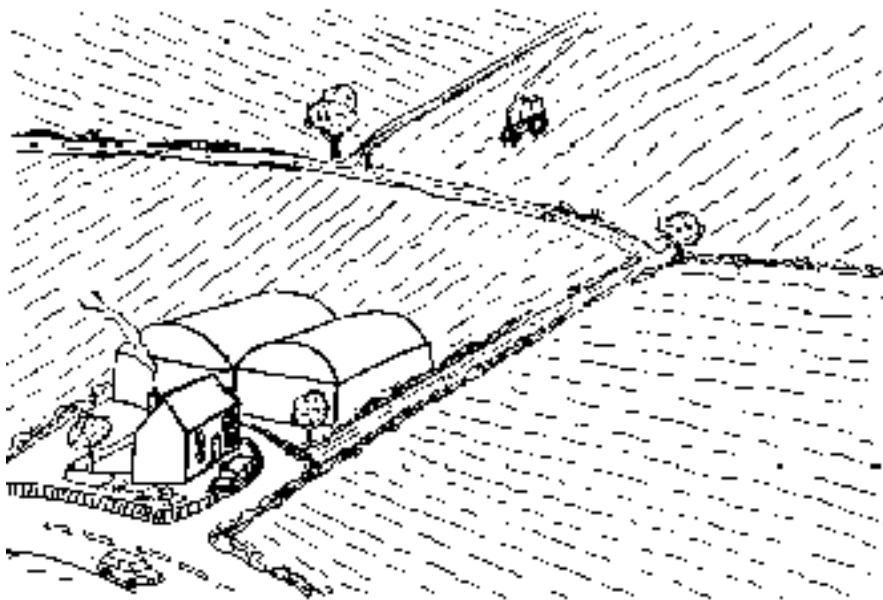


Effectively the other side of the coin... If you have learned the skills to prune apple trees, mend a computer, play the guitar, cook for a crowd, entertain children, operate a printing press, fix a downpipe, draw and paint, drive a tractor, use a word processor, install a wind generator, give a massage, juggle, run a photography workshop and build a compost bin, not only are you better able to earn a living in a variety of circumstances; YOU also become more valuable in terms of what you are able to OFFER to others...

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Every Function Should Be Supported By Many Elements



If we give all of our land over to one crop (a monoculture) and it fails, we starve...

...but if we grow as wide and diverse a range of edible plants as possible (a polyculture), we still get to eat if some of them don't make it to harvest



Nothing should be indispensable as it's loss or failure can then be disastrous. If, on

the other hand, every system has a back up, it can continue to function. Similarly in our day to day lives it makes sense to learn as wide a range of skills as possible- a person who has had only one well paid but specialised job throughout their working life would be far less able to cope with being made redundant than somebody who has several smaller incomes earned from a variety of sources.

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See Solutions, Not Problems...

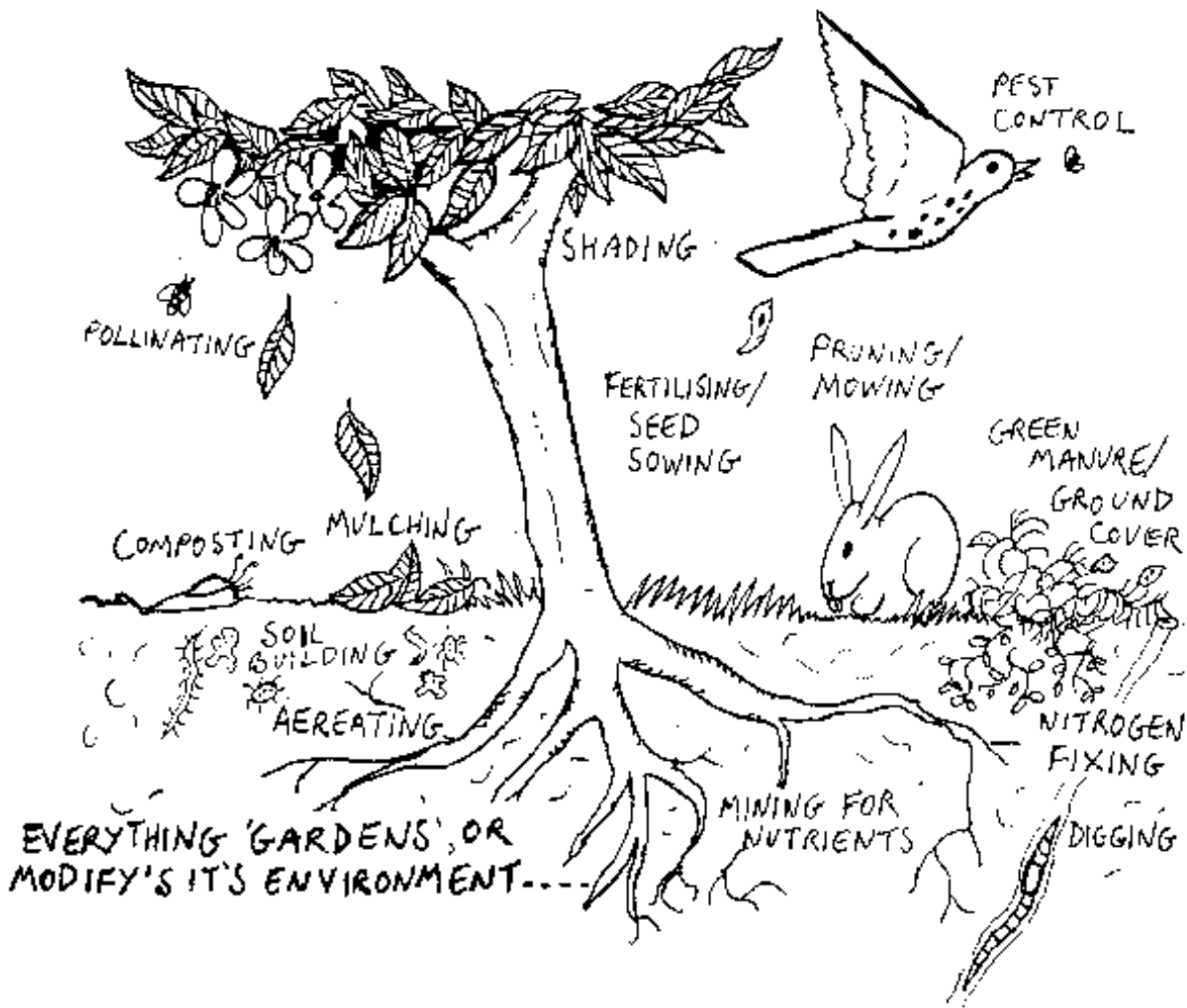


It is how we look at things that makes them advantageous or not, or, as Bill Mollison once said, “You havn’t got an excess of slugs, you’ve got a duck deficiency”.

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Work With Nature, Not Against

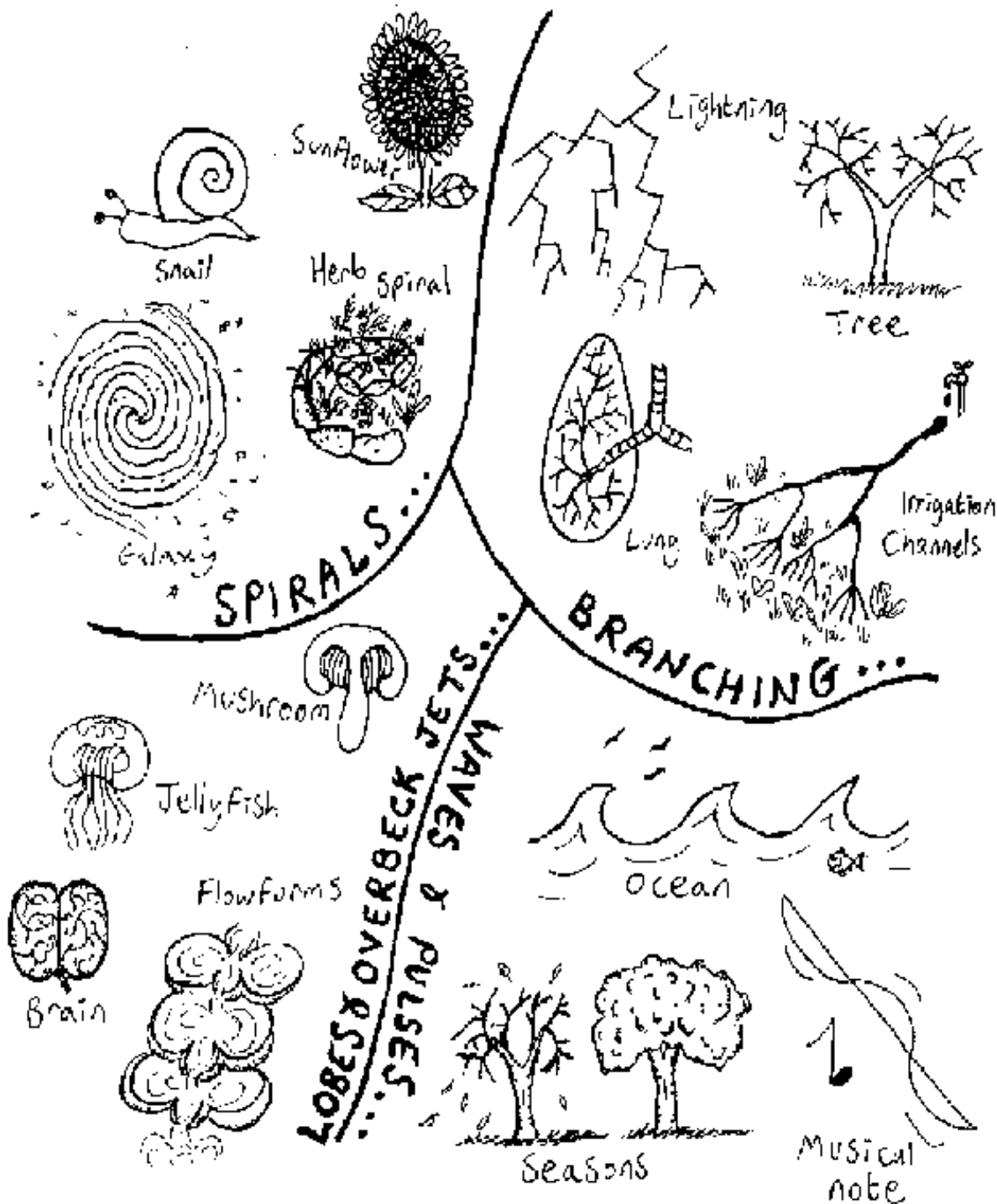


Putting massive effort into attempting to 'tame nature', such as by damming valleys and flood plains or creating and maintaining bare soil by plough, is not only energy consuming, unsustainable and destructive, it is also unnecessary when we can meet the needs of people and the environment by working in harmony with, or even directly utilise, natural systems. Instead of using massive chemical inputs to control pests, why not encourage predators such as ladybirds and hoverflies to do our work for us? Or why not construct homes that utilise passive solar energy and wind power rather than building nuclear power stations?

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Permaculture Principles...



Permaculture isn't about is having to get your head around untold facts, figures, Latin names and complicated techniques, rather it is about recognising universal patterns and principles, and learning to apply these 'ecological truisms' to our own gardens and life situations. We can identify the underlying forms that recur throughout the natural world and learn to understand and utilise them in designed ecologies...

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Permaculture Ethics...



Permaculture is a broad based and holistic approach that has many applications to all aspects of life. At the heart of all sustainable design and practice however is a fundamental set of 'core values' or ethics which remain constant whatever our situation, whether we are creating systems for town planning or trade, whether the land we care for is a windowbox or a 2000 hectare forest.

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What Is 'Permaculture'?



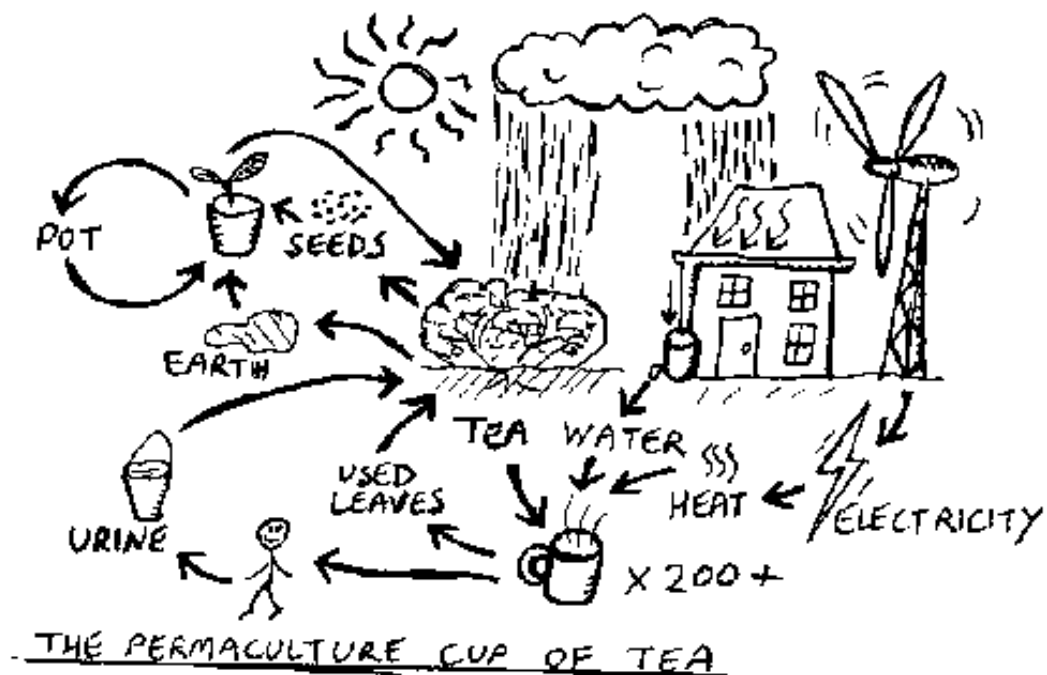


'PERMACULTURE' is a word that was originally coined in the mid seventies by two Australians, David Holmgren and Bill Mollison, to describe the design system pioneered as a response to what they, and many others globally, saw as serious challenges to the survival of all of us. Originally derived from the words 'PERMANent agriCULTURE', permaculture has gone beyond it's roots in looking at strategies to create sustainable food growing methods to become a worldwide movement encompassing all aspects of how we as human beings can live harmoniously in relation to our Earth and it's finite resources- A PERMANent CULTURE. Permaculture now probably has as many defintions as there are practitioners, but one that is particularly useful might be- "CREATING SUSTAINABLE HUMAN HABITATS BY FOLLOWING NATURE'S PATTERNS"

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The Permaculture Cup Of Tea...

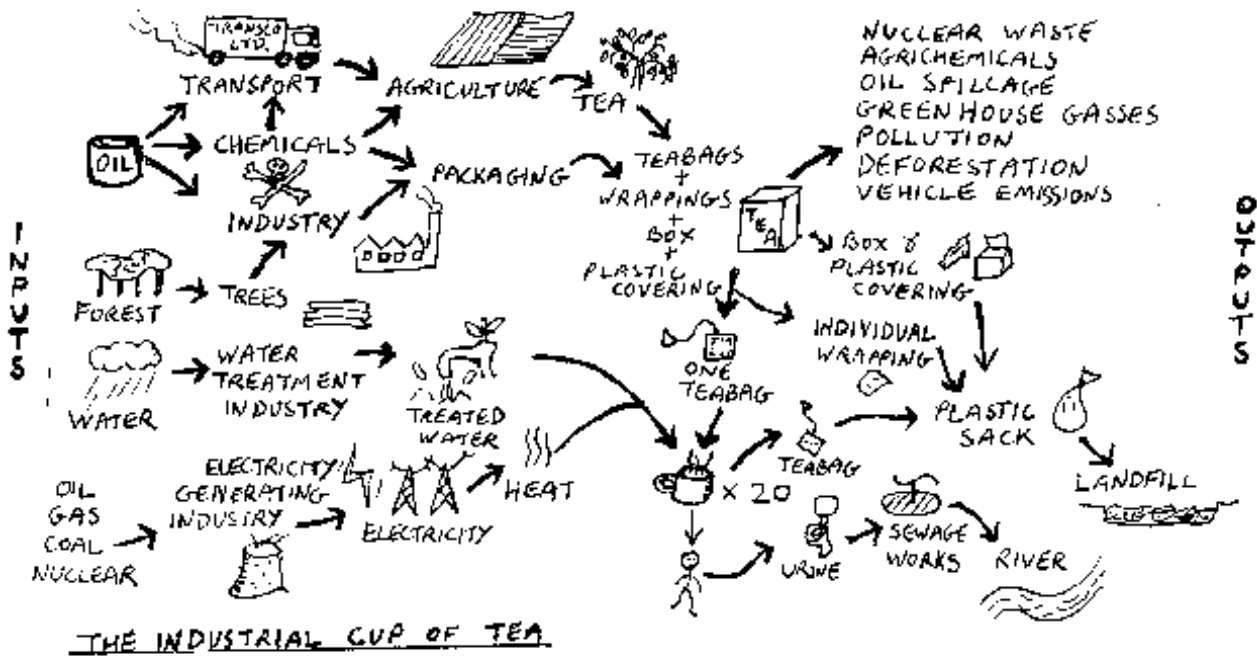


The Eco-crisis is largely a consequence of the way that we in the West consume. Permaculture is about recognising this and taking responsibility for our actions and for our planet, and turning around our behaviours of consumption and exploitation so that we can recreate a world without destruction and pollution. Where all can enjoy clean air, fresh water, good quality food, and meaningful work and leisure. Where we can repair the earth and move society towards a better relationship with the natural world of which we are all a part.

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The Industrial Cup Of Tea...

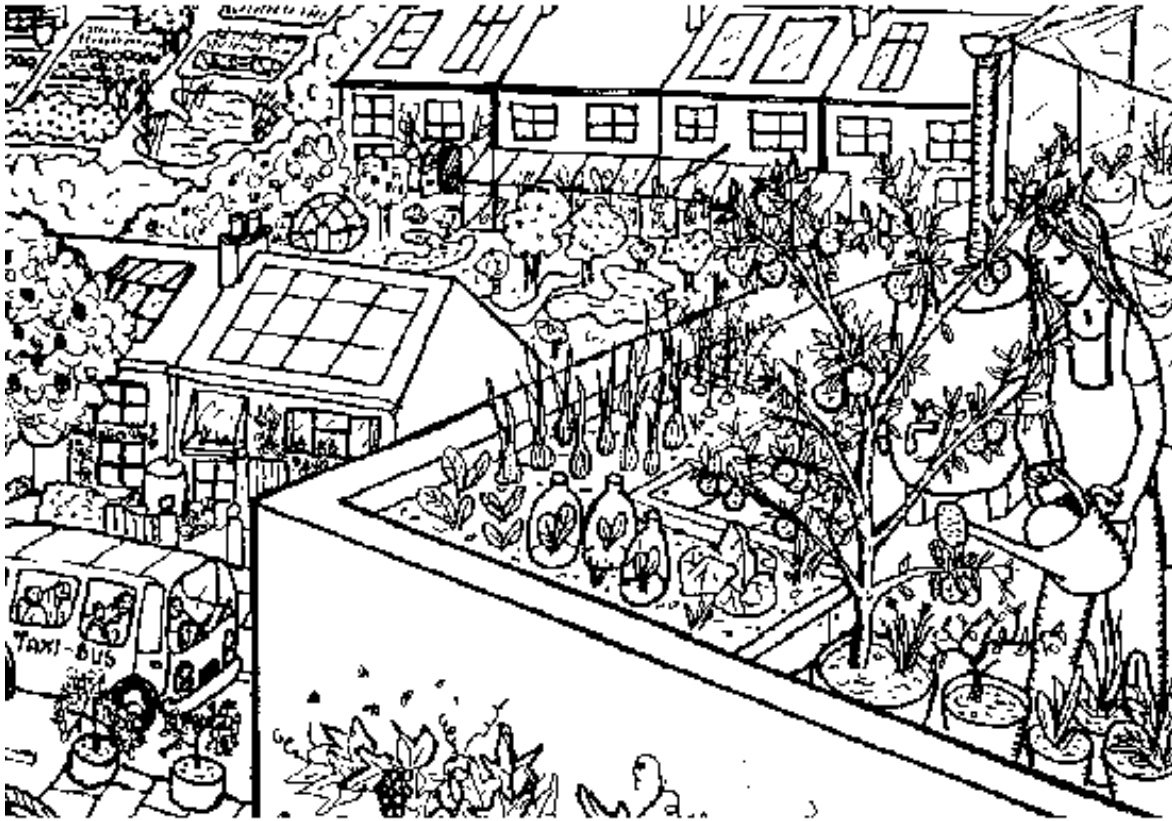


It's become a cliché to say that we are living on the edge of eco-disaster. It's also a reality which cannot be overstated. The ecology of Gaia is an interface between land (the Geosphere), air (the Atmosphere), water (the Hydrosphere) and life (the Biosphere), a delicate web of interconnections formed over millions of aeons on the verge of unravelling before our eyes... If the earth's 4.5 billion year history could be compressed into 30 days, life in the form of simple bacteria appeared on the tenth day whilst the first vertebrates crawled onto the land around the twenty fifth. Homo sapiens (peoplekind) appeared at about 1 minute to midnight on the thirtieth. The industrial revolution would have happened within the last fraction of a second of that minute, yet within this instant, the face of the planet has changed almost as much as within all the previous aeons.

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Permaculture- A Beginner's Guide



"Permaculture offers a radical approach to food production and urban renewal, water, energy and pollution. It integrates ecology, landscape, organic gardening, architecture and agro-forestry in creating a rich and sustainable way of living. It uses appropriate technology giving high yields for low energy inputs, achieving a resource of great diversity and stability. The design principles are equally applicable to both urban and rural dwellers"- Bill Mollison

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