

Natural Dryland Gardening *getting nature on our side*

Introduction

A natural garden is one in which we work as part of Nature's team. Together we create beautiful and productive spaces that not only are a pleasure to be in, but also provide a healthy home for Nature and her myriad helpers. Working with Nature makes our lives easier, and leads us on a life-long journey of creative discovery, as together we create a natural garden which works for us both.

The Mediterranean climate, although obviously different, has certain surprises that challenge a number of gardening practices which are perfectly at home in northern temperate environments, but simply do not work in the Mediterranean. In fact, they can even bring about a real deterioration in the health of our garden. However, there are certain principles which if understood, enable us to adapt temperate gardening practices to suit the Mediterranean environment.

No gardening book can ever be definitive, as every garden and gardener is unique, and if we take a recipe-based approach to gardening, then that recipe will fail eventually. However, when we understand what makes Nature tick in the Mediterranean, we have the ability to create a natural garden no matter who we are, or where we live, whether in the mountains, in the valley or on the coast. We will have all the tools we need to adapt to any situation.

When I first moved with my family to the Mediterranean, we were enthusiastic about the opportunity to put our design knowledge into practice and passionate about creating a more sustainable life for ourselves and the planet. After four years of trying to establish a biodiverse, complex natural system which also provided a year round yield, we had to acknowledge that we were beaten! The tried and tested practices of our temperate gardening experience simply did not work: we had more bare soil, less biodiversity and definitely not a healthy landscape.

Serendipitous circumstances brought to our attention the work of Allan Savory, a conservation biologist and farmer in Zimbabwe. His observations about natural relationships in environments, like the Mediterranean, enabled us to see what was missing in our understanding. Once we could see the principles at work, we were able to adapt our temperate practices to suit the Mediterranean environment

This book is dedicated to both you and your garden, your health and your happiness.

The Mediterranean Climate and the Gardener

A Mediterranean climate is one which has hot, dry summers with milder winters, bringing variable amounts of rain. It takes its name from the sea which borders the coast line. Apart from the actual Mediterranean, there are four other areas which experience similar climatic conditions:

- The winter rainfall belt of South Africa's Cape,
- central and southern coastal California,
- central Chile and
- southern and southwestern Australia.

However, these landscapes are part of a category which comprise 70% of the planet, and are known as 'brittle environments'. Understanding the difference between brittle and non-brittle landscapes is most important for gardeners in the Mediterranean.

A brittle environment

Understanding what distinguishes a brittle environment is crucial. It is one in which there is a hot, dry period with uneven and low rainfall and humidity throughout the year. It is not just a question of rainfall, but how evenly any moisture is distributed throughout the year.

In temperate environments, like northern Europe, there is consistent year-round moisture. However, in the Mediterranean, there is anything between a three to six month drought in the summer, with low, sporadic rainfall in the autumn and spring.

Understanding the implications of uneven distribution of year-round moisture is the key to successful Mediterranean gardening. This fact alone will make the difference between a garden that is a pleasure to work in, and a garden that is just plain hard work!

Knowing what it means

The implication of brittleness is that, where there is consistent year-round moisture, plant debris breaks down readily to provide nature's compost for the soil. However, when this moisture is absent or erratic, plant debris does not break down, and simply oxidizes in the sun. This has a number of consequences:

- there is no natural compost for the soil
- if plant debris is not cleared it can build up to create a bushfire risk
- the depth of dead plant material can suffocate new growth
- when wind and rain eventually move the debris the soil is exposed to erosion

None of the above is good for the garden or the gardener. Nature, however, does not work alone.

Nature's helpers

Brittle landscapes evolved with hosts of helpers. Even though the climate does not have the year-round moisture to help plant debris to breakdown, there are animals that help turn that debris into nature's compost.

Wild and domestic grazing animals eat the dead vegetation and return it to the soil as fertility. Dung beetles and other creatures then carry that fertility below the ground to provide food for plants. In this way, dead plants are continually recycled, fertility is added to the soil and plants continue to grow and thrive.

However, with the spread of human activity, many of these natural helpers have been displaced, and their work has now, to be taken up by people. This is particularly true of the Mediterranean garden. The low year-round moisture prevents plant debris from being turned into nature's compost. Nature needs help. The Mediterranean gardener has to take the place of grazing animals and dung beetles.

The role of the gardener

We have to take up the work that was previously carried out by nature's helpers, if we want to gardens that are a joy to be in. This means helping to produce all those things which build soil, create fertility, hold water and enable trees and plants to thrive. We need to understand how nature works in this environment, so that we can become allies in creating beautiful spaces.

Once we and nature become allies, we set ourselves on a creative adventure of constant discovery. Every year will bring with it new understanding. As our knowledge grows, we become more effective in producing a landscape that not only works for us, but for nature as well. We become true custodians of our natural heritage. There is even an added bonus, in that we become a powerful force in combating the effects of climate change.

Reducing carbon emissions is simply not enough to address the effects of climate change. We need to ensure that the carbon already in the atmosphere is reduced by locking it up in the soil. So how do we go about that? We ensure that there are year-round green and growing trees and plants in our garden. As plants go about living, they remove carbon from the air and lock it up in the soil. This process is called carbon sequestration. When we have trees and plants that produce things for us to eat, we reduce the impact of excess carbon even more: we do not have to buy produce that has created carbon elsewhere through the production or transportation process.

Now that we understand something of the Mediterranean climate and the role of the gardener, we can start to look at natural processes and how they help us understand how our garden works.

Natural Processes

These processes, when they are healthy, enable our planet to support all of life. Ill-health in any process affects the wellbeing of the whole of nature. Although we consider them separately, they are interdependent and function as a whole system. They are the way that:

- Water cycles from the atmosphere into the ground and back again.
- Nutrients cycle from decaying processes into plants and back again.
- All the different elements of nature relate to and support each other.
- The sun's energy is used by plants to grow and provide food for other living beings.

Collectively they are called the ecosystem processes. An ecosystem is simply all the natural relationships that exist and support life in a particular area. As gardeners, we need to ensure that each process is working well in our garden, if we are going to create the beautiful and productive space that we want. As water is of such concern in the Mediterranean, let's look at how water cycles on this planet.

The water cycle

Water is constantly cycling between the earth's surface and the atmosphere. The water cycle describes the journey of a drop of rain into the soil and then back into the atmosphere where it collects as cloud, to fall once more as rain. Water constantly changes its form. It can be locked up in glaciers for thousands of years, or as a liquid, it can flow through rivers down to the sea, or as a gas, it can drift as water vapour through wind currents. This movement from solid to liquid to gas is driven by the sun's energy.

Heat from the sun causes water to evaporate into the air. When the air temperature gets cool enough, this water vapour eventually condenses and falls back down to earth. Because of the force of gravity, water runs downhill – over land, through the soil, or as part of streams and rivers. Some of it quickly evaporates back into the air but much of it is used by plants and animals. Water is also stored for long periods of time in large lakes and the sea.

The storage of water in large areas gives us a clue another aspect of the water cycle: the dissolving and transporting of nutrients for plants and animals. Whether providing a home for fish or making nutrients in the soil available for plants, water plays an extremely important role in the distribution and abundance of all living things. It is in this role of dissolving and transporting nutrients that naturally leads onto another of nature's processes, the nutrient cycle.

The nutrient cycle

Nutrients, like water, also cycle. Let's look at how a dead leaf becomes food. In a non-brittle landscape, that leaf falls to the woodland floor where the year-round moisture helps break it down for worms to eat. The leaf passes through the digestion of the worm, which provides food for other creatures that live in the soil. Water passing through the soil helps dissolve those nutrients and make it available for trees to absorb through their

roots. The trees then grow, carrying the nutrients that were once a dead leaf, above the soil surface to enable the process to begin all over again.

However in brittle landscapes Nature uses a different process. Because of the low year-round moisture, a dead leaf will not break down, and will not be carried below the surface by worms. Instead, we might see a herd of grazing goats eat the leaves that they can reach. These then pass through the goats' digestive system onto the ground. The nutrients are then carried underground by dung beetles. When the rain comes, the nutrients are dissolved to be absorbed by the tree roots. As the tree grows, the nutrients are carried above ground to enable the process to start again.

In both these cycles, we see that there are a number of other organisms involved. The organisms involved are different in different ecosystems. These relationships reveal another natural process.

Natural relationships

The natural relationships that evolve are those that suit the conditions in any particular area. For instance, in a desert, the plants that evolve there are those that can tolerate extremes of temperature and can store water for long periods of time. The creatures that evolve in the same area are those that can live underground to avoid the heat of the day and can live off the plants and other creatures that live there. The relationships, or collection of relationships, known as communities, which evolve in different ecosystems are interdependent, diverse and stable. Any large or sudden change to that community affects its entire wellbeing.

For example, in Thailand, farmers were indiscriminately killing the snakes in the rice fields, despite recommendations to the contrary. Consequently, they upset the natural balance between the snakes and their natural food – rats. The result was an explosion in the rat population, which ate the rice.

The same thing can happen in plant communities. The consistent complaint of the northern European gardener is about couch grass and bind weed. However, exactly the same principle applies. These plants only spread if the ground is being constantly cleared. Nature is covering bare soil with plants that can out-compete human weeding activities!

Understanding these natural relationships and how they evolve enables us to create a Mediterranean garden which will be a balanced unit: one which supports not only plants, but a whole variety of other creatures than can be our allies in the garden. As we create more diverse gardens, so we create greater variety and ease of maintenance.

Now, we come to the last of the ecosystem processes: how the sun's energy is used to create life. The sun provides the energy that affects every living thing on this planet.

The sun's energy

Every bit of energy that makes life possible on Earth comes from the sun. Scientists define energy as the ability to do work. Plants are the first users of the sun's energy. They use it to do the work of growing. They are then harvested by other creatures, including us. We then harvest those animals and so on until the last bit of energy is used. However, we don't run out of energy because the sun provides a constant supply to replace what has been used up.

The supply of energy provided by the sun is collected first by plants, so they are the foundation of solar energy flow. Without plants, there would be nothing to catch the sun's energy. We can now see what a crucial role they play in sustaining life on this planet. Creating year-round green and growing spaces is important work.

A healthy natural garden

We create these green spaces by growing a wide range of plants on a year-round basis and ensuring that water and nutrients are being cycled effectively. Although we have been looking at the ecosystem processes separately, they do not function that way. They relate to, and depend upon each other, to create a complex and dynamic healthy natural earth. If the way water and nutrients cycle is ineffective, or the relationships in our natural communities are out of balance, or there is nothing to capture the sun's energy, we cannot create healthy gardens.

Understanding something of nature's processes now leads us to consider the medium through which these processes work: the soil

Soil

When we were considering the ecosystem processes, we saw that rain entered the soil and was cycled by plants or ran off into rivers to the sea; that minerals were cycled through the soil by various creatures and organisms to be made available as plant food; that diverse communities began with plants whose roots lived in the soil and the selfsame plants acted as the first collectors of the sun's energy. We can see that all of these processes interface in the soil, which makes it a key player in the health of any ecosystem. So what is soil exactly? How is it formed?

How soil was built

Interestingly, soil represents a very thin layer of the earth's surface. If the earth were a giant tomato, about the length of an Olympic swimming pool around the middle, the soil layer would be far thinner than the skin of a tomato! It wasn't always there. It evolved gradually over billions of years as wind, rain and snow began to break down the solid rock that comprises this planet. Life began in the oceans, and it was 350 million years ago that plants moved out of the sea, together with bacteria and started to colonise rocks.

Plants broke up the rock with their roots, and bacteria released chemicals to dissolve those rock pieces and release nutrients. Over even more time, the dead plants and bacteria broke down to be added to the powdered rock and soil began to be formed. This then provided the fertility and the medium for larger plants to colonise the planet surface. As we can see, it takes a very long time to build soil. But powdered rock, dead plants and creatures are not the only components of soil.

What soil is made of

Soil is a natural mixture of approximately 45% minerals, 5% organic material, and 20-30% each of air and water. The proportions change with soil depth. Topsoil, the organically rich surface layer, generally has the greatest amount of air space. However, a key component of soil vitality is the movement of water, organic material, air and nutrients between the topsoil and the subsoil. This process is helped by the work of millions of living organisms. For example, 1 gram of moist topsoil may contain several billion bacteria, as well as several thousands of species of fungi, roundworms and mites. Scientists estimate that the total weight of all these microorganisms is greater than the weight of all other plants and animals combined.

Although we have seen that soil is where the ecosystem processes interface, there are other functions that soil carries out, which are of equal importance. Not only does it act as a medium in which plants can thrive, but as we have seen, it also provides a home to billions of micro-organisms. Finally, soil acts as a filter for water as it passes from the high mountains into rivers and eventually the sea. So, as we build soil in our Mediterranean garden, we know that we are also supporting this other important work.

Soil stewardship

When we build soil in our gardens, we are carrying out crucial work. Soil directly supplies 98 per cent of the world's food. Most people live primarily on grains, such as rice, corn, and wheat. Humans have depended on plants and soil for food ever since we first appeared on Earth. However, although nature builds new fertile soil every year, we are destroying 23 billion tones more than is made. This is being done by cutting down trees and clearing land, which allows the soil to be swept away by rain and wind. We also cover the soil surface with concrete, which prevents it from supporting all those things that we have seen depend upon it - including us.

The Mediterranean, as a brittle landscape, is particularly susceptible because of its erratic and low year-round moisture. In fact, areas such as these are desertifying at a rate of 162,000 hectares a day. However, despite the horrifying statistics, we can turn ourselves into soil stewards. We can work with nature to create green and growing spaces, which nurture us and all the other creatures with which we share the planet.

About Us

The interesting thing about our role in the Mediterranean Garden is that we are as important as each plant and each creature: it's our decisions that will impact on the whole garden. Remember the natural process, natural relationships? Well, we are part of the community of our garden and so whatever we decide, whatever we do, will influence how our landscape evolves. When we think about our garden, we have all sorts of ideas, but what do they really mean?

An English country garden

When we have an idea, there is often something else behind that idea, which we are trying to create. For example, when I was young I lived with my grandmother and she had a beautifully mature English country garden. There were herbaceous beds, green lawns, fruit trees, a pond and fresh vegetables. Over the years, I have often tried to re-create that garden. Then I realised that what I had loved about my grandmother's garden was that it made me feel relaxed and peaceful. It was these feelings that I was trying to re-create in my various garden designs. So instead of thinking that lupins, roses, delphiniums and hollyhocks were what made a garden relaxing and peaceful, I worked on creating that atmosphere with plants that were appropriate to where I lived.

Understanding this helps avoid gardening mistakes. If I had tried to re-create the planting schemes of my grandmother's garden in the Mediterranean, I would have faced endless frustration. The plants and trees that were so much part of that design did not belong in the Mediterranean. However, by understanding that I wanted a garden that made me feel peaceful and relaxed, I became open to endless, more appropriate designs. So the first thing to decide is what atmosphere we are trying to create.

Exploring design

When we start to explore what we want to create, visiting other gardens or natural places in the area is useful. As we wander around these spaces, we can examine how they make us feel. Do the high hedges make us feel secure or claustrophobic? Do scattered aromatic plants in treeless mountains convey a sense of space or sparseness? Do pots of red geraniums among blue plumbago create a feeling of vitality or discord? The exploration of our feelings, or the atmosphere created by natural environments or designed gardens, helps us create the garden that suits us. If we share our garden with others, it is important to involve them in this process. Involving others in the decision-making and design helps create a garden that everyone can enjoy.

Gaining user commitment

Involving the other garden users is important because without their co-operation everything will be hard work. It is amazing how effective even passive resistance can be! There are certain basic considerations that help others feel part of, and therefore, committed to, the overall outcome. These are:

- enabling them to feel a real part of the decision-making process,
- respecting and taking into account their wishes and ideas,

- giving them responsibility, and accountability, in the decision-making process,
- ensuring that they achieve an outcome that they are happy with, and
- helping them feel the support of being part of a team.

So how do we start this process, and help everyone work together to get what they want?

The decision-making process

The first stage of helping everyone to get what they want is to find out what they want! This can be done by getting everyone to spend three minutes only, saying what they want. There are no judgements or comments allowed from other members of the group. This ensures that everyone feels free to express their ideas. Another member of the group can be given the responsibility to write what everyone says down. Once this process is complete, the group can move onto the next stage.

The second stage is to decide what the limiting parameters are. For example, what is the budget for developing the garden? What aspects of the existing garden does everyone want to keep? Are there any limiting local authority regulations that you have to comply with? Are there any strong biases that will limit choice, such as dislike of particular materials or preference for sustainable solutions? How much time does every member in the group spend in the garden? This question can be used to weight the ideas. The least time spent will secure the lowest rating. Once the limitations have been identified, then the group can move onto the next stage.

The third stage involves eliminating any of the ideas that don't fit in with the limiting parameters. For instance, if local regulations prohibit the use of certain materials, then this takes priority over personal preferences. Once this has been done, create a short-list from the ideas that everyone had. It is important to encourage everyone to suspend judgement and to focus on solutions rather than problems. For example, a limited budget can be overcome by the family organising a fund-raising event.

Finally, if anyone in the group is very attached to an idea, then put it in the 'melting pot'. This means acknowledging and respecting what they want, but saying that a solution to the difficulty hasn't been found yet. The matter needs to be considered further. Encourage the person involved to come up with a workable solution. In the meantime, the design process can continue and may open up other ways forward. The important thing is that everyone in the group feels committed to and engaged in creating a garden that they can all enjoy.

Exploring nature

As we encourage commitment, so we open up to new ideas. For example, our young grand-daughter may want to have rabbits. We need to consider the natural needs of such animals, and how our garden is going to provide for them. This leads us to the exploration of grasses and other plants which can provide them with food; the consideration of trees to provide them with shade; understanding the natural behaviour of rabbits so we can accommodate them in our design. In return, we have a natural lawn mower and pruner, as well as a provider of excellent fertility for our garden. Exploring

what other creatures can be part of our garden community introduces much greater opportunities for creativity and interest.

Natural relationships

Creating space for other creatures makes us aware of all the relationships that exist, and must exist, for nature to be healthy. The more complex and stable the natural communities are in our garden, the more we will encourage other creatures which add so much enjoyment to our lives. When we add plants that support bees, butterflies and other insects, we encourage a whole range of birds and bats to our garden. We can create places for them to live so that they too become a stable part of our natural community. And of course, we are part of that natural community.

However, there is a crucial aspect to creating a balanced relationship with Nature, and that is we need to work within the carrying capacity of our landscape. This means that we must not expect more from our land than it can deliver in a sustainable way, otherwise we will be working against natural health. For instance, if one of our aspirations is to have a swimming pool in the garden, this must be done within the constraints of the available water, and must be managed without the use of chemicals which will damage the health of nature's helpers in the soil.

Understanding our place, and our responsibility to the natural world, helps us fit in seamlessly with our garden. We become part of a team who are all working towards keeping nature healthy, and in return we find that a whole world of interest and exploration opens up to us. Far from being constrained or limited, we have endless opportunity to create a beautiful natural Mediterranean garden.

Our Unique Garden Profile

Now that we have some idea of what distinguishes the Mediterranean from a northern temperate environment, how natural processes work through the soil to ensure that life on earth continues and what we want from our garden, we can turn our attention to discovering those particular features of our existing garden.

Every single garden will be unique. Some of us will be starting with a clean slate in the case of new developments and others will be inheriting the work of the previous owners. However, there will be fundamental factors which will have an impact on our natural garden design. Discovering what these are will open up new and interesting fields of exploration. It will also draw you into your local community in a very different way. It will involve creating an increasingly detailed profile of your small piece of planet Earth.

Local mapping

In order to begin to create a profile of our garden, it is useful to find out how it relates to the surrounding area. This will include natural and man-made relationships. For instance, our landscape may be surrounded by mountains which will affect how much sun our garden will receive during the day: or we may live in an area that is under intensive conventional agriculture which will result in chemical pollution of both air and water.

A useful way in which to begin discovering these relationships is to buy a local map which details all the natural features, such as, the contours of the land, rivers, streams, lakes, forests, mountains and other natural features. We can then mark the location of our garden on that map and add any other man-made features that will impact on our garden. Looking at the surrounding area, we might see that our garden is exposed to coastal influences, or is high above sea level with attendant cooler temperatures. We can see what rivers might be flowing into our area and where the position of mountains may influence the climate.

As we become familiar with our area, and learn more about the environment from our neighbours, we can add that detail to the map. The kind of information we can map is as follows:

- The geology of the area, including age and composition of mountains, type and age of rock, and age and position of river beds. Where I live in the mountains, the rocks are described as muscovite garnet quartz amphibolite schist. They are not readily available nutrients for plants and so do not make fertile soil. This gives me a clue as to what I need to do to provide nutrients for my plants.
- The wild plants of the area. These can tell us how the land has been managed over the years. For example, the poppies that grow under olive trees tell us that the land is regularly ploughed, as they are annual plants which like disturbed soil. It will also tell us what the soil is, whether chalk, sand, clay or loam. We may also discover that our area is home to unique or endangered species, which we might like to conserve in our garden.

- The types of wild plants that grow together. This will tell us what kind of natural relationships exist in our area. As we identify the plants, we will know what family they come from, and that will give us a clue as to what cultivated plants will do well in our garden.
- The birds and other creatures that live wild in the area. When we know what other creatures we share the land with, we can ensure that we create a garden that supports them as well as us.
- The man-made development of the area, such as roads, intensive agriculture, golf courses, holiday complexes. These will all have an impact on the health of our garden.

A way of entering detail onto a map is to use tracing paper as an overlay for each of the areas of information we collect. This avoids creating an indecipherable mess!

Information collection

Once we have collected information about our area, we can list detail which relates specifically to our garden. No matter how eager we are to begin work on our garden, it is important to be patient. This will pay dividends in the end by avoiding unnecessary mistakes. Although, we can work on the design and research planting schemes, it is better not to make any *major* changes until we have lived there for at least a year.

If we watch our garden through the seasons, we can collect the following information, which will help us with our design:

- The movement of the sun during the day which will highlight areas of full sun and shade and for what proportion of the day.
- The maximum and minimum temperatures in the garden which will help us decide what plants will be most suitable for our climate.
- The direction and effect of the wind which will help us decide not only what to plant, but where.
- Whether there are any cold or even frost pockets in the garden, which again will decide our plant choice.
- The pattern and amount of rainfall throughout the year, and how that rain behaves on the land: whether it drains into the soil away quickly, whether it runs off the land completely, whether it is slow to penetrate the soil.
- The life cycles of the wild and cultivated plants in our garden.
- The types of creatures that we find in our garden.
- The type and acidity/alkalinity (pH) of our soil.
- The changes of the levels of our garden: any slopes, steps or terraces.
- The position and type of mature trees and shrubs, any established flower or vegetable beds and other semi-permanent features.
- The position of the house in relation to the garden, and the impact that has in terms of shading and dry areas.
- Any other features, such as paths, washing lines, children's play areas, patios.

At the end of a year, assuming we have been able to resist the temptation to get started, we will have a very comprehensive picture of our local area and its relationship to, and impact on, our garden. We will have an exact starting point for our garden design., together with all the elements that are going to influence our design.

Putting Principles into Practice

It is at this point that we marry the detailed profile we have of our area and our garden (where we are now) to the aspirations and expectations of those who will be using the garden (what we want to create) in supportive partnership with Nature (to ensure that we do not damage her health and those of her helpers).

Let us now look at some simple examples of how these goals can be achieved in our garden.

- Where we are now ... an exposed house
What we want to create ... privacy and shade
How we can work in partnership with Nature ... create an extended arbour around the house, erect trellis around the perimeter, up which train grape vines.

The use of grapes, rather than shading or concrete, immediately works in nature's favour. The fact that we have selected a plant will mean that all the other natural processes will benefit as well: there will be roots to absorb water and cycle it back into the atmosphere through the plant leaves; the soil nutrients will be cycled through the roots into the leaves; the leaves of the vines will collect and use the sun's energy and the presence of a plant will encourage other natural relationships in our garden. And this is not to mention their value as sequesters of carbon. They will remove carbon in the atmosphere and store it in the ground, thus having a beneficial impact on climate change.

Grape vines are also deciduous, which means that they will lose their leaves in winter, allowing winter sunshine to warm us. They are also drought tolerant and can survive on Mediterranean rainfall, without extra water, after their second or third year. The extended arbour may also encourage swifts, swallows or martins to build their nests under the eaves. Although some argue that having birds nesting in the eaves is a messy proposition, when we look at their droppings as fertility for our garden, we can begin to look more kindly on their presence. There will be insects that enjoy grapes as much as we do, but they will be kept in check by the birds. In the nine years that we have had over hundred grape vines, we have never had any problems with insects.

And of course, one of the best parts of planting grape vines is that, we will also be able to enjoy the fruit. We can select any number of delicious eating grapes or even try our hand at making our own table wines, by planting other varieties. In the Mediterranean climate, there is also the additional bonus that we can dry the grapes and have raisins in our larder throughout the year.

- Where are we now ... wind damage
What we want to create ... shelter from the prevailing wind
How we can work in partnership with Nature ... plant mixed deciduous and evergreen trees and shrubs in a hill formation.

The popular answer to wind damage is to plant a serried rank of Leyland Cypress (*Cupressocyparis leylandii*), because they are quick growing. Although this certainly provides a wind break, it does not make the best of the planting opportunity, create a very interesting outlook or encourage nature's helpers.

Planting in a hill formation reduces the impact of the wind on the windbreak itself and minimizes turbulence on the garden side of the wind break. If we plant a single row of trees in a windbreak, they will eventually lean towards the garden because they take the full force of the wind. This is an opportunity to create some useful natural relationships through our plant selection.

It is important when considering our choice of plants to draw on the local and specific knowledge we have built up about our landscape. If it is a very sandy soil, then certain plants will do better than others. Similarly, the Mediterranean can have areas of clay, the most challenging being a fine, grey clay, which is used as a roofing material in the Alpujarras in southern Spain, and our plant choice must respond to this. Drawing on our local knowledge of the wild plants and trees of the area, will help us decide what cultivated varieties would do best. We can also use this planting opportunity to create food for ourselves and habitats and food for nature's helpers.

Let's take an example planting that would be suitable for an exposed mountain site at 900m, where the soil has a neutral pH and is stony with patches of clay. The prevailing wind is north-westerly. For the apex of the hill formation, we might select Umbrella or Stone Pine (*Pinus pinea*). Then the next band of plants might be stands of Olive (*Olea europaea*) interspersed with Almond (*Prunus dulcis*). Finally, a shorter shrub, such as *Eleagnus ebbingei* (Grey Eleagnus) with herbs, such as Rosemary and Thyme at their base.

All these plants are drought tolerant, so once established, they can survive on the Mediterranean rainfall. The majority are evergreen which means that the sun's energy is being captured throughout the year. The flowers of almond, rosemary and thyme provide valuable food for bees and other insects in the early part of the year, and those of the eleagnus, at the end of the year. This arrangement of planting also provides shelter and nesting sites for birds. The fruits of the *Eleagnus* can be eaten by both birds and us. This arrangement can also be planted with taller, spring bulbs which add welcome splashes of colour.

- Where we are now ... too hot in summer
What we want to create ... a swimming pool
How we can work in partnership with Nature ... a plunge pool that uses a solar pump to filter the water without chemicals, with arrangement and planting that supports plants and other creatures.

It is important to consider the siting of the pool carefully. To build it in full sun, surrounded by concrete or water-intensive lawn creates needless waste of valuable resources. Water is precious in the Mediterranean, and having a pool full of it during the

summer months is a luxury. Siting the pool under the shade of an evergreen tree, will reduce water evaporation and avoid a pool full of leaves in the autumn. We can arrange the outlet so that when the pool is emptied, the water can be put to good use in the garden. By installing a solar pump which cycles the water through a filtering medium such as, a channel of stones, we can clean our pool without using chemicals which will harm nature's helpers in the soil.

We can build a wooden deck and timber walk-way to the pool, which allows water to penetrate the soil underneath and enables us to grow a range of plants around our pool, without limiting access or the opportunity to sunbathe close by. Alternatively, we can arrange stepping stones set in sand, which again allows rainwater to nourish the soil and allows the establishment of plants by the pool. By the creative selection of plants, we can provide food and habitats for nature's helpers as well as ourselves. For example, the impressive Cardoon (*Cynara cardunculus*) is drought tolerant, the purple thistle-like flowers are enjoyed by bees and the seeds by finches. As this is an old Victorian speciality vegetable, we can even enjoy it for our dinner!

Designing with Nature in Mind

If we want to have a healthy garden that is a pleasure to be and work in, then we need to design with Nature in mind. When we ignore Nature, we do so at our peril. All our success is dependent upon the healthy function of those processes that we mentioned earlier:

- The cycling of water from the atmosphere into the ground and back again.
- The cycling of nutrients from natural decay into plants and back again.
- The natural relationships between all the different elements of nature.
- The use of the sun's energy by plants to grow and provide food for other living beings.

Although we give Nature and her helpers the highest priority, it need not be at the expense of our enjoyment of our garden. In fact, we find that when we are working with Nature, most of our garden 'problems' simply disappear.

The natural processes

If we use as a guide the health of Nature's processes, we cannot go wrong. This approach also means that we can garden successfully in any garden, because we understand what makes a Mediterranean garden work.