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Penultimate draft

The importance of nature, green spaces, and gardens in human well-being

Abstract

Comparing the nature encounters of Gerald Durrell with our current climate of 'stranger danger', health and safety neurosis, and the beguilement and blunting of the senses by technological advances presents a worrying picture of a new era of nature and culture deprivation. However, even in the most unlikely places, a rich engagement with nature can be rekindled. Central to such recovery is access to nearby nature that allows practical engagement rather than merely detached on-looking. In my conclusion I outline examples where this has been made possible in the challenging settings of socially deprived urban areas.

Introduction

I want to begin by looking at the experience of Gerald Durrell as a boy growing up in Corfu as reported in his autobiographical *Corfu Trilogy*. These three books, written as an adult but reflecting on childhood experiences, give a picture of an idyllic time from age ten to fifteen. I want to use this account of a childhood 'extreme nature' experience to identify four underlying elements that, in some form, are helpful, and perhaps even necessary to, a healthy childhood. In the light of current research I show both how important contact with nature is for everyone add a further three aspects that seem important to, and help to shape, childrens' relationship to nature. Durrell's experiences are in stark contrast to contemporary western childhoods and urban living in general. However, the examples described in the last section of this paper suggest that there are opportunities to facilitate nature experiences for children and adults that are close to hand and that when this involves active engagement it can bring about very powerful and character shaping experiences.

Durrell's context

Durrell, we learn, had an interest in natural history from age two¹ and so the family's five year stay in various rural villas on the Greek island were for him a paradise of opportunities to explore and learn about nature and specifically the fauna of Corfu. What emerges as we read the texts with a modern sensibility is the remarkable degree of freedom he had: to explore the landscape, to interact with the locals, and to capture and bring home the various creatures that become pets or the subjects of his informal

learning. The humour of the books often hinges on Durrell's perceptions of this or that animal or opportunity and those of his family. Written in the first person we are all the time invited to see the situations from the budding naturalist's point of view and are on his side, but the response of the various family members remind us that, well, perhaps it isn't so smart to keep a family of scorpions in one's bedroom². The books reach a wide audience because of this humorous tussle. The human stories and mix of characters satisfy the novel reader in us and we are gently led into the wealth of natural history detail and elegant description of the flora and fauna of Corfu that entranced the young boy.

How does Durrell's relationship with nature develop?

There are four elements that I want to draw out of the childhood accounts in *Corfu Trilogy*: time, wonder, action, and freedom.

Time

Often the accounts Durrell gives are snapshots from whole days spent out in the countryside: they begin with the impatience to get breakfast over with³ and then break away from the rest of the family and explore with just the company of his dog Roger (and later Widdle and Puke). One gets the sense of quite some distances covered, even before the introduction of Sally the donkey. The land, especially with the largesse of the locals, provides food to sustain him on these hikes as he gets to know the geography and enlarges his sense of 'home' and community. However, it is the acres of time that strike one today. He does a lot in these days but there is no sense of rush about them. Indeed when we get that combination of the child's eye view and the naturalist's eye view brought together in the accounts of very focused attention for long periods to observe the minutia of life, be it snails mating⁴ or sea slugs doing almost nothing at all⁵, we seem to be inhabiting a very different world from our own and certainly that of children today. What Durrell communicates through the stories is a child who can adopt the timescale of the creatures he watches rather than being caught up in his own human world and concerns. Through watching a stationary tarantula and trying to see what it sees he comes to learn that it is waiting for an egg to hatch and has been keeping an eye on the nest (that Durrell hadn't seen) for some time. Again and again we get a glimpse of his ability to just be with the other in *its* world rather than caught up with himself, this is often emphasised by the relative impatient sufferance exhibited by the dogs⁶.

Wonder

Durrell's observational skills are being honed in these days amongst the olive groves and myrtle, and that kind of focussed attention cannot come without initial interest and the ability to be astounded. The account of the trapdoor spiders is a good example. As Durrell says:

Here and there on the green plush surface of the moss were scattered faint circular marks, each the size of a shilling. So faint were they that it was only from certain angles that they were noticeable at all... I wondered

idly what could have made them. They were too irregular, too scattered to be the prints of some beast, and what was it that would walk up an almost vertical bank in such a haphazard manner? Besides, they were not like imprints. I prodded the edge of one of these circles with a piece of grass. It remained unmoved and I began to think the mark was caused by some curious way in which the moss grew. I probed again more vigorously, and suddenly my stomach gave a clutch of tremendous excitement. It was as though my grass-stalk had found a hidden spring, for the whole circle lifted up like a trap door. As I stared, I saw to my amazement that it *was* in fact a trapdoor, lined with silk, and with a neatly bevelled edge that fitted snugly into the mouth of the silk lined shaft it concealed. The edge of the door was fastened to the lip of the tunnel by a small flap of silk acts as the hinge. I gazed at this magnificent piece of workmanship and wondered what on earth could have made it.⁷

This discovery leads Durrell on an excited race to find someone who can help him answer the question of what could have made these trapdoors. What comes across strongly here, as with so many of the anecdotes, is a sense not just of the beauty of the insects and other animals but a sense of wonder about how all of nature fits together. The descriptive powers are those of an adult author but they do magically give us the intimate scenes that would fascinate a boy rather than the sweeping vistas that might excite an adult traveller.

Action

One aspect of Durrell's activities on Corfu that might sit less comfortably with a contemporary environmentally minded audience is his passion for collecting. Often the creatures he collects are injured or orphaned but there can be no doubt that the collecting is one of the things that shapes his passion. However, an even more pervasive theme is that of activity. There is a lot of careful quiet observation and a delicate sensibility recorded such as when he describes the caution with which one had to move through the water to see the feathery cluster of tentacles on bristleworms. "Should you move your feet too rapidly through the water you would set up currents that telegraphed your approach and the tentacles would bunch together and dive with incredible speed back into the tube."⁸ Durrell is always doing something; there is a purposefulness about his activities and yet an openness. He has plans and projects which he seems to follow through and yet he also seems always able to be struck by something encountered outside of the plan. His sorties into nature are not about just looking they are multi-sensory and always engaged in some way. There is the collecting but also a kind of engaged looking we could call experimenting, but seems more like a taking part in the wonder. He moves a crab-spider from a red rose to a white one and observes that over two days the spider changes from looking like a "bead of coral" to a "white pearl"⁹. He removes the seaweed sticking to a crab and leaves it in a rock pool with no weed but adds some shells and small stones to find that over time it sticks these to its carapace¹⁰. Nature is both awe-inspiring and something one can engage with. Although Durrell seems to go in for a lot of capturing animals the books also

communicate a sense of the young naturalist being captured by them as well. He tries to replicate their environments in the aquariums and cages back at the villa often involving great expenditures of energy, such as collecting and carrying back fresh sea water several times a day, when this can't be done creatures are carefully returned¹¹. His engagement with the place is the type of engagement that fosters curiosity, patience, and a real love of nature that mere on-looking cannot.

Freedom

Time, wonder and engagement seem crucial here but what runs through and shapes all three of these and makes them possible is freedom. No one structures his time or guides his study. Rather, the family, with a gesture here and an introduction there, seem effortlessly to bring about the kind of fortunate encounters that assist rather than stifle his enthusiasm. More crucial to his relationship with nature is their ability just to let him be.

The island of Corfu before the Second World War and the relative prosperity of an English family living there allows for an idyllic childhood, particularly for a child already interested in natural history. What accounts such as Durrell's help to bring out, when read in our current context, is the human as well as ecological value of what is being lost to us when such relationships to nature no longer seem possible. More disturbingly there is a growing body of evidence that a relationship with nature is not just a pleasant addition or a preference one might choose to explore, but an essential component of human well-being.

Do we need to experience nature?

The term 'nature', notoriously, has a wide range of meanings. What I mean here, and all of the studies and literature that I am using mean by the term 'nature' is the way it functions in lay persons' language. Nature for our purposes here means things like countryside, beaches, woodlands, national parks, nature reserves, waterfalls, and so on. Moreover, a term coined by the Kaplans of 'nearby nature'¹² will also be used to bring us closer to what is meant by nature in much of the research on health impacts. Nearby nature can be street trees, window boxes, even houseplants and companion animals. So much of the early discourse in environmental philosophy was about wilderness preservation and nature seen as the antithesis of managed landscapes that I need to emphasise the point here that although things like wilderness hikes and experiences in national parks can be tremendously powerful and even transformatory, and the conservation of such places is important, it is not those experiences that will be the focus of this paper. When we get to the evidence you will see that the beneficial effects cited are often to do with quite small changes to someone's everyday experiences: things like having a window looking out onto a tree rather than a bare concrete space or having a seedling in a pot next to a hospital bed¹³. In terms of landscape design and planning expenditure this is small fry and no-one has to go camping! In fact it seems that even pictures of natural environments or plants can have a beneficial effect¹⁴. (I am not suggesting that this is an instance where less is more, far from it, rather that if the claimed affect of nature on us is so powerful that even a symbolic reference to it can be beneficial then let's have as much as possible.)

Are we deprived of nature in the urban context?

When people have options about where to live they tend to gravitate toward places with at least some natural scenery, pleasant green views or proximity to water. It is interesting to note that when we are talking about the super wealthy they even choose such settings as their final resting place. The phenomenon of counter-urbanisation is now well established in the developed world. For example, every year approximately 90,000 people leave Britain's main urban areas¹⁵. For many people their day to day lives are lived in the context of housing developments with no gardens, streets with car parks as the only open spaces, and a horizon hidden by tower blocks. There is a growing prevalence of low maintenance 'safe' hard landscaping even in what public space does exist, and this along with the removal of trees or planting - because it obscures CCTV security monitoring - issue in more and more environments devoid of nature¹⁶. When your life choices are restricted by poverty these type of environments are often all that is available. And as planning and building practices that produce these spaces become the norm more and more people who wouldn't see themselves as financially poor are finding that even their aspirations don't stretch to living near nature.

Does this actually impact on our well-being?

Evidence of the beneficial effect of nature on human health has been mounting and there are now studies that cover a wide range of medical conditions as well as general relief from stress symptoms.¹⁷ From work in horticultural therapy we have a persuasive

picture of how the relationship between patient and plant can work and this is eloquently expressed by Charles Lewis:

Because the plant gives beauty unstintingly and remains steadfast, day and night, it is a beacon reminding patients of the life existing beyond their pain. Yet the plant is also vulnerable, helpless as they are. It, too, must be cared for or it will die. Many deeply traumatized patients make their first step toward recovery when they shift their focus from their own suffering to concern for the well-being of their plant.¹⁸

We know that people recover from illness quicker if they have some nearby nature, we even know that people living in areas devoid of nearby nature are statistically more likely to suffer from a range of medical and mental health problems. What hasn't been hitting the headlines until recently is the causal claim that the absence of nearby nature is a contributory cause of some of those medical or mental health problems. For a medical statistician there is cause for scepticism here, but for a lay person looking at the evidence it seems straightforward. If we imagine everyone has some kind of baseline of health that they are constitutionally capable of then the claim would be that they would experience greater health in an environment with lots of natural elements such as street trees than one with minimal natural elements, and in an environment devoid of nature they would fall below their normal baseline. With so many other variables such a claim would be hard to substantiate but it gives us a scenario of sorts.

For a fuller picture of what is at stake here we do need to move beyond ideas of health deficits to ideas of a more holistic sense of well-being. This is not because the evidence seems poor with a health deficit model, far from it, it is just that it fails to capture the full social momentum of the findings that are out there. Another type of model that we could use, is the Reasonable Person Model. The Kaplans propose the reasonable person model to capture the idea of a person as having complex informational needs that can be aided or thwarted and that need to be balanced with a kind of restorative 'time out' looking at nature, which both fascinates but allows their more directed attention to have a necessary rest. We all have the capacity to be reasonable and pleasant, but we can become unreasonable and unpleasant. As the Kaplans say: "The reasonable person model posits that the difference is often in the environment, and specifically, that people are more reasonable when the environment supports their basic informational needs"¹⁹. The reasonable person model recognises an aspect of human nature and shows how nature can be supportive of our more positive actions and understandings.

An interesting study that helps to bring out the complexity of the situation, and one that does seem to endorse the basic idea of the reasonable person model, is a study by Kuo and Sullivan on domestic violence²⁰. The study involved tapping into a housing allocation that was happening in Chicago. In this random allocation tenants were moved into two different housing schemes both of which had some accommodation that looked out on green spaces and some that was entirely devoid of any green spaces or nature. The four groups (scheme 1 with nature, scheme 1 without nature, scheme 2

with nature, scheme 2 without nature) were later interviewed regarding the strategies they used to solve conflicts with their partners. The findings showed a very significant difference between the two greener areas and the two barren areas on measures of psychological aggression, mild violence, and severe violence. As Sullivan reports: "These findings provide evidence that treeless, barren neighbourhood settings have a considerable cost in terms of human behaviour and functioning."²¹

A striking finding that comes through in study after study is the impact of green space on community building and then the impact on individual physical and psychological health of living in a friendly community.²² As Sullivan summarises it:

Individuals who live adjacent to green spaces consistently report more social activities and more visitors, knew more of their neighbours, felt their neighbours were more concerned with helping and supporting one another and had stronger feelings of belonging.²³

The idea of green spaces bringing people together and contributing to community cohesion, or what is sometimes rather disturbingly called 'social capital', is now well established. Julia Newton summarises an example from a study of public spaces and social relations in an ethnically diverse area of East London. The findings included the following:

Current policy agendas recognize the role played by the environment in health and well-being, but the therapeutic properties of public open spaces are not restricted to design, nature or aesthetics. They include social elements through shared and collective use.²⁴

It is interesting to note that the well-being benefits of encountering and spending time with nature as the other, the nonhuman, also has powerful well-being benefits for the social dimension.

Are children in urban environments particularly nature deprived?

Adults today, particularly the middle aged or elderly, had their experience of nature shaped in a rather different context than young people today. Just one statistic that helps to bring out the very different context of childhood today is this one: in 1971 80% of 7-8 year olds in England went to school unaccompanied by 1990 that had dropped to 10%.²⁵ More recent studies show that walking to school has continued to decline and with it children's spatial and orientation skills²⁶. Negotiating one's own neighbourhood on one's own or with peers is also an important aspect of developing social skills and the kind of social common sense that would actually increase child safety and is crucial for learning how to live as an adult in community with others²⁷. There is no doubt that children are spending less time outdoors than they used to and that is an outdoors of any description: rich in nature or a concrete jungle. It is concern about children and the absence of nature in their lives that has prompted a good deal of attention. Richard Louv coined the term "nature deficit disorder"²⁸ and brought together, in an accessible

form, the research that linked childhood trends like increasing obesity, attention disorders, and depression with the absence of nature in children's lives. His book *Last Child in the Woods* is both a paean to a lost age and a 'how to' guide for restoring the intimate connection that children throughout history seemed to have had with nature²⁹.

The reasons why children are not spending time in nature are complex and not captured purely by the lack of natural elements in urban contexts. Even those children with potential access to nature are often still deprived of it by control of public spaces³⁰, parents' safety concerns, and a lack of interest. The first two are well recorded in the literature with regular accounts of manicured green spaces being off limits to children, and adult fears of unregulated spaces and things like dirt and plants being dangerous being passed on to their children³¹. What needs a slightly more convoluted explanation is the apparent lack of interest in contemporary children for that which fascinated and entertained their forbears. A quotation from a child interviewed by Louv who said "I like to play indoors better, 'cause that's where all the electrical outlets are"³² perhaps gives us a clue regarding this most recent revolution. Disturbingly the revolution isn't just in what children happen to spend their time doing but also in the changes in brain development that their activities seem to bring about.

Until recently very little research was done on what the massive changes that first television, then interactive video games, have brought about both socially and in individual cognitive development. The debates that have happened have all been about content – sex, violence, drugs, swearing, bad role models etc. – what seems to have passed unnoticed was the medium itself and the increasing lengths of time that children spend in front of a screen. Many parents do make the connection between screen time and childhood obesity; watching TV is passive, playing outdoors is active and thus burns off the calories. However, the picture that is emerging from recent research is that a far more damaging cognitive impairment is taking place.

Television elicits an orientating response from our evolutionarily honed attention to movement and change and this response to television is seen almost from birth³³. In order to maintain our attention television has been using an increasing number of fast editing techniques that help to keep us hooked³⁴. What this seems to do to the developing brain is basically reward short attentional shifts rather than long term attention. And for the developing brain what doesn't get rewarded doesn't get developed so it is possibly no surprise that people are starting to make the link between attention deficit hyperactivity disorder and TV with claims such as a 9% increase in attentional problems for each extra hour per day that children watch.³⁵ Aric Sigman, who pulls together a lot of the research in disparate fields, sums up the situation like this:

Television is the perfect medium to produce strong rewards for paying attention to something. Compared to the pace with which real life unfolds and is experienced by young children, television portrays life with the fast-forward button fully pressed. Rapidly changing images, scenery and events, and high-fidelity sounds are extremely interesting. Television is

the flavour enhancer of the audiovisual world, providing unnatural levels of sensory stimulation. Little in real life is comparable to this. Television may overpay the child for paying attention to it, and in doing so it may physically corrupt the reward system underpinning his attention when the tv is off.³⁶

As you can see we are a long way from the young Gerald Durrell lying in the grass to wait for a newly emerged butterfly to dry its wings. And to see just how far we are away here are a few statistics from Sigman quoting a 2004 study:

The average six-year old [in Britain] will have already watched [TV] more than one full year of their lives. When other screen time is included, the figure is far higher. Children aged 11 to 15 now spend 55% of their waking lives – 53 hours a week, seven and a half hours a day – watching tv and computers, an increase of 40% in a decade. More than half of three-year olds now have a TV set in their bedrooms.³⁷

Moreover, the claims of interactive games, that they engage the player in a way that doesn't have this kind of cognitive impairment, seem mistaken. Just as it is the medium not the message that is the key problem with tv, it is the particular *way* of attending to screens that seems to create the problem with attention and cognitive development. That way of attending to a screen is the same whether you just watch the Martians or blast them out of virtual existence!

What we also need to consider is not the year that the six-year old spent watching TV but what they were not doing for that year that they might have been doing. Many of the things that children do in natural environments require the mastery of a huge range of skills. Some, like negotiating activities with peers, can be developed indoors but the outdoors offers a vast forum for challenging activities that can result in things like greater motor coordination, balance and planning skills. But to focus on what could be replaced by a well equipped gymnasium would be to miss the point. There are a number of features about outdoor play and particularly play in nature that makes it so important. With Durrell's rambles and explorations of Corfu I identified four elements (time, wonder, action, freedom) that seemed important to the development of his relationship to nature. Now I want to add to those elements three further aspects that are important to children and seem to be afforded by nature.

The importance of childhood experiences of nature

No Adults

The kind of experiences in nature that adults recall fondly and children do still enjoy, when given the opportunity, are those that are unstructured by adults. The guided nature walk or camping trip can be wonderful but the real magic between children and nature seems to be in the in-between times, the moments of private discovery and testing one's limits with adventurous exploits. The enduring fascination of children's fiction, like the Arthur Ransome books, is that the children are on their own. Unsupervised play is where a child gets to be and grow into who they are as, opposed to

a copy of the parents or, more disturbingly, the creation of an entertainment industry marketing strategy. The child in an informal back garden or local woods is the master or mistress of their domain.

Scope for creativity

Importantly, that domain is one of their own creation. The evidence for the development of creativity being linked to this kind of informal play, particularly in nature, is well founded³⁸. The natural environment always offers affordances and challenges, it gives the child the raw material. But, unlike the model airplane or prepared craft kit, it needs imagination to see the affordances and surmount the challenges. Also nothing stays the same: the seasons, weather, and growth of vegetation present new challenges and new possibilities so that the demand for creativity never stops. Nature as backdrop to imaginative play is inexhaustibly giving because it is malleable, but only to a point. Thus it gives both the clay to work with and the limits that teach us about the reality of the world.

Creative acts stretch from nature as a backdrop to fantasy scenarios to actually building things and in contrast to playgrounds, with or without equipment, seem to foster inclusive rather than competitive play³⁹. The ideal environment for play is one where the child can get a bit messy and the place can get a bit scruffy and nobody minds. An enduring 'best memory' of play is often building a den. And what is crucial to a good den is that you do it yourself, it is your own creation. It might involve the utilisation of what looks to others like junk and perhaps a few branches or other displaced vegetation but to the child it is the most amazing place imaginable. Parental help (or worse still the provision of ready made forts or Wendy houses) misses the point completely and are not usually enjoyed⁴⁰. When young children are asked about their lack of use of organised play grounds, the ubiquitous 'black tops' with their hard surfaces and rigid structures, they explain how important it is to be able to *do* things like dig in the earth and move things around⁴¹.

Early work on creativity and experiences of nature such as Edith Cobb's *The Ecology of Imagination in Childhood* made the link between particularly creative adults and their childhood experiences of heightened senses in nature and of experiencing a sense of oneness. Building on Cobb's work Louise Chawla describes what she calls "ecstatic places"⁴². This is where we experience not just delight or rapture but, as the original Greek *ek stasis* can mean, a standing outside of ourselves. Children in need of solace often find time in nature, particularly time alone in nature, very healing. Surprisingly in the recent 238 page Landmark Report for the Children's Society, called *A Good Childhood*, the only mention nature gets is as one of the ways children can experience "wonder, inner peace – and a sense of something greater than themselves". Even then nature only appears the second time a list of ways to the 'something greater than themselves' is mentioned and is preceded by "religious practice, music, dancing, drama, art, literature, [and]science..."⁴³

Confronting fears

The third feature of play in nature is that sometimes it's a little bit scary. Reading the Corfu trilogy one can't help but be rather amazed at Durrell surviving to adulthood. He sails in a badly designed homemade boat that needs very skilled handling⁴⁴; he falls into deep channels of mud⁴⁵, he regularly gets thrown from his donkey⁴⁶, is followed home by a bear⁴⁷, stuffs his pockets with numerous insects - some poisonous, eats fruit from the trees, and goes off with adults both known and unknown to his family including a murderer⁴⁸. He, like Arthur Ransome's fictional Blckett children, has adventures and these often involve pushing the limits of what they are physically and emotionally capable of doing, i.e., they exercise (and thus are allowed to develop) bravery, personal strength and forbearance. They overcome their fears by facing them. It is hard to imagine where children today get to do this in a climate of media hyped perception of danger that means parents feel they are failing in their duty if children have any unsupervised time at all. Perhaps, ironically, there is nothing more loving and protective of his children's well-being than the Blckett father's telegraphed response to his children's request to be allowed to sail on Coniston: "better drowned than duffers if not duffers won't drown".⁴⁹ Life outside the home, just like life in the home is dangerous, but for some reason parents have lost their trust in a child's burgeoning common sense and along with that goes the child's opportunity to develop a proper common sense that will help them to navigate their way in the world not just as children but also as adults. Durrell survives the perils of sailing the bootlebumtrinket because he knows the idiosyncrasies of the boat inside out and knows the bays and inlets of Corfu like the back of his hand, thus he knows the risks involved and develops the skill to manage them.

What emerges through the numerous studies of children in nature and those unable to play in green spaces is that the latter could be being deprived of a lot more than just fun. The research seems to suggest that they will not reach their potentials for: motor skills, balance, creativity, ability to attend, social and emotional skills, and spiritual fulfilment. These crucial life skills and propensities need developing when the brain is still highly malleable. The knock on effects of something like ADHD in terms of emotional, social and academic ability and the impact of that on life choices, relationships, and prospects as adults mean that this is something that needs addressing urgently by parents and schools but also by the planning profession and others with decision making powers about our towns and cities.

Are Green Spaces Enough?

It is clear from the wealth of evidence in the public domain that green spaces, for example, public parks and gardens, street trees and other planted areas, are hugely important as a means of introducing nearby nature and thereby, paradoxically, humanising our built environments. These developments have a beneficial impact on a range of indicators such as increasing individual's health and happiness, crime reduction⁵⁰, and increasing social cohesion. However, an aspect of the findings that I have sought to bring out in the material presented here is the increased benefit of green

spaces that allow for some *interaction*, rather than just presenting the public with pleasant scenes or colourful flowers to look at. This seems to be particularly important for children, but is also an aspect of how adults gain physical, emotional, social and spiritual sustenance from engaging with nature.

Interacting with nature in one's own garden or even window box is something easily promoted and left to the individual, but not everyone has access to private nature and this doesn't necessarily spark the social cohesion that public green spaces bring about. To see how different degrees of interactive public green spaces can be possible I will just briefly look at a few successful examples.

Four examples of interactive engagement with nature

Bridgend Allotment Community Health Inclusion Project (Edinburgh, UK)

This project was one of eight community projects in Scotland. It is based on a new allotment site and takes up four allotment plots near the gates of the site and forms a community allotment. This area is used as a drop in and a referral scheme for social and therapeutic horticulture. Most of the participants are people identified as having mental health problems and are referred by their doctor or specialist to take part in the activities at the community allotment. They plant vegetables, tend the plants and also learn how to cook the produce by making soup each day for whoever is there. The project workers are there to help organise the gardening and teach basic horticultural skills. The research findings after the first year indicate that those participating felt happier and got a lot out of "being involved and working with other people".

Questionnaire responses made more references to "being peaceful and relaxed" than to getting fit.⁵¹ In conversation with the main project worker I heard how the breakthrough moments for some clients could be quite profound. For example, someone with long term mental health problems who had come to see themselves as unable to do anything positive and as a burden to everyone was emotionally moved, and found a spark of something positive to work from, when she discovered that the seeds she had planted in the seed bed she had prepared had actually germinated. The revelation that she could bring about something good in the world led to an increase in self belief and confidence⁵². Many of the clients had no previous experience of growing food or even handling raw ingredients as a means to creating a meal. Therefore, the soup making, where their labour of growing and then cooking is transformed into something valued by others, was a very affirming experience as well as beginning the process of learning about a healthy diet. Clients with children also brought them along to take part in the gardening activity. For some of those children seeing their food created from vegetables was a revelation. Growing food was also key to the health and social benefits in the second example I will give.

Gardens in Californian Domestic Violence Shelters

Shelters for victims of domestic violence and their children are often based in poor neighbourhoods with little access to nature and insecure supplies of food, which is often of poor quality. A project begun in 1999 developed gardens at or near nine of these

shelters to allow the women and children to experience growing food. As with the Scottish example the horticultural therapy benefits of nurturing plants were very evident and experience of gardening and seeing things grow was helpful in the clients seeing themselves as able to make a fresh start. In a study of the effectiveness of these projects Susan Stuart quotes the clients reporting: “The garden says you’re in a different place [in your life]”, “I’ve learned that as with plants, life is a process that takes time”, “seeing new growth on the trees makes me hopeful”.⁵³ It was also clear from the study of this project that the benefits increased with the amount of time spent in the gardens. The respondents also reported beneficial effects on their children, for example, one said, “I feel the gardening program has made my children grow more gentle with plants and flowers; also they have learned all things grow with care and love”.⁵⁴ Growing food was a particularly useful aspect of these projects because it helped to address the supply of food for the shelter but also many of the issues around eating that the women and children presented.⁵⁵ Growing foods that were associated with different cultures and learning to cook them was a comfort to clients from those cultures, often reminding them of parents or grandparents, and helped to diminish cultural misunderstandings that had been a feature of the shelters’ pre-gardening days⁵⁶. The social dimension comes through in this study. Gardening, particularly when people are learning, can be a highly social activity and one where everyone can contribute and feel they have helped to achieve something positive. This creates bonds between people as well as bolstering the self- confidence and self-worth of individuals.

In the first two examples, a gardening experience has been facilitated for particular groups identified as in need and the access to the garden is in the latter case restricted to the clients and in the former open to the public in the sense that anyone can volunteer. From the earlier discussions though we know that everyone can benefit from time in or dealing with nature and an absence of opportunities such as these seems to have a detrimental effect on individual health and community cohesion. The next project I will outline has a ‘wider community’ and completely public dimension.

Detroit tree planting projects

Many of the inner-city neighbourhoods of Detroit were run down and scarred by vacant lots that had been taken over by gang cultures and criminal activities. Detroit had also changed from a heavily treed city to one very barren due to the predominant tree from early planting being Elm, now succumbed to disease. In a range of projects local communities were able to get assistance for turning vacant lots into small pocket parks. The city was not in a financial position to maintain a new set of green spaces. However, by offering some expertise and the initial materials in exchange for the communities signing maintenance agreements many successful green spaces were established and flourish. As with many such projects because the local community is responsible for the design and upkeep the spaces are well used and contribute to community cohesion through working together, having a social meeting place, and sharing celebrations and other public events in the pocket parks. Simple measures such as using old telegraph poles laid horizontally to prevent illegal vehicle access and the additional community interest made them safe rather than the threatening spaces used for drug dealing. The

parks were also never so manicured that they could not be places to play. The local people took part in planting the trees and so took the time and effort to water them until they were established. The shakers and movers within the communities spoke of how hard it was to motivate people and how hard it is for them to see that things could be different. But once involved participants, often teenagers, talked about “our trees” and “our park” and demonstrated a continuing commitment through helping with maintenance. In communities where this has worked well the community often goes on to carry out other projects and ways of improving their locale. As one of the participants said: “Cause it just makes a difference, your environment, how you act and how you feel about yourself”⁵⁷.

In the Detroit examples there was a liaison between the communities and the authorities but community gardens are not new and many exist or did exist in spite of the views and activities of authorities. Some community gardens happen just as a result of local action where vacant lots are planted without permission. Some become so established and well supported that they survive for many years and even become, after many battles, legally established⁵⁸. My last example is of a more recent phenomenon in a similar spirit.

Guerrilla gardening as environmental protest

An interesting response to the barren and dispiriting nature of urban environments that transforms public space in unauthorised ways is guerrilla gardening. Richard Reynolds defines it as, “the illicit cultivation of someone else’s land” and explains it as a battle for resources, a battle against scarcity of land, environmental abuse and wasted opportunities.”⁵⁹ Politically this has its roots in the same soil as the community garden movement which began in the 1970s. The new style acts of guerrilla gardening are usually small and take place in built up areas to try to bring something of nature into the space. This could be through planting up road verges or traffic islands. The planting is done surreptitiously and often a mini garden is established and appreciated before anyone with authority over the land notices. Even sites where there is no access have been turned into havens of wildflowers by creating seed grenades with water filled balloons or Christmas baubles packed with seeds and fertilizer⁶⁰ or the more ecologically respectable seed bombs of moulded compost and native plant seeds⁶¹. Just as with the children’s dens here creativity is needed to make the best with what is available in order to shape the environment to something that better suits human beings. Due to the illegal nature of the activity it is sometimes done at night. But as a political statement it can also be carried out in daylight with as much celebration and involvement of the public as possible. At heart the aim of the guerrilla gardeners is to create something of beauty in an inhospitable environment. To resist the paving over of the world and to give those who live in urban environments a moment of pleasure as they pass a usually drab street or corner and see plants flourishing in unlikely places. The additional beauty of guerrilla gardening is that when we see such a thing we also have the idea that we could do that too as the subtitles of both popular books on the subject suggest: *Guerrilla gardening: a manifesto* and *On Guerrilla Gardening: a handbook for gardening without boundaries*. This is a form of resistance to the urban environments that we have been

given and, as with the benefits of other nature experiences, involves a form of empowerment, a way of connecting to something else and becoming more of who we can be through that relationship.

Conclusion

My four examples here were chosen to emphasise something that has come through strongly in the previous sections: whether it be Durrell's activity in nature or the healing process of caring for something else, the power of nature to bring about health, well-being, and social benefits is amplified when the relationship with nature is one of engagement. There is an interesting paradox at the heart of this whole relationship: though these things can be done *in order* to bring about health benefits etc. part of what makes them work is that the caring is done *for* the plant or *for* the community not for oneself. Whilst I might take up gardening to improve my health it seems to be that in caring for the plants and forgetting about myself for a time that the benefits accrue.⁶² The mother in the domestic violence shelter explained (above) it was through tending plants that her children learned to care and love; or as Katie McShane expresses it in the context of environmental ethics:

Ironically no matter how good for us caring for nature can be it cannot be done for only self-serving purposes. Love of nature or respect for nature, if it is really love or respect, has to take us outside of ourselves and our needs. We reap the benefits of such a relationship by not having our eye on the prize of reaping the benefits.⁶³

A very recent development in community engagement regarding nature has at its core engendering exactly this kind of respectful relationship. The University of the Trees⁶⁴ is a movement that has grown out of a social sculpture initiative. It uses, what look like very simple, strategies ("instruments of consciousness"⁶⁵) that allow people - whether school⁶⁶ or community groups or individuals - to develop their attentiveness to nature, primarily through contact with trees. The kind of listening that this involves seems to bring about a shift in awareness that affords both a new perspective on nature and on oneself.⁶⁷

There are many ways that helpful relationships with nature can be engendered and continual focus on the environment as 'in crisis' might not always be the most helpful. Initiatives that help us to understand our roles as active participants in nurturing the world in which we live can foster responsibility as a natural impulse rather than a duty imposed. We can't programme into the national curriculum 'having an experience of wonder' we just have to allow our children and ourselves some freedom for these relationships to grow.

In terms of architectural design and planning, engagement with nature is a lot more complex than designing green spaces with grass and hard landscaping that the parks department maintains. Some traditional parks are now addressing this by starting to incorporate the public in decision making and maintenance activities⁶⁸. In some places a green space where our interaction goes no further than being allowed to sit on the grass

is just what is required and let's have many more of them. But in urban environments it is also crucially important, particularly for children, to make possible a fully engaged, multi-sensory relationship with nature and for this, community farms and gardens, school gardens, allotments, and some unregulated spaces are required. It is in these places that we can learn how nature works and how to live in accord with its rhythms and rewards and thus how to live a fully human life.

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