

Cottage Garden



This garden is attached to a cottage in a small Somerset village where I lived for a while. In this one case, I was co-creating the garden with my partner at the time; Julia. The term 'clean slate' was almost made for this garden, although we could both see it's potential, we started out with little more than a sea of gravel (as the lower photos clearly illustrate). There wasn't anywhere left for birds to perch! Despite this, we turned it into an excellent example of how permaculture principles & a bit of hard work can create a garden in a very short period of time. We planted trees & built a pergola & grew on *a lot* of plants from seed in the first Spring. We also made the most of free resources, such as local topsoil, manure, rockery stones from next door & an old bath.

The Design Process



Observations

We began with a heavily compacted base of hardcore overlaid with gravel, it had literally been a gravel covered parking area for the cars of the previous residents.... almost all of it. Our initial investigations confirmed what this meant; a spade was a waste of time! Only a pickaxe was able to make any headway & as some of the rocks were very large, they often proved very difficult to shift. What vegetation that did exist had been recently hacked back to virtually nothing, including some beautiful shrubs & some trees that were never to recover.

To us both as gardeners, the first sight of the garden was one that generated both feelings of dismay & of great excitement for the potential it held. With so much to do, it was hard to know where to start, so we undertook the customary observation phase while we started bringing on the seeds. This gave us time to notice the different microclimates within the garden & begin to decide which elements would best be placed where. There was clearly two really good south-facing boundaries that would make great growing areas. The furthest of them was quite well overhung by a beautiful mature beech tree that was going to throw a lot of shade come the summer, but as it was to the north it would not affect the garden.

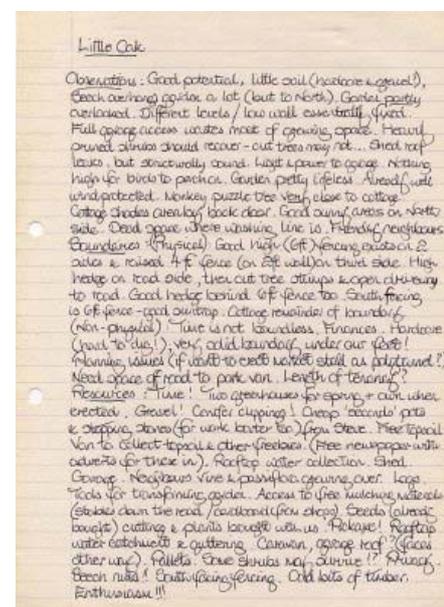
The garage had clearly been placed in a really stupid place. To drive a vehicle into it required that most of the top half of the garden be used purely as a driveway. We immediately decided that we weren't going to use it ourselves, but what about future tenants? The garden was well protected from the wind, so that wasn't going to be a design issue. The shrubs that had been hacked back looked in the main as if they would recover, but the trees looked unlikely to do so as they had been 'pruned' from about 30ft down to only 6ft!

All in all, the garden was pretty lifeless & it had nowhere for the birds to perch. We could see right across it to the far fence from the back door! A potential future problem lay in the fact that a ten year old Monkey puzzle tree had been planted just 6ft from the cottage, but that wasn't within our remit to deal with. The one dead space in the garden lay in the gap between the south-facing extension wall & a 6ft fence. A rotary washing line had been placed here, but there wasn't much air movement. It was heavily shaded & damp & needed a drastic rethink!

Our informal 'client interview' discussions ascertained our own needs & wants. The garden was to provide several needs, a place for adults to relax, for children to play, to provide us with nourishment (including beauty as well as food) & for two ex-battery hens (who were due to arrive soon) to enjoy a much improved lifestyle. We were also excited about the opportunity to be creative & to learn more about permaculture as we went along.

Boundaries

The garden was well enclosed, apart from a 14ft wide ungated opening where cars originally drove in up a slope. This needed to be closed over, but other than that the garden was bounded on all sides by at least 6ft high fences or hedging (or both!) around to the cottage. It was currently overlooked by the upstairs windows over the road, but a bit of growth back on the hedge would soon deal with that. There were two good sections of south-facing fencing that would surely prove to be good growing areas. Our boundary downwards was another matter though. We were told stories of large lorries delivering considerable quantities of hardcore & rollers packing it down. Digging anything in was going to be very hard work. As the cottage adjoined another property to the south, its only south-facing wall was on the kitchen & bathroom extension & only a single storey high. It was quite close to a 6ft high fence & so didn't benefit much from winter sun.



The siting of the garage created another boundary of sorts. We wanted to dig up & cultivate the furthest half of the garden, but to do so would remove vehicle access to the garage for future tenants. As we were renting & had only just moved in, we were a bit nervous about what we could get away with doing.

Non-physical boundaries were to do primarily with finance & security. We didn't have much money, although that is always a good incentive for innovation! We were also renting & uncertain about the length of the tenancy (especially after only being able to stay for 6 months at our previous address). We were also considering using a market stall loaned to us by the landlord as a temporary polytunnel to get a lot of seeds started, but we didn't know if planning implications would prevent us from being able to do this.

Resources



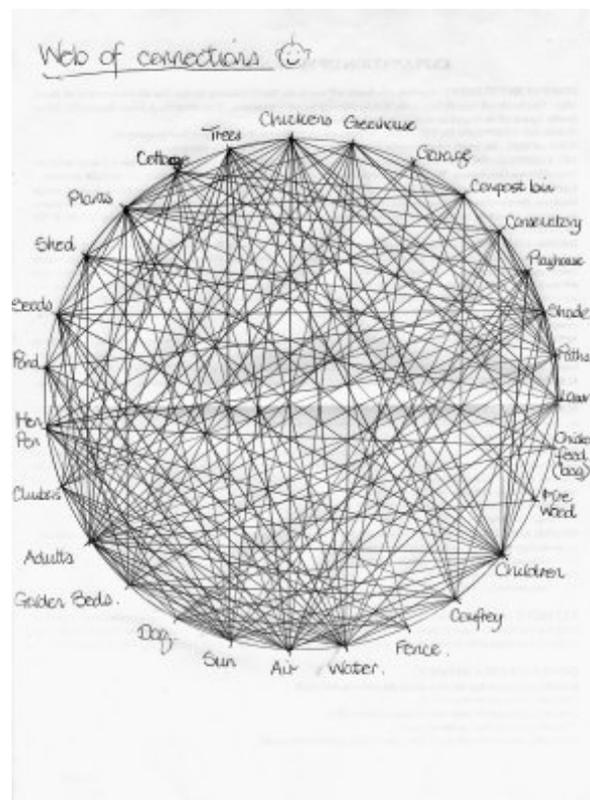
Our main resource was time. We also had access to a number of free materials such as cardboard (local shops), manure (stables down the road), topsoil (several local places sourced through the local news paper) & so on. Not many plants were available to begin with, but it was early Spring & we did have an large number of seeds. There were good water catchment opportunities from the cottage & the shed & later the greenhouse too.

Other resources were as diverse as the large amount of space in the garden (a virtual 'blank canvas'), concrete pots & stepping stone seconds bartered from a friend, gravel(!), a large heap of prunings, a market stall frame & of course, our imagination & enthusiasm. Two neighbours were also not using their greenhouses that Spring & we were able to make use of them both as well as the one we bought secondhand & put up ourselves, so as luck would have it we were able to germinate a large number of those seeds that first year.

Evaluation

Some connections between elements were immediately obvious (i.e. the chickens needed access to the shed & the greenhouse needed a sunny spot), but in order to lay out the garden in the most beneficial manner I decided to carry out a web-making exercise (random assembly) using all the main elements. This would enable me to see how they would all need to be connected to minimise our own inputs & cycle as many of the energies within the garden as possible (outputs become inputs). This will help me to design their layout within the garden (relative location) accordingly, giving priority to those connections that need to occur more regularly (in the same manner that elements are placed into zones).

The design elements that were going to need the most regular attention (i.e. inputs from us in the form of work) were the chickens, with a minimum of two visits per day, all year round (letting out in the morning & putting away at night). In the summer months, the greenhouse (seeds & plants) was likely to need a similar amount of visits & plants in pots may need watering once a day during a particularly hot spell. The garage may need to be visited for firewood every day in the winter. Therefore it would be logical, with nothing else to consider, to put the chicken shed next to the greenhouse & the garage, with pots of plants along the short path leading to them. Unfortunately, the shed & the garage were already in place & in a different corner from the cottage. They were at least placed next to each other, but they were not in a place where the sun shone much & this was a more important element in the positioning of the greenhouse. Thankfully, in such a small garden, distances between elements are only energy issues if heavy loads need to be moved around regularly (e.g. watering cans).



The placement of other elements according to regular places visited, led me to making several other choices. The greenhouse was being visited daily during the spring, summer & autumn & a bucket of food waste could be easily carried from the cottage to the compost bin at the same time. The compost was most likely to end up in the greenhouse (where the hungriest plants were grown) & the job of moving a whole lot of ready-to-use compost from the bin to the greenhouse was a big job. Thus it made most sense to place them together, the compost bin occupying an otherwise 'dead' corner.

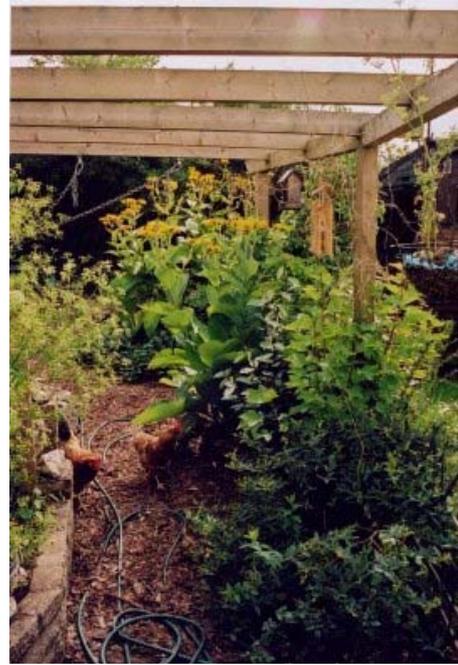
Some of the inputs required by elements were the wild energies coming into the site; sun, wind, rain etc. The living elements in the design all need these & in the case of air, very regularly indeed. Thankfully, we can rely on nature to provide these for us & they require no day to day work in respect to this design.



We do however have to place each of the elements in the right place for them to receive the quantity of these energies that they need & we can use strategies to harness them for extended availability. The easiest of these is the placing of sun loving plants near heat-conserving elements, such as south-facing fences, large rocks or a pond for instance. We can increase the heat trapped by the only south facing wall on the cottage by building a conservatory in front of it & maximise the use it will get by creating a walkthrough from the house by knocking a door through from the kitchen.

The second strategy available to us in a garden with so many roofs is water catchment. The chickens will need water & their shed has a roof, the greenhouse plants will also need water & again there is a roof right there to collect the run-off from. The chickens are a good example of energy cycling in the garden. Their water can be collected from the shed roof, they can forage in the garden, eating slugs & snails for instance & fertilising wherever they go.

We can grow plants that produce seeds for them to eat & provide herbs too for their health (they devour wormwood plants every once in a while!). They will even spread the seed of the plants they like to eat most all around the garden in their faeces (every thing gardens, even chickens!). We can use their scratching habit to turn vegetable matter (woodchip, Comfrey, food waste etc.) into compost more quickly & they get something extra to forage in at the same time. By containing this in a pen outside their shed, their scratching habit won't distribute it all over the gravel path (making it easier for us to collect up & put where we want it) & the pen can be used to contain them occasionally when needed. Only a small supplement of grain is likely to be needed to feed them during the winter & this could be kept in the shed for easy access. As we all know, healthy hens produce lots of eggs as outputs, but being vegans we don't eat them ourselves.... Nevertheless, they do still become inputs - into our young spaniel dog (who likes to help himself!).



There were other boundaries in this garden though as mentioned previously, such as the need to keep a potential 'driveway' free & this was also an important factor in the placement of elements. With the elements finally in position, pathways had to be made to join them together, this created the need to remove a fencing panel in the Final design to accomplish this. Positioning of the living elements then took place in the areas in between the structures & around the paths, with extra paths being made where necessary to facilitate access to plants & trees. The trees could only be placed where they would have sufficient room & good enough conditions to grow & had to be chosen to fit into the space available. Beds then fell logically into place around them, with plants being placed according to their specific needs, including the formation of beneficial guilds where possible. The random assembly exercise allows us to make many more decisions about relative placements, far more than I have room for here. However, I do mention more about them later.

Principles

A few examples from this design process:



Minimum effort for maximum effect:

Starting digging new beds on the raised area, it being potentially uncompacted by vehicles. Planting trees to bring in some height, attract birds into the garden, have the roots start to break up the ground & begin to bring up nutrients, providing us with beautiful blossom & fruit in a

couple of seasons time. Making some steps from tree 'prunings'. Sowing a lot of seeds so that we would quickly have a whole garden full of plants.... & then we got ill (see Implementation) & the plan went so wrong!

Multiple supply: Holly's play needs (yes, they are an essential component!) are met in many different ways: the playhouse, swing, play lawn, paddling pool, sand pit (all outdoors) & the caravan (indoors). Chickens' diet is supplied by plants (a great variety of leaves & seeds), insects & food scraps. They also have a supplementary grain feed in the colder months of the year. Our own food needs are provided by a variety of different leaves, seeds, roots, flowers & fruit. Garden receives water from rain, water butts or failing both of those, the tap in the cottage (though the mulch on the beds should mean that the last option is rarely needed).

Multiple yield: Chickens provide ground cultivation, fertility, pest control, lawn mowing, exercise (chasing them out of where they're not meant to be!), sweet little burbling sounds & oh yes; eggs! Plants may provide any number of the following: food, scent, beauty, colour, shelter, habitat, medicine, soap, fibre, good companionship, soil improvement, support for other plants, shade. Trees bring in some height to the garden, attract birds, the roots start to break up the ground & begin to bring up nutrients..... didn't I just do this one? Mulch provides, soil fertility, moisture retention, weed suppression & a good breeding ground for worms!

The problem is the solution: Rocks dug from the ground when making new beds become edging for the beds. Logs from the heavily pruned trees become steps on the new path. The panel taken out to make room for the new path becomes part of the fence/gate across the driveway opening. Waste wood & turf off-cuts become a playhouse for Holly & her friends. A shady spot becomes a perfect summer salad bed where the plants don't bolt so quickly. A big pile of tree prunings became the basis for our spiral bed. Bricks from the retaining wall, removed to make room for the conservatory is reused to face the new wall. Soil from the same place goes on the garden beds, some of our excess gravel is used to replace it! And so on...



Work out from well managed areas: The most obvious place for us to start when we arrived was to cultivate the raised area opposite the kitchen door. As well as it being nearest to the cottage back door (our usual entry & exit route), it was also the one part of the garden that couldn't have had cars parked on it & so was potentially less compacted. Only when the rest of the garden was cultivated & relatively easy to maintain, was it worth me spending most of my time building the conservatory.

The Final Design



This is the final design drawing for the garden (seen in greater detail later), which was basically how it was implemented to begin with, although later on the caravan was removed. More recently the greenhouse was given to friend & a garden created on the plot instead for Holly to grow her own plants in. The first area that we looked at was the nearest to the back door & we felt likely to be the least compacted as cars could not have been parked upon it.

We looked at the natural flows in & out of the area & created a figure-of-eight route for Holly to enjoy running around. Three routes led to the playhouse (multiple supply!) & we tucked it back into the border to give it a feel of being enclosed on three sides. Turf is used for the roof to help it to blend in & to experiment with this method on a small scale before trying it out on something bigger! This was the main area in which we felt able to plant trees (where vehicles weren't going to need future access!) & so five dwarfing apple trees find their home here.

The apple nearest the hedge & the Amelanchier next to it were planted both for fruit & to provide privacy along a line of sight between the back door & a house further down the road. The other four trees were effectively central elements for the new beds we had made which were going to provide the main growing area for food in the garden (protected on a day to day basis from the chickens).



We planted up these beds with many perennial vegetables such as Good king henry & Perennial spinach, deep rooting plants such as Lovage & Parsnip, climbers such as Runner beans to grow up the trees & other good companion plants to create beneficial guilds. We then filled in the gaps in the beds with good ground cover plants, such as Strawberries & Violets, which in time would cover any bare soil left there. Medium sized stones are used to edge the beds as they are a resource dug out of the ground whilst making them. Stepping stones make the path more friendly for bare feet, while maintaining most of the gravel that is already there.

The existing shrubs along the south side of the area should recover & provide some summer shade for salads that would quickly bolt in full sun. The Comfrey & Tansy were planted out in front of the tree stumps, in case they needed to be strong to compete there. This also meant that they could only spread out in one direction, where the path would ultimately keep them in check.

The area immediately outside the door was going to be ideal for pots of plants that would tolerate a lot of shade against the wall & herbs used regularly in the kitchen on the sunnier side. A bench here would get morning sun, but be cooler later in the day when summer heat can get too much.



This area of the garden between the cottage & the shed we designed as a small play lawn. It was already surrounded on three sides & so the addition of a hedge along the north side created a room like feel. The hedge provides some additional privacy, a hen barrier, food, scent & colour. The pergola that I built there also adds to the room like quality &

provides vertical growing space as well as a frame for a swing (a children's play element) to hang from. The Buerre Hardy pear tree provided a central element around which a circular bed was planted up with companion herbs. The south fence was planted with shade tolerant species beneath that would still grow in this difficult area which is also in a rain shadow.

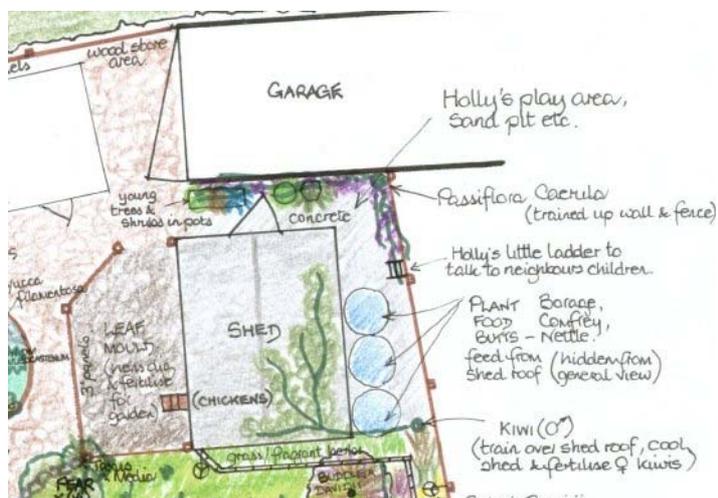
The rotary washing line was removed from the dead space & then a conservatory built there instead, with a connecting pair of french doors being put into the wall to allow access from the kitchen.

The conservatory makes good use of the space by collecting the sunlight above the fence & trapping the heat generated just below it's roof surface. Having now built it I know that it worked well. This provides a lovely space to enjoy early spring & late autumn sun, to eat & to look out over views of the garden when it is too cold to actually be outside.

It is also a good growing space for bringing on seedlings in the spring, growing tender plants through the summer & housing vulnerable ones in pots from outside during the cold winter months. The new conservatory also enclosed the old outside toilet (that didn't work anyway) which was gutted & converted into a pantry. The small triangular gap between the conservatory & the fence gets extra light reflected back from the conservatory glass & provides a very sheltered growing space accessed through the opening windows.

The shed is already on site, but can be utilised in several different ways. The chickens can have a corner of it converted into an area for them, with their own little door direct to the outside installed. The remainder of the shed becomes good storage for bikes & Holly's outdoor toys.

Three recycled fence panels create a small 'chicken corral' that can be used to give the hens exercise without giving them free rein of the garden when that is necessary. Leaf mould can be put in this area for the chickens to scratch about in & fertilise, creating eventually an excellent compost for the garden beds.



Behind the shed is the roof water catchment & plant food brewing butts, with lockable lids for safety. Against the fence Holly has a little ladder, so that she can look over the fence & talk to her friends next door. The area in front of the shed door is concreted over & so this is a good place for Holly's sandpit, where the sand won't vanish into the gravel! The plants in the area need to be mostly climbers. A vigorous male Kiwi will provide fertilisation for the females on the east fence & also cooling leafy shade for the roof of the shed, which will in turn encourage the Kiwi with its reflected heat.

A Vine, a Honeysuckle & a Passiflora were growing over from next door & would be trained further along the garage wall over our side of the fence. A further Passiflora would be planted on our side, as the other plants were still subject to the whims of the neighbours & may not always be there. This corner would also be a good little tree nursery as they could be grown in pots on the concrete & be easily kept an eye upon whenever regular visits were made to the shed or the garage. The garage itself was utilised for storage of tools & wood for keeping the house woodburner fed during the winter months.



The top part of the garden is centred around the Mulberry tree that we planted. In time this would be moderately big & provide shade to the lawn behind it on hot sunny days & to the greenhouse later in the afternoon to reduce the risk of overheating. It will also provide delicious fruit & is traditionally guided with a vine (but only once the tree has become quite well established).

The spiral provides a variety of microclimates for plants & uses waste materials in its construction. It also provides height in the garden & is in line with the pathway walking up from the house, breaking up the view of the caravan from there. The caravan is sited here as it is a movable element making good use of the 'driveway' in front of the garage. It is another play space for Holly to enjoy & stores more of her toys! Pots of plants sit in front of the caravan hiding the view underneath it.

The pond is made utilising an old bath & set into a bed & rockery area which is based upon a pile of stones dug out of the ground, but too small to be bed edging. The pond provides new habitats for wildlife & plants in the garden (it overflows into a bog garden area) & this can help with Holly's learning in the garden too. It is also a place for the chickens & wild birds to drink from & bathe; a shallow end makes this easier.

The rockery is planted out with plants strong enough to look after themselves against chickens (& this is an ongoing experiment!). The rocks providing some protection to the plants' roots against their inevitable scratching habit. The gravel paths are replaced with woodchip, which provides an area for the chickens to forage & ultimately can be used as compost on the beds again, replacing it with fresh woodchip. The rest of the area is put down to play lawn, this being the simplest & most reversible way of dealing with the 'future driveway' issue. Though it has to be said, I have probably made the most of encroaching on this space!

The south-facing fence at the top of the garden provided an excellent growing spot for more tender plants & so we designed in a couple of vines to be trained up it. A chance discovery of a book on growing grapes in Britain told me about the author's own experiences in her garden a few miles down the road, so I knew which varieties to try first! The beech tree just overhung this area, but there was still plenty of light to the south to plant a couple of cherry trees by the fence in either corner.

The one we planted for Robert Hart is the one in the north west corner. The washing line was much better off here where it got more sun & wind & only occupied that difficult space where a vehicle might one day need to traverse (it could be lifted out). The fence panels that covered the old driveway entrance were designed to be opened, but only if they had to be. We used them to grow tomatoes (plus garlic & Tagetes companions) up against, in a trough that I once again made from waste wood.



The greenhouse sits out of the way of the 'driveway' & has been partly sited here again out a lack of other options. It is still a sunny part of the garden, just as long as the hedging to the east doesn't get too high & block the morning sun. It provides another space to grow on tender plants in the summer (tomatoes, cucumbers, melons!) & to propagate seedlings in the spring; particularly important during the first year & until the conservatory is built. A Black Hamburg vine is planted just outside the greenhouse & trained inside (they need to have their roots exposed to frost each winter to fruit well). A water butt collects the roof run off for watering the plants inside. The greenhouse is ringed with a rustic safety barrier (to stop children running into the glass) & outside this is a row of planted up concrete pots (bollards!) to reinforce the defences.

Behind the greenhouse & along the east fence are trained two female Kiwi plants. The compost bins are placed in the furthest corner from the cottage, to deal with the problem of flies & to site it where the compost was most likely to end up being used (the greenhouse). This is another 'dead' corner & no other site lent itself to this purpose after using our own exclusion method (i.e avoid all the good planting spots!). The log steps provide access to & from the main growing area & a direct route from the cottage to the greenhouse via a gate in the chicken fence. The area of gravel nearest to the road is quite steep & shaded, so is best for vehicle parking (there is no room on the road being on a blind corner). It is as easy to provide space for two vehicles as one here as it is only really practical to park facing up or down the slope.

Overall, the design places the fixed elements within the design (beds, structures & trees), whilst leaving some of the more movable ones (plants!) to be more flexible. Each new site provides different challenges & whilst previous experiences can help me to place plants initially, they don't always remain there. One thing is certain though, there is always more to observe & learn!

Implementation

After initially tidying up the debris from the landlord's over zealous pruning, we started on the raised area of garden nearest to the cottage. A set of steps opposite the back door led up to it & it was the natural flow out from the kitchen. We first laid the stepping stones (which I had bartered some work for) where our planned pathways were to be & then started work on creating beds in the encompassed areas. We had to clear a lot of gravel (which was donated to neighbours paths) & bring in some local topsoil (donated to us).

I used the large rocks that I dug out to make the edging for the new beds. This was the first of many 'problems' that we were to turn into 'solutions' in this garden.

The first bed we planted was the one right opposite the back door, but it was also the area that was put into the shade of the cottage earliest in the day (see photo). This ultimately made it a good place to grow fast-bolting salads during the summer, but at that time (early spring) we needed to make the most of the sunnier areas too. The suntrap in the raised area was where the conifer trees had been beheaded by the landlord a month or so previously (many were never to recover). So we next prepared that bed (to the left of the photo) & planted most of our existing plants there to get them going.

At this point we made our first real financial investment in the garden & went out & bought eight fruit trees (including a mulberry) to try & encourage the birds in to keep down slug & snail populations. So our next task was to plant the trees that we had bought.

We positioned the dwarfing rootstock apples in what seemed like the best positions around the raised garden within the beds that we were creating & planted anything we had around them, including sprouting onions & parsnips from the kitchen! The pear trees we planted to the east of the cottage on the lower garden where they were in a slightly warmer microclimate. Then we planted the Mulberry in the centre of the whole garden where it would have the most space to grow & ultimately become a centrepiece that offered a bit of summer shade & lots of delicious fruit!

The addition of a vertical layer in the garden made such a difference! Immediately birds appeared perching in the branches of the new trees & it felt like life was once again returning. Then I moved on to finishing a children's playhouse that I had started making at our previous address from waste wood that we had been given for our fire. But it was too good for that, so this playhouse started taking shape & it was finally finished here in our new garden.

I decided that it would be nice to give it a rustic roof, but as I pondered what to use other jobs distracted me for a while. Then we laid a small play lawn around one of the pear trees to the east of the cottage (see below) & the turf off-cuts were just asking to be used for this job.

I didn't want to use plastic as an underlayer as that would have been visible from inside the house, so I just laid the turf over the structure & covered it with old chicken wire to hold it on. It remained green during the wet months of spring, but not for much longer once summer got going.

As you can see, having no waterproof base proved to be too dry a situation for the turf to remain green done this way & the joins never blended together. I later tried a second layer of turf off-cuts from a neighbour over the top, but it was still too dry. Even so it was still a very popular playhouse, even when it was raining & the roof was leaking! In time it started filling with plants growing up from the gravel & this was then tended as a little 'indoor' garden.

With a young child who was eager to get out into the garden, a single playhouse was not enough & all that gravel was proving far from an ideal play surface. So we decided to buy a small amount of turf & after pickaxing the ground over & bringing in some more free soil, we laid it around the pear trees. The play lawn became an immediately popular area, especially for two ex-battery chickens we had acquired, at which point we had to start fencing parts of it off to allow it the chance to regrow. Note also here the 'dead space' at the back of the photo where the rotary washing line sits; later to become the home to a conservatory.

We then made a spiral bed, usually used for planting herbs, but ours was a bit more varied. The idea behind it being that it provides several diverse habitats in the same place, having both high (drier) & low (damper) beds as well as planting spaces facing all four directions. Thus, sun-loving, dry climate plants can be grown almost adjacent to shade & moisture lovers. It also looks quite unusual & gives height in such a flat area.

Spirals are often made in combination with digging out a pond. The soil from the hole has to go somewhere, so it makes sense to make a feature of it & leave it there next to the pond (something I did later in the mobile home garden). We didn't make our spiral the usual way though, soil was a very scarce resource & couldn't be wasted at the bottom, but we did have plenty of tree prunings...

After pick-axing the circle (on a particularly hot day I remember), we hammered in the spiral uprights (more of those useful old fencing stakes!). Then we used branches from the cut down trees to weave in & out & make 'walls' for the beds.

Then we piled in plenty of green waste (mostly conifer clippings & un-rotted compost on top) & finally topped it off with more soil & then the plants. This was another excellent example of the problem becoming the solution, the whole spiral was made from 'waste' materials. Over the first few months the spiral's soil level sunk a bit as the green waste settled & more soil was put on top to maintain it. A few years on, some plants have thrived there, whereas others have fallen victim to the chickens.

This was a corner of the garden that was originally very dark because of the fence, so we removed one panel & opened up the flow through from the raised area at the same time. Having done this, the new path had to then negotiate a short bank. Once again a quick check on our resources enabled us to make these steps from logs cut from the trees during the landlord's pruning endeavours. This photo was taken later in the summer again, after the new planting had a chance to grow a little but before we decided to erect a chicken fence to protect this half of the garden from their over enthusiastic digging activities.

We also fashioned a bird table from a birch trunk that was lying around (see left of picture) & this became another favourite spot for our feathered friends over the winter months. Being spring & having so little in the garden it was really important for us to get lots of seeds growing in trays to plant out later. We had already bought a lot from perusing various catalogues (Chilterns & Future Foods being our favourites), during the winter months & we were keen to grow everything!

In the local newspaper adverts we were able to find a secondhand greenhouse that I bought, dismantled & brought home. This was only the beginning though as the ground once again needed preparing & there was going to be no way of swinging a pickaxe inside a greenhouse! Steve Charter just happened to be visiting though, so together we prepared the ground & set out the base.

We had already re-proofed the wood with an environmentally friendly coating, so putting it up afterwards was a fairly quick job. Then I utilised some more of that waste wood that I had used to make the playhouse, this time to make benching for inside the greenhouse.

We used some rustic braches that we had found to make a fence surrounding the greenhouse, which both enclosed the area & created a safety barrier to prevent children inadvertently running into it. We were then also offered the use of two of our neighbours greenhouses for the spring & gratefully took advantage of this opportunity. Then disaster struck, we all fell really ill for several weeks & keeping the three greenhouses watered was a mammoth task. Just getting up & moving around was really difficult, but to pick up watering cans full of water & lift them up over the benches was almost impossible. Somehow we managed it & we came out of it with lots & lots of young plants for the garden, but it was a very difficult phase for us. Most of the plants we had were in those greenhouses & we couldn't afford to lose a whole season's growing at that point.

We had lots of plants coming on & needing planting out & so once we had recovered our full health again, we carried on creating places to put them. The greenhouse soon filled up & produced lots of melons, tomatoes & cucumbers for us later in the summer. We also utilised the south facing fencing panels at the top end of the garden for growing tomatoes & vines & a few exotics. We planted kiwis (two females against the east fence & a male next to the hen shed). I had heard that the males were particularly vigorous, so I thought it a good idea to grow it over the hen shed to give some cooling shade in the summer.

We also made the most of a vine & a fruiting Passiflora growing over from next door along the garage wall & planted a Passiflora ourselves. I erected a pergola over the pathway from the cottage to the caravan & garage (see design drawing) & we planted Akebia, Honeysuckle & another Passiflora to grow up it. It was also the obvious place to hang a swing from (it was very sturdy!) & so it became part of the play area too.

We then set about making a pond using an old bath. We were lucky enough to find a particularly wide one at a local recycling yard, where upon mentioning that we were going to make a pond with it we were told we could have two for £5. Not wanting to turn this down we said "yes please!" & the other later became a pond in a friend's garden. Steve Charter helped us to pickaxe the hole again on another of his visits & we set it halfway into the ground, using the excavated rocks & sand to pack around the sides. A sloping bottom was made by using old bricks (from the hardcore) to make steps up towards one end & then covering it all with gravel, making a 'beach' in the shallows.

The flatter rocks were ideal for edging it with & by the time a bit of imported soil was placed around & more beds made, it blended in very well. Pond plants were obtained from friends as gifts or bartered for & in no time the pond became a hive of activity. Insects & pond creatures appeared seemingly out of nowhere, occasionally a frog or toad would turn up & the birds would queue up to bathe at the shallow end on a regular basis. Once again, we could see that we had made a valuable habitat for wildlife & for virtually no cost either.

This left us with a pile of small rocks at the other end which were clearly not going to make a nice looking rockery. It stayed that way for a little while & then the large stones that we needed arrived.

Our new neighbours, for some reason (& we weren't going to argue) wanted to get rid of their own rockery & asked us if we wanted the stones. They couldn't have been much closer, which was probably a good job as some of the large stones took some lifting! The small rocks that we had already provided us with a good base over which to place the new larger ones & after finding ourselves happy with the look of it, we in-filled the gaps with soil & planted it out.

The rockery was one of our strategies to deal with the scratching habits of the chickens. We had been surrounding a lot of the plants on their side of the fence with rocks anyway to stop them digging plants up as they scratched around in the soil. Placing plants that were susceptible to such damage, but less likely to be eaten by the chickens, amongst large unmovable rocks would provide them with a lot more protection.

The later use of 'cages' (such as upturned hanging baskets) over smaller plants, we found protected them well until they became better established & less vulnerable.

These rocks also provided extra protection to the plants around them, by storing up heat from the sun during the day & releasing it slowly again during the night. As we created the rockery, placing the rocks in turn, we found three that were perfect for standing upright & so we decided to place them in a circle (or triangle actually!) on the small play lawn, where they soon looked very much at home.

The other big project of the year was to erect the pergola. This was to serve several functions: to provide a room like quality for the small play lawn, to provide a vertical growing space for plants & to provide a place to hang a swing from for Holly. It also made a nice walkway, breaking up the view from the kitchen door of the shed & the caravan at the top of the garden



The extra rockery stones that we laid out on the lawn..... Honest!

(I built it at a slight angle to the direct line of view). I also had the idea of using it to support a gutter that would carry water from the cottage roof down into the pond via a pipe & a little stream made from recycled curved clay tiles.

The second season became focussed almost entirely on building the conservatory. We had seen one advertised in the small ads of the paper to collect & it consisted of wooden framed windows, a few clear perspex roofing sheets, concrete blocks & chipboard flooring on a timber framework. The catch of course was that I had to dismantle it myself & by a rapidly approaching deadline. However, the problem was in a sense also the solution as it gave me the opportunity to note how it had been built as I took it apart. Although I had worked out that there were enough materials for our needs, we weren't going to be rebuilding it in quite the same way.

I managed to get the windows, boards, roofing sheets & framework down, but the concrete block wall proved too difficult to take apart without breaking up the blocks. By the time the firm installing the replacement had sledgehammered the wall down, most of the blocks were in pieces (& we weren't short of hardcore at home either!). Fortunately, I came across a pile of rubble on the edge of a local industrial estate including previously used but entire concrete blocks. Our block problem was solved & I set about preparing the foundations using the first of our few newly bought materials; cement. Having drawn up the plans based around the window sizes that we had available I began to dig the foundations for the wall on which the windows would sit. There was already a three feet high retaining wall in front of the fence, made out of small, nicely faced blocks. It ran at a slight angle to the cottage wall & the new conservatory was going to need to extend beyond it. So I took the wall down, using the soil behind (what a valuable resource!) on the garden beds & stacking up the stones to be used later to face the outside of the wall facing the lawn.

Then I laid a foundation & built up the wall upon it, including a damp course layer of course. My next job was to seal the finished wall from behind & for this job I used a bitumen paint. This was necessary, so that I could backfill the wall to stabilise the earth bank & keep the fence posts stable. I needed something that would drain well & so I was able to use up some of our surplus gravel (of course - what a great trade, soil for gravel!). I then buried any available unsightly container that would hold plants (split buckets etc.) up to the rim in the gravel & filled them with soil. This made a new free-draining shady garden against the fence outside the conservatory windows. I delayed the planting up until I had finished putting up the windows & the roof structure, to avoid treading on any of the plants. Once the roof timbers were up (these were all reused from the original structure), it was time to knock the door through into the kitchen.

We managed to pick a hot day, but with the help of a friend, a large sledgehammer & some dustmasks & dustsheets, we did it OK. Once we had got the messy job out of the way & the dust had all settled, I could put the roof on the structure.

I had been fortunate to find some extra roofing sheets going free which were better than the originals & a couple of very cheap end-of-line new ones, which together covered the whole roof area. I used recycled guttering (which I routed to another water butt), but I needed to buy a couple of roof ridge pieces & some new washers & caps to screw the roof sheets down with.

My next task was to install the door in the hole we'd knocked through & again I found some cheap end-of-line french doors & a frame that I could cut down to fit it which were just the right size for the job. The blockwork surrounding the door was filled in & replastered on the inside, while being simply rendered on the 'outside' (which was now also the inside!). The rest of the blocks on the inside were rendered & painted & the nice blocks used to face the outside of the wall. A bit of creative jigsawing was required to fit the last few pieces together, including making a small window from scratch out of offcuts, but when the whole structure was proofed (with an eco-friendly substance of course), it all blended together beautifully.

The only structural work that then remained was to lay the floor. Out of principle I didn't want to lay a sheet of concrete, so I stacked up blocks on little concrete pads, with damp course laid over them & then laid the flooring support timbers on top of them. The chipboard flooring was not entirely reusable, so two extra sheets were bought to make up the shortfall in what we needed. The skirting was attached around the wall above the floor & windowsills installed (for all the plants we were going to be growing in there!). I later used an off-cut from this windowsill board to make my Aikido sign.

The new conservatory soon became a hive of activity & a place to grow on seeds in the spring & tender plants during the summer. It has become a place to play, sit & read & to enjoy meals, when it is not warm enough to be out in the garden. It is particularly of value as a very light space, attached to a cottage that has quite small windows & is relatively dark inside. Although it was a lot of hard work to build, it was well worth the effort in the end & it has certainly made the most of a previously 'dead' space.

Conservatory Costings

The final financial costings for building the conservatory were:

- * Secondhand conservatory windows, sliding patio door, roof sheets & timbers, chipboard flooring (£100).
- * Sand - direct from local quarry (£10).
- * Cement (£20).
- * Concrete blocks & bricks - secondhand (free).
- * Damp proof course & secondhand roofing sheets - gifted (free).
- * Bitumen based damp proof compound (£10).
- * Extra sheets of glass - from a skip (free).
- * Old back door - from my parents (free).
- * Miscellaneous salvaged timber (free).
- * Rawlbolts (£15).
- * Guttering - salvaged (free).
- * End-of-line French doors & frame (£40).
- * Two end-of-line roofing sheets & other roofing bits (£30).
- * Flashing (£10).
- * Ecological wood preserving compound (£20).
- * Windowsill board (£40).
- * Extra chipboard flooring (£15).
- * Skirting board (£15).
- * Light fitting (£10).
- * Plaster for kitchen french doors opening (£10).
- * Paint (£15).
- * Carpet tiles - gifted by Julia's parents (free).
- * Furniture - table & chairs secondhand (£15).

The total cost of building the conservatory was £375; although this doesn't of course take into account my time, which I should sensibly have kept a record of.

Maintenance:

The experiment in hen-proof plants is ongoing, but like the rest of the garden, has provided useful information to make each season easier. The greenhouse provided bumper crops for a couple of years, but as needs change it has found its way to a new home & that corner has become a children's garden. All that remains of the gravel are on a few pathways, the last remaining large area (where the 'virtual driveway' went) now being a play lawn. The diversity of plants in the garden still increases & it becomes easier to maintain each year, there being little room for weeds to grow in between the myriad of plants. The main work involves keeping the laurel hedge trimmed back & the play lawns mown plus tidying up after the chickens! It is most certainly a garden for plants & wildlife & whilst some might find it a little overgrown for their tastes, I really enjoy the way everything grows together so well. It has certainly come a long way since being a car park.....

Design Review

What went well

Overall, the whole garden went well, certainly the speed at which we were able to turn it into a semi-jungle again. Specifically there were highlights, as some things just seemed to fall into place so easily & it was always great to use what we had to make something we needed.

Playhouse: The playhouse was a success because of it's popularity with children, the way it just blended into it's environment & in the way it was made completely from 'waste' materials. It didn't take long to put together & it was constantly being used as the centrepiece for some kind of game, even on rainy days when the roof leaked.

Pond: Making the pond from an old bath was again highly satisfying because everything we used would be considered by most people to be rubbish. The bath costs us a measly £2.50 & that was the sum total of all we had to spend on it. When it was finished & the edge was lined with rocks we had dug out of the ground, it blended beautifully into the rockery. Only it's essentially uniform shape gave away any clue about its beginnings.

Steps: The steps were also a really good use of waste. The landlord had left the trunks of the trees he had cut down & they were perfect for creating the steps we needed. They were literally right there. The difference that it made to that corner of the garden, just by taking out that one fence panel was really significant & the panel was then used to help close off the original driveway entrance (& create more south-facing growing area). The job was done in a morning & was definitely a good example of 'least change for greatest effect'.

Trees: Planting the trees also made a big difference to the garden & to how we appreciated it. Getting them in gave us an immediate feeling of having really started & they brought birds back into the garden straight away. They were also starting to yield fruit for us in their second year, a couple really well. Tree planting always generates good feelings for me.

Even the planting around them worked out well. The sprouting onions & parsnips seemed to be very good companions, as the trees stayed free of pests. We ate the parsnip seed in salads & a bonus was the large number of parsnips that had self-sown themselves by the following spring!

What was challenging

While our overall experience of the garden was a very enjoyable one, there were elements of the implementation that proved to be challenging. Four of which immediately spring to mind. **Digging:** From the beginning, we had to dig, or should I say pick our way painfully slowly down into the earth. To a degree, we could have laid more soil on top, but we had to be sparing with what we had at times & without at least loosening it up, roots had no chance of penetrating the surface. How much easier it is to just shove a sheet of mulch over a lot of weeds & wait.... Waiting in this case wasn't going to get us anywhere, unless we were prepared to wait for trees to slowly break up the surface with their roots over decades. We weren't. So digging it was & it was not much fun, even the hens couldn't be much help with those big boulders on a surface that the local council would have been proud of in one of their car parks. Still, there is a certain satisfaction at the idea of digging up car parks to make gardens.....

Illness: The next challenge was one that was relatively short-lived, but it was a real make or break period for us & that was when we were ill for three weeks during the first spring. Having got the use of three greenhouses & filled them all up with seeds that needed our close attention, we were suddenly the ones who needed caring for. Having said that we couldn't have been expected to see it coming. We had been working hard on the garden, but never before in my life had I been ill at the same time as the only other person there who might be able to care for me, plus we had a little girl to nurse too! I don't think it could really be seen as a fault of the design.

Chickens: This might not be the case though with the chickens. Traditionally (well, in permaculture design anyway), they are considered to fit in well, however we learned that its not quite that straightforward.

Yes, they do eat slugs & snails (& worms) & so on, but plant damage prevented this way was made up for by the plants that the hens ate. It wasn't just the eating either, unless a plant was well established & often protected by surrounding them with rocks (of which we had plenty), then they would usually be dug up. The lawn was obviously suffering early on & needed fencing off regularly to keep it from going bald. Mind you, we hardly ever had to mow it!

It wasn't even possible to tell what they would eat; I once planted out some rhubarb thinking that it would be safe & yet the leaves were devoured almost immediately & I had to move it again. It seemed that the more poisonous to humans the plant was (i.e. Nicotiana), the more likely they were to eat it. In the end we fenced right across the garden to keep them on the one side & the difference in the plant growth on the two sides was very apparent. Whatever damage the slugs & snails were doing, it wasn't anything compared to the two hens! Oh yes, but they were very healthy on it & apparently laid fantastic eggs (which none of us apart from the dog ate, though he did seem to approve!). They were very lovely, but probably a bit too much for a garden that size.

Conservatory: The big challenge for me in the second year was building the conservatory. We were initially very excited about it, we had obtained secondhand windows, reclaimed concrete blocks, & corrugated glazing sheets. We had the nice stones out of the old retaining wall to use to face the blocks & so we didn't have to spend much money at all on the project. What I didn't bargain for was the amount of time it was going to take & the distractions that would divert me from getting it finally finished. In itself, it distracted me from the garden virtually all that season & it seemed like it would never be completed. In the end it was probably worth it (it would have been more so had I stayed living there!), but it made a great use of a dead space & apart from misjudging the timescale I think it was a very good element to include in the design.

What I would do differently

Most of these are fairly small, which is probably a good thing, though all of them taught me something valuable. Perhaps the biggest 'do differently' for me would be the **chickens**.

They were very lovely & I would never have harmed them, but they just didn't work as a good design element in a garden that small. They did very well from it, but a lot of the plants didn't, it wasn't a very mutually beneficial relationship. The turf roof I would certainly do differently & I have since bought a book that will help me with that in future. It was a good job that it was a small scale experiment!

A couple of the **trees** didn't thrive either. One we planted too near the laurel hedge & it found it difficult competing for nutrients as well as needing rescuing regularly from being surrounded by laurel shoots. The mulberry probably needed a much bigger hole & a lot more soil in it, but digging was very difficult & we apparently didn't give it enough of a head start. It never did well & £22 was a big investment in the garden for us at the time. It was probably a mistake to have planted the **Comfrey** in such a sunny spot. The logic at the time went that we needed lots of fertility in the garden & so giving the Comfrey one of the best spots would be a good way to achieve that quickly. However, it never did as well as the Comfrey that I later planted in the shade in my Mobile Home garden & other sun-loving plants would probably have benefited more from being in that space instead.

The **water catchment** off the shed wasn't in a good place for accessing it. We had to walk across a lawn that had been laid on brought in soil that was too heavy in clay & which waterlogged easily. On top of that a Buddleia in the corner gradually grew across in front of the barrel & there wasn't any room to move it further across. Later, I also diverted run-off from the conservatory roof into it as well (the only real option) & this caused regular overflows, making the lawn even wetter (& even less likely to be crossed to collect the water!). The **conservatory floor** doesn't seem to have worked either. Chipboard flooring came with the windows, but the damp proofing methods I used either didn't work or the condensation dripping onto it in the winter has caused parts of it to rot.

Time invested: Finally I would pay more attention now to how much time I have invested in creating both the garden & the conservatory. This is important information that I need to be aware of when doing designs for other people & accurately costing them. This was the main reason that my costings for the School garden later gave me so many problems & this ultimately brought the whole project to a halt.