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Gardening and the Power of Engagement with Nature for Mental Wellbeing.

Penultimate draft

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Abstract:

The evidence is now well established that natural environments, nearby nature, and activities engaging with plants can improve mental wellbeing. This chapter will outline the literature that addresses, for example, therapeutic horticulture, increasing green spaces in urban environments, and prescribing time in nature. The literature reveals a picture of the helpfulness of plants and gardening activities for those with mental health problems, but also the requirement of nearby nature for everyone. Concepts examined, such as: the reasonable person model, nature deficit disorder, attention restoration, and biophilia support such a requirement. The processes involved in the human/plant relationship are examined through participant accounts in the literature and interrogation of the aesthetic elements involved in the experiential nature of gardening. Aesthetic engagement, and the shifts in our focus from self to world that it can bring about, presents a speculative answer to why gardening can bring about positive and helpful mental states that support wellbeing.

Keywords: horticulture, therapy, unselfing, biophilia, aesthetics, beauty, prosociality, plants, gardens.

Introduction

The evidence of health and general wellbeing benefits of time spent with plants is now well established (Leavell et al 2019, Hall & Knuth 2019a and b). Since the work on faster recovery time in hospital when patients had a view of a tree (Ulrich 1984) there is now a huge number of studies examining something that, too many, seems obviously to be the case. Time in nature, amongst plants, activities like gardening and so on are good for you. The proof of this has taken many forms over the intervening years. In the scientific literature there are many very cleverly designed experiments to measure the health benefits, with controls for variables such as income and education. These look at a range of health conditions and they show us the circumstances in which people benefit, what kind of people benefit the most, how much nature exposure is required, and what additional benefits also accrue: such as greater sociability, safer neighbourhoods and so on. In this chapter I will give an overview of the evidence and then discuss potential explanations of why contact with nature seems involved not just in healing when health problems arise but also as necessary for everyone. I will then focus in more depth on what is involved in gardening processes and why such contact seems to be especially helpful for those with mental health issues. This section will include the aesthetic qualities and responses involved

in various aspects of gardening. Such as: soil, engaged activity, the social dimension, metaphor, beauty through all the senses, and the de-centering idea of unselfing. Together these aspects shed light on what is happening in the human-plant-garden relationship and why that can be beneficial.

Evidence of mental health benefits

I want to give a brief overview of the health benefits. Many studies focus on single aspects such as cardiovascular health or stress reduction, but they also play into one another because whilst a study may look at one thing the effect on a person has a more holistic impact. Thus even studies that focus on a physical problem will encounter wellbeing gains that are more general and promote better mental health. The studies might look at walking in natural environments, natural elements such a tree seen from a window or a pot plant on a desk, pictures of landscapes or individual plants or even just thinking about nature. There are also many studies of gardening as an activity and reviews of the efficacy of horticultural therapy as a medical intervention and therapeutic horticulture as a support resource for social prescribing.

The benefits for physical health that have been evidenced in scientific studies include: improved rehabilitation, lower cardiovascular disease risk and blood pressure, improved autonomic nervous system and parasympathetic activity, decreased diabetes, better sleep patterns, enhanced immunity, healthier birthweight, decreased ocular discomfort, decrease in allergies, improved pain control, obesity reduction, decreased mortality (Hall & Knuth 2019b). With these studies of physical health the benefits are measured and explained by physiological markers, such as: heart rate, insulin, blood glucose, proinflammatory cytokines, various hormones, or c-reactive protein, and rarely by self-reporting or interviews.

Benefits to mental health are similarly well documented and those covered by scientific studies include: Reduced stress and anxiety, attention deficit recovery including reduction in ADD/ADHD, and attention restoration, decreased depression, improved self-esteem, mitigation of PTSD, enhanced memory retention, reduced effects of dementia, increased creativity, pro-sociality and greater empathy, enhanced productivity and attention. With mental health benefits there are sometimes elements of self-reporting, interviews or questionnaires, but again biological markers are also used. For example, the type of biological markers used for measuring reduction in stress and anxiety include: heart rate, skin conductance recovery, concentrates of cortisol, changes in nerve activity, EEG brainwave amplitude and frequency, EEG plus eye tracking, cerebral oxygenation levels, salivary amylase levels, cytokines in blood samples, near infrared spectroscopy, and functional magnetic resonance imaging (Hall & Knuth 2019a).

Minimal nature required

Two things stood out to me in all this material. The first was how little exposure to nature, particularly to plants, it took for measurable benefits. Experiments, for ease of control, often involve images of plants or landscapes or nature videos as opposed to immersion in nature or even, with the use of fMRIs, just imagining a plant (Vedder et al 2015). Even where there is immersion it can be for as little as 5 minutes (Piff et al 2015; Richardson et al 2021). There is growing evidence on the benefits of forest bathing (Williams 2017, 71), where time in a forest is guided by prompts to focus on the five senses. With this a little

longer is spent amongst trees, but the wealth of evidence for the benefit of nature is not based on, e.g., hikes in national parks and wild camping. As profound as the experiences from deep emersion in nature are what's striking is that real and lasting health benefits accrue from so little.

One study is called 'Moments not minutes: the nature-wellbeing relationship' to describe the finding that it is not the time spent but whether an encounter of some kind takes place. Such an encounter might just be smelling a flower, but it is to do with noticing something in nature. This noticing is more likely to happen when one is engaged in simple activities. As the study says:

When examining the factors that explained variance in wellbeing and illbeing using multiple linear regressions, only nature connectedness and engaging in simple nature activities emerged as significant; the association with time in nature was not significant, nor were indirect contact with nature or knowledge/study of nature. (Richardson et al 2021, 23).

I suspect that there is something happening when we properly encounter an aspect of nature, such as a plant. In my experience occasions when we wake up to their plant nature see them as active beings, rather than passive background, can be moments of connection. This can be very striking when we find them having done something unexpected. Botanically it might be all perfectly explicable: germinating and pushing up through the soil, grasping hold of an adjacent rake handle rather than the cane supports provided, in that moment when we encounter them freshly doing something particularly active or not what we planned it is like a real encounter and it shifts our mind-set, it opens us to the world in a fresh way.

The other thing that struck me when diving into all this literature was the careful design of experiments and collecting of impressive evidence but the near absence of discussion about why. The physical pathway to e.g., lowering blood pressure or mitigating stress hormones is explained, but there is rarely an explanation of *why* nature has this impact.

Potential Explanations

Reference to potential explanations, when it is made, is most often to the work of Rachel and Stephen Kaplan. Their explanation was called attention restoration theory and proposed that mental fatigue was relieved by taking a break in or looking at nature. This is because trees or natural landscapes have the right amount of detail to interest but not overwhelm us (1989). We can engage in effortless attention, what they called 'soft fascination', which is restorative of our cognitive functions, and is not provided by built environments that can be too busy or too bland. Recent refinements of this have questioned the type of nature involved, with favoured natural landscapes being particularly restorative (Besson 2020).

In the influential work of Roger Ulrich, using EEG monitoring, the focus shifts from attention restoration to a theory of stress reduction (Ulrich et al 1991). However, the major thrust of work in this area was focused on demonstrating *that* there really is this connection between health and nature or urban green space (what the Kaplans had called 'nearby nature'), and not as much on *why* there is this connection. Currently there is a lot of funding going into work on the health benefits of nature because the impact on health has been demonstrated and could bring substantial savings to healthcare budgets (Leavell et al 2019, 300). The

impact on productivity and employee retention has also been demonstrated. If something works then the question of why it works becomes less important, but no less fascinating.

When deeper explanations of *why* do surface in the scientific studies the suggestion offered points to an evolutionary picture of humans having dwelt in natural environments for millennia before the development of urban environments and the kind of spaces we inhabit today. Our bodies and, especially, our brains have evolved for a very different context than the one that – in evolutionary terms – suddenly surrounds us. This explanation suggests that there is a fittingness, a sense of coming home, that we subliminally experience in response to nature. Our bodies, minds and souls resonate with this in a way that they cannot in the office or shopping mall. This fits with explanations of our cross cultural aesthetic landscape preferences such as the ‘savannah hypothesis’ (Orians 1986) or ‘prospect refuge theory’ (Appleton 1990) both of which point to an inbuilt preference for what sustained our primeval ancestors.

The other, related, concept that is sometimes mentioned in these studies is biophilia. Originally coined by Erich Fromm, this term was developed and popularised by the biologist Edward O. Wilson in the 1980s. Biophilia, as he describes it, is: ‘an innately emotional affiliation of human beings to other living organisms’ (Wilson 1993, 31). Experiencing biophilia gives us both a feeling of pleasure and it stimulates motivations such as exploration, these are innate but then get culturally reinforced through myths and storytelling.

Nature deficit

Linking the ‘recovery through nature’ phenomenon to the deep connections of our ancestral past and biophilia does suggest that we should not only be using time in nature to ameliorate health problems, but also to define what is necessary for everyone to support wellbeing in general and prevent, what has been termed, ‘nature deficit disorder’ (Louv 2005, 35; Brook 2010b). Taking a more salutogenic approach to health would mean that green spaces, allotments, community gardens, domestic gardens and so on are part of a necessary access to nearby nature for everyone as a means of preventing illness occurring. We have known for a long time that nearby nature is a way of buffering everyone from the stresses of urban living (De Vries et al 2003).

Wellbeing from this perspective goes beyond not getting ill, it encompasses the opportunity to have a good life. 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 (Baxter & Pelletier 2019).

Access to green spaces does seem to be implicated in a range of psycho/social benefits where people just seem nicer in these kinds of environments. We could look to an explanation such as the Kaplan’s Reasonable Person Model, which suggests that we all have the capacity to be reasonable and pleasant, but can become unreasonable and unpleasant. As the Kaplan’s point out: ‘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’ (2005,273).

There have been many studies demonstrating neighbourhood improvement through the introduction of shared green space. A 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 by Kuo and Sullivan on domestic violence (2001a). 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 later reports: 'These findings provide evidence that treeless, barren neighbourhood settings have a considerable cost in terms of human behaviour and functioning.' (2005, 245).

Thus when thinking about mental health and green space it is not just of concern to those with designated physical or mental health problems or what are termed 'vulnerable populations', to some extent, without access to nature we are all vulnerable.

And so to gardening

One of the main sites of interaction between people and plants is the garden. As Charles Lewis says:

Our participation through physical and mental investment draws us into a deeper level of experience, creating a closer person-plant relationship than occurs as passive observers. The most intimate person-plant relationship occurs in gardening, where we physically participate in maintaining green nature. (Lewis 1996, 49).

The term garden covers many types of green space including publically managed land smaller than (or small ornamental sections within) a park. However, it is community gardens, allotments, institutional gardens such as in care homes, hospitals and prisons, that are the site of work much of the work on mental health benefits. There is less research with private residential garden. This is not a reflection on their efficacy or otherwise it is just harder to design and control such projects (Chalmin-Pui 2021). That said, the value of these private garden spaces for supporting mental health became very evident during the Covid 19 pandemic with its attendant lockdowns (Theodouro et al 2021; Marsh et al 2021).

Garden spaces of all kinds are the sites most used in both therapeutic horticulture and horticultural therapy. The distinction between these two disciplines is that horticulture therapy is defined as where a therapist is using plants for predefined clinical goals (often taking place with patients of a hospital or care home garden) and therapeutic horticulture which is a more general term for improving wellbeing through horticultural activities (Clatworthy et al 2013). Clients of the latter are more likely to be living in the community and might be prescribed time in their own garden or a community garden/allotment where there is some assistance and social management of a gardening project. Prison gardens are

another site for the more general therapeutic horticulture, but will not be discussed specifically in this chapter.

There is a wealth of evidence supporting both approaches (Soga et al 2017) and I will be drawing from studies based on both types and not making a distinction between them in what follows. To address what is happening when people engage with plants I will also draw on my own experience as a gardener and wider literature in phenomenology and aesthetics. In looking at this material and interrogating my own experience certain components of the garden and certain aspects crop up again and again. I will use these to organise the material that follows under the headings: soil, meaningful active engagement, social dimension, metaphor, beauty and unselfing.

Soil

Connecting with soil seems important. This friable medium that can be worked and shaped takes us into a different space. It is, literally, grounding. The sensory experience of having 'one's hand in the earth' feels good (Leavell 2019, 301) and helpfully activates the sense of touch (Smith-Carrier 2020, 6). There is a strong aesthetic dimension to feeling the soil, it takes us into the ground, even if it is just compost from a bag. The shift from seeing soil as dirt – something to be avoided or even as defiling – to experiencing it as nurturing and valuable is an important part of this descent into the materiality of the world. This connection to earth, to something fundamental as Merleau-Ponty suggests, calls us to the Earth as the ground of our experience (Merleau-Ponty 1968, 259; Brook 2005, 357). It is interesting that the root of the word human is shared with the word humus (soil), and of course 'humility'. Perhaps the freedom to feel soil and connect with it brings a connection to one's own physicality as a nurturing home. Something seen as bad is now seen as good and participants can return to a childhood pleasure in feeling and playing with soil. Could this facilitate a new awareness of transformation being possible?

This sense of soil as a transforming medium is most evident in composting. The value of seeing kitchen 'waste' transformed into a valuable resource that helps to grow more food is another chance to experience, at some level, the possibility of redemption.

A strong sensory experience also comes through smell with the pungency of healthy soil or leaf mould returning us to childhood or just imparting an intriguing earthiness. The evocative smell is identified chemically as *geosmin* and is created by the bacteria genus *Streptomyces*, this is even used in some perfumes (Chater 2015). The common soil microbes *mycobacterium vaccae* have also been shown to activate serotonin-releasing neurons in the brain and lift the mood (Ramirez-Andrreotta et al 2019, 9). This is possibly part of the reason people engaged in therapeutic horticulture love to dig (Leavell et al 20, 7), even when the person managing a project might be trying to organize a plot, for good horticultural reasons, on 'no dig' principles. As one permaculture inspired co-ordinator of a community garden said, 'I always leave one bed traditionally managed because they do love to dig' (pers comm 2019). This active engagement leads to the next aspect of gardening which differentiates it from simply time in nature.

Meaningful Active Engagement

Activity in and of itself is valuable for physical health and psychological wellbeing, but this is enhanced by the sense of doing something purposeful. Gardening tasks are seen as building self-worth (de Seixas et al 2017, 88, Smith-Carrier et al 2020, 11; Elings 2006). Allotment projects where produce is grown and then sold or eaten allows participants to feel pride in their ability to make a positive contribution; they see themselves in a new light. Something as simple as seeds that one has planted germinating and growing means that something in the world has changed. The world is better and, for example, a person with depression struggling to see anything good in themselves can see that their activity has actually brought about positive change. As one study summarises it 'The contribution of physical, mental and emotional energy to the process of gardening gives the human-nature relationship a sense of purpose and by extension a can bring a broader sense of purpose to one's life' (Bell-Williams et al 2021, 7).

The activity of gardening, whether guided or not, also opens the way for increased confidence and self-esteem through developing practical skills. Horticultural knowledge from books or gardening programmes is partnered with hands-on practice that grows the embodied tacit knowledge of how to carry out tasks. The fact that we get delayed feedback from the garden as to the success or not helps to build skills in the helpful context of having the weather or pests to partly blame if something doesn't work well.

The physical activity of gardening, whether strenuous, such as turning a compost heap, or dexterous, such as pricking out seedlings, connects us to the world and engages us in a multisensory aesthetic experience that delivers fresh sensations on each occasion. This might be warming sunlight or cold wind, sweet or pungent smells, rough textured seeds or the reassuring smoothness of a well-worn trowel handle, delicate bird song or the thwump of a spade turning wet soil, new cobwebs sparkling with frost or the deep magenta of an opening peony. The world of the garden embraces us and enlivens our senses and awakens us to nature. We tune into this aesthetic smorgasbord of sensations particularly strongly, I think, because we are involved in the making or care of the garden. Unlike visiting a public garden - no matter how beautiful – working in a garden seems to draw its gardener into noticing what needs attention or what is doing better than expected and what the next task will be. We are carried on a stream of meaningful engagement in the ever-changing environment encouraged by a sense of (unburdensome) responsibility. The question of 'what next?' is often answered by the garden, freeing the gardener from a confusing open ended matrix of possibilities, but with enough space to express creativity.

Social dimension

Strong evidence for the effectiveness of gardening in improving mental health is often attributed to its customary pairing with a social dimension, such as in community gardens or groups of patients working together in a therapy setting (Alaimo et al 2016, Sempik et al 2013). Humans are social beings and the isolation and alienation that is often experienced in poor mental health makes matters worse. Wellbeing for everyone is tied to the individual being embedded in a network of positive relationships (Malberg Dyg et al 2019) and those relationships become hard to maintain with poor mental health or conditions such as

dementia (Smith-Carrier et al 2019). In interviews with participants who had been prescribed community gardening, the value they find in social interaction and sharing tasks with others comes through. As one participant says:

When I first started coming I couldn't speak to anyone, and as time went on, I started to talk to a few people and then you're just embraced in this family. .. There is a sense of community, and yeah, a sense of belonging. (quoted in Stevens 2018, 269).

This is a typical response and the words that come up in these studies are things like: camaraderie, connection, learning together, making friends, and we are a team. There is a growing confidence that comes from having a role and even beginning to help others with gardening tasks; this comes across in many reports. Participants seem to transition from being patients, to useful helpers, to guiding others new to the garden, and planning future developments. The distinction between those managing or guiding a project and the mental health clients/volunteers is often blurred and there is a sense that everyone is just working together (Sempik 2005 et al; Stevens 2018).

In reviewing the literature on community gardens as therapeutic horticulture it is often hard to determine which aspect is doing the heavy lifting in terms of psychological improvement: the garden or the social dimension? Perhaps that is a misguided question because although the social element is often cited by participants, the garden context seems to make a non-threatening accepting social interaction possible (Spano et al 2020; Smith-Carrier et al 2020; Malberg Dyg et al 2019; Stevens 2018; Leavell et al 2019). There is something about gardens and gardening that, in most contexts, is wholly welcoming and affords the kind of activities that can be carried out alone, or alongside others, or with others. This variety offers a helpful freedom for participants to move between these levels of interaction as suits their mood on the day or over a period of participation.

Another approach to that question, of whether it is the social interaction or the garden that is doing the therapeutic work, is to question the distinction itself. In growing and tending plants the groundwork for interacting with other humans is laid. The plants appear to participants as responsive but not judgemental. As a study notes:

Example statements included: 'the plants accept me as I am', 'I have always suffered low self-esteem, in the garden I don't have to measure up'. (Scott et al 2014, 15).

And as Elings says: 'Plants are non-judgemental, non-threatening, and non-discriminating' (2006, 52). Charles Lewis captures this well when he questions why working with plants is effective in a way not provided by some other craft activity.

Plants and people share the rhythm of life. They both evolve and change, respond to nurture and climate, and live and die. This biological link allows a patient to make an emotional investment in a plant; however, it is a safe, non-threatening investment. The commitment is one-way. Should the patient choose to withdraw, there will be no recriminations. In severely

damaged patients, such a relationship can signify the first willingness to reach out to another living being. (Lewis 1996, 104).

In gardening and responding to plants we quickly learn that mistakes can be made, but they can be rectified and the garden will still flourish (Sempik et al 2005, 70). In our relationship with plants, they feel forgiving in, for example, their ability to revive from neglect with just a bit of care or to push up new shoots even when all the visible leaves have been damaged by frost. Mistakes made in gardening feel like being guided rather than chastised. The garden space invites relaxation, or at least freedom from anxiety, this, along with seeing the value of observing and listening (tuning in to what is needed) is the very set of skills that help with positive social interactions. It seems that establishing a relationship with plants models what then becomes possible with other people.

Metaphor

The transition from relating with plants to relating with people introduces a further aspect of the gardening context: it is rich in metaphor. Much of our language in general, including for health and for psychological processes, utilises words related to plants and gardening tasks (Brook 2010a, 19). Words such as: growing, flourishing, wilting, tending, pruning, weeding, germinating, seeding, budding, fruiting, branching, new shoots, rooting, digging, reaping, and dormancy, all seep out into areas beyond the plant/garden context and capture aspects of human activity or states of being. Our language seems purpose built to facilitate a translation of plant activity to more general human reflection on life in general. Thus the helpful connections that participants make between their plants flourishing and how they are feeling (Hall & Knuth 2019a, 34) is reinforced because thought/reflection uses these words that can speak both of the plant and the person. As an early paper in this area expressed it:

Issues of germination and birth, of nurturance and caretaking, of unexpected reversal, traumas, loss are just a few of the powerful existential dramas that can be played out in parallel fashion in both human and plant worlds. Horticultural therapy often provides the patient with an opportunity for a microcosmic re-enactment in the world of plants of the kinds of struggles he or she is experiencing in everyday life. (Stamm & Barber 1978, 12).

In horticultural therapy tasks can be suggested that in some way speak to a participant's issues, the metaphor inherent in this forms a bridge to being able to address the issue (Neuberger 1990). Even negative aspects such as death and decay, in gardening come in manageable forms that allow, what Clatworthy et al call, 'benign contact' with those issues making them easier to address (2013, 216). We can weed out unhelpful thoughts, plant seeds of hope, branch out into a new activity, dig deep to get to the root of a problem, nourish our soil to find new strength and harvest the benefits.

The plant to human metaphor is often expressed when participants run together the cycles of nature and their own lives. The seasons of the garden relate easily to life stages and aging is seen as just part of nature. Something that resonates particularly with participants in horticultural therapy is a sense of hope that new growth brings (Smith-Carrier 2020).

Expressions about the weather and moods combine; a cloudy day can be seen as just a passing thing and tomorrow will be brighter, or the snow covering the soil protecting is what will emerge in spring. Nature, and particularly plant life, gives a sense of vitality and renewal that seems to refresh and enliven us. It also demonstrates the resilience that participants want to cultivate in themselves.

When trying to get at what is happening when a human is responding to a plant there does seem to be a kind of mirroring that is taking place. What I mean by mirroring is some kind of expression or recognition of a quality of a plant that touches us. This is a difficult thought to raise because it could so easily spill over into an obscuring anthropomorphising (Ryan, 2020, 104), where we attribute to a plant a human trait because of some appearance or action. However, there do seem to be occasions where engaging with plants, whether through their beauty or vulnerability, opens us up to a recognition of something in ourselves. The curled fronds of a fern speak to us of closeness, of love even. We connect to the plant *as if* there is some fellow feeling. The resemblance, the mirror, has brought us up sharply to recall closeness, being nurtured, a seedling pushing up through the soil can fill us with hope or adventure, and a towering redwood suggests soaring. Mirroring can be emotionally negative as well, such as encountering a plant wilting through lack of moisture or eaten away and seeing in this a personal problem or regret. However, in my experience of this phenomenon it is less common than the impact of a humorous or touching similarity: whether to foolhardiness, persistence, opportunistic cheekiness and so on just lightens the day through making an imaginative connection.

Perhaps, as in mirroring other people, our mirror neurons (Rizzolatti 2009) take on the feel of the form that a plant is making and we have an inner soul movement that picks up from that form and we feel as if we make it in human form. Mirroring the form of the plant recalls to us somatically that, for example, caring or soaring exists and we get a taste of what that would feel like.

Beauty

Participants in therapy situations or those just reporting finding relaxation or solace in their gardens speak of the beauty of nature, particularly, flowers. The classical beauty of flowers seems to shape the light and space around them and shift the mood of the day. They give pause to our gardening activity as we drink in their colour and form or perfume.

The role of beauty is clear in an interesting study, which focused on the impact on stress levels through the intervention of providing planted containers for the tiny paved front areas of houses in a socially deprived neighbourhood. Here gardening as activity was minimal as the planted containers were put in place by the researchers, but the impact on participants was impressive. One of the responses is used in the title of the paper 'It made me feel brighter in myself' (Chalmin-Pui et al 2021). The intervention did help with managing stress (as measured by saliva cortisol patterns), but it is striking to see how little beauty is needed to shift moods or give a sense of pride and motivate people to improve their conditions. As the researchers report:

All residents reported that they feel more cheerful and lifted their emotions when viewing them. They talked about better moods upon leaving/returning to the house. Though experienced by all, qualitative

assessment of emotional intensity during interviews suggested that this was most acutely appreciated by people struggling with poor mental health.

And they go on to quote a participant:

“It’s lovely. It really cheers me up [...] I love nature, and I see so little of it. So every time I get out of the house, I get a little wave of pride. It gives me a lift, a little swing in my step. Every time”. Female, 51 (2021, 7)

With the aspect of beauty it is easy to be drawn straight to the visual aesthetic - the thing that strikes us immediately – but the other senses are also quietly enriched in the garden.

Aesthetics (as the root term *aesthesis* suggests) involves all the senses and in the aesthetics of the everyday the less obvious sources of rich aesthetic experience are recognised as important resources in our experiential life (Saito 2020). The garden is a place that invites a full immersion into sensory experience. The feel of the soil was mentioned above, but the various textures of leaves, from furry to glossily smooth, invite touch, as does the comforting feel of handling well-worn tools. The feel in the hand of a simple tool that extends one’s ability to dig or prune or rake fallen leaves is satisfying and empowering. There is a fittingness that brings pleasure.

Working in the garden – as opposed to just viewing it – has the health benefit of physical exercise, but digging deeper into the kinaesthetic experience we can relish the calming nature and particular pleasure of repeated purposeful movement. We can even relish the satisfying sensation of tired muscles after doing such work. Garden tasks have variety as well, from heavy digging to the delicate motor control needed for handling seedlings. Here we need a delicacy of touch as we tuck the intricate roots of these tiny plants into a fine soil. Such tasks move us into the fine motor movements that make up this skilled and caring work.

The perfume of flowers and the volatile oils in herb leaves can be experienced intimately as we breathe in these fragrances while moving around the garden. Such smells invite us to pause and take in more of what is happening in nature. Beyond the obviously beautiful smells we can also develop an appreciation of the pungency of leaf mould or well-made compost. The role of smell in reminiscence is well recognised and garden smells have been found to trigger ‘the recall of pleasant memories’ (Smith Carrier et al 2020, 12).

Something that is often valued in gardens is the absence of sound, e.g., traffic noise (Stevens 2018, 7). However, what starts as an absence soon becomes an awareness of the presence of other sounds: birdsong, insects, water, the scrape of a hoe, the sound of a garden forking striking a rock under the soil. Once noticed these sounds become louder and more informative. We tune in to them and they become distinguishable, but also woven into the garden experience. In a study of the way gardens became a refuge, an oasis, for many during the covid-19 lockdowns participants describe how they had become more attentive to nature and as one put it ‘the birds felt louder’ (Marsh et al 2021, 4). This study also noted a shift in attitudes to the garden, its role as sanctuary in troubling times prompted a newly found or intensified gratitude. There was also a greater relaxation about

maintenance, preferring a more contemplative approach. As the researchers put it: ‘some gardeners in our study felt they had been re/acquainted with life’s “essence”, or with that which was felt to be of fundamental importance, during Covid-19.’ (Marsh et al 2021, 4).

Unselfing

The way gardens and working in gardens can shift a mood is readily experienced and this is often reported in terms of taking one out of oneself. Everyday concerns drop away through absorption in nature and the task at hand. As we saw above, the focus on other senses that the garden context invokes is a way to stop self-critical or depressing thoughts, even to stop the intrusive voices that figure in some mental illness (Sempik et al 2005: 87). This aspect of moving away from self-absorbed thoughts into activity is aided by the plants themselves and goes beyond momentary distraction. Participants (and gardeners in general) report a shift in their attitude or outlook on life. For example, the growing awareness that with plants you can’t dictate your own desires, you need to listen and respond to what the plant needs (Brook 2010a, 22). As one participant said:

You can’t force things. The best thing you can do is deeply understand what things are going to do naturally, because everything is going to act in its own best interest whether it’s a plant a person or a cat (quoted in Ramirez-Andreotta et al 2019, 4).

Charles Lewis captures this sentiment well when he says: ‘Gardening teaches us that we cannot always have our own way and yet allows us to feel good about that reality.’ (Lewis 1996:8). To garden is to be involved in positive mental states or habits of mind such as trust, hope, care and even reverence. We are not in control and yet we collaborate with nature to bring something about; some change for the better (Cooper 2006, 95).

There is in gardening an easy entrance to a deeper sense of reality – the world outside of oneself is made clearer. This might be through the need for care, as we notice a plant needing water or through more classically aesthetic experiences such as beauty. Iris Murdoch speaks of this impact of beauty as an ‘unselfing’ where our usual consciousness, wrapped up in our self, drops away and there is only the beauty: in her example a hovering kestrel. (Murdoch 2001, 82). In the garden beauty and wonder can create this movement from self to world. For Murdoch this shift is where the reality of the world breaks through. Strong experiences of unselfing are often connected to the aesthetic category of awe: usually associated with natural phenomena of great size or power.

In aesthetics beauty is often aligned with pleasure and the sublime with awe. Both can bring a certain decentering of the self, but a sense of awe is usually considered even more powerful in stripping away the ego and enhancing a sense of connection to something greater. Awe is often triggered by vastness and can have an edge of fear. Nature is full of opportunities for awe, from the vastness of a starry sky, the thunder of a huge waterfall or towering peaks. For plant generated awe we usually think of large or ancient trees. With awe comes a recognition of one’s smallness one’s insignificance in the face of reality and with that the diminishment of the problems that had previously seemed overwhelming (Piff et al 2015, 884). Awe experiences are also strongly correlated with openness, prosociality

and generosity (Piff et al 2015; Zhang et al 2014) which takes us back again to the way social connection, as a positive aspect of mental health, can be tied to access to nature.

A speculative conclusion

Though anchored in the literature on therapeutic horticulture the preceding garden aspects have also drawn from philosophical thinking and experiential work on the nature of gardening and particularly our relationship to plants. I have explored some of those instances where something of plant nature breaks through our ordinary consciousness, because this might shed some light on why plants have the effects that the wellbeing literature shows they have on anyone, in even the most unpromising situations, and with very little exposure. Something that runs through these occasions (of digging, of stopping to listen, of finding that seed have sprouted, or experiencing beauty, and of finding a mirror of our potential selves in a plant) is the way nature can bring a sense of connection to something. Moreover, as the unselfing idea suggests the connection is not between me as subject and an 'other' but more like a consubstantiality: a sharing of the fabric of being, the flesh of the world as Merleau-Ponty expresses it (Merleau-Ponty 1968, 139; Brook 2005). The dissolving of an individual ego that is part of these encounters, particularly beauty, seems a necessary part of encountering that being. The plant realm, particularly as experienced through gardening, strikes me as an easy portal to be able to experience the fabric of the world as a shifting process and not a world of discrete objects in space. The occasions of surprise encounter give us a taste of this; our dualistic preconceptions are unseated and we are led to a different style of encounter. The meeting, or rather absorption into being, that the plant realm can trigger feels like something very old, some older cultural connection shaped from a very real primeval consubstantiality. This sense, however minimally glimpsed, that provides a freeing sensation dislodges us from other cares and worries and places us in a new and healthier relationship to the world, one that is stronger, more resilient and closer to reality.

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