

# Photosynthetic Visions



Photosynthetic Visions is a research project investigating the climate emergency, plants and eco-art therapy techniques to encourage land and plant literacy among participants.

This is a seven-day reflective process, using the premise of land as pedagogy and planthropocentric thinking. This process can be used and adapted by participants to deepen their relationship with their local eco-system and is for those wanting to learn how to fulfil their ecological function as humans and conspire with the vegetal world.

In this research project, planthropocenic philosophy and practices are proposed as an antidote to anthropocentric thinking and behaviour and an alternative to technological solutions to climate change. The practical component of *Photosynthetic Visions* involves skill-building in propagating plants, observational analysis of landscapes and creative techniques to root into the planthropocene.

There will eventually be a final handmade version of Photosynthetic Visions including more artworks and poems by the author.

# Introduction

The next week of contemplation is based on a different aspect of a fruiting plant each day.

This process was created in an effort to provide solace and healing from overwhelming grief and anxiety over the ongoing destruction of our living earth. We are living through the sixth mass extinction and a climate emergency that not only has dire consequences for humans but for much of life on earth. Some of us feel this deeply yet are often overwhelmed at the scale of the issues at play and the complexity of addressing them.

After spending much time researching climate change and becoming frustrated at the slowness of governments, businesses and institutions to make the changes necessary to avert some of worst possible futures on a warming planet, personally I hit a wall.

I knew all the things I should be doing as an individual to reduce my carbon footprint, but I had cared deeply for so long that the caring was starting to dry up and be replaced by lethargy mixed with moments of rage. This research project became a way to re-engage and get inspired once again with the beauty of this eco-system I find myself in.

In the process, I discovered...I know so little about plants! Why was I never taught about the vegetal world? Yes, I always knew their significance but like many others I had always focused on animals, birds and other humans. Most of us focus on other humans, really if we don't, we are seen as bad humans. So, this is entirely natural. Yet now, in the climate emergency we find ourselves in, this hyper focus on humans; what humans need and what humans want is taking us to a place of no return. *Up to one million plant and animal species face extinction, many within decades, because of human activities*<sup>1</sup> This should be highly upsetting news to most people, yet, when we talk about environmental issues, it usually comes back to avoiding human suffering and finding technological solutions that allow us to live separate from natural rhythms and balances.

*"In Eastern Uganda, there are no seasons anymore. Agriculture is a gamble." Once believing that God was wreaking revenge on her people for some mysterious wrongdoing, Constance now knew the real cause of unpredictable weather: "It was not until I went to a meeting about climate change that I heard it was not God, but the rich people in the West who are doing this to us. We are asking that they stop or reduce (their emissions)."*<sup>2</sup> – Account of climate change witness Constance Okollet from Eastern Uganda, delivered at the UN Climate Summit 2009.

A carbon footprint is the total amount of greenhouse gases (including carbon dioxide and methane) that are generated by our actions.<sup>3</sup>

Do you know your carbon footprint? Or that of your workplace or organisation?

Chances are, that if you live in the United States, Australia, UK and Canada (An English language speaking country) you live in a place that has the highest carbon footprint per person, also known to others as "a rich person in the west". Australia has an average per person carbon footprint of 17 tonnes, followed by the US at 16.2 tonnes, and Canada at 15.6

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<sup>1</sup> Article: 1 million species under threat of extinction because of humans, biodiversity report finds, by Denise Chow on May 6, 2019. <https://www.nbcnews.com/mach/science/1-million-species-under-threat-extinction-because-humans-report-finds-ncna1002046>

<sup>2</sup> Pg.16 'Climate Justice: Hope Resilience, and the fight for a sustainable future' by Mary Robinson. (2018)

<sup>3</sup> <https://www.nature.org/en-us/get-involved/how-to-help/carbon-footprint-calculator/>

tonnes. This is more than 3 times higher than the global average, which in 2017 was 4.8 tonnes per person.

*In many of the poorest countries in Sub-Saharan Africa – such as Chad, Niger and the Central African Republic – the average footprint is around 0.1 tonnes per year. That's more than 160 times lower than the USA, Australia and Canada. In just 2.3 days the average American or Australian emits as much as the average Malian or Nigerien in a year.*<sup>4</sup>

So really, Constance and many others around the world have every right to be angry at rich people like myself. Our lifestyles, love of travel, energy systems, industries and way of working is literally killing people in poorer nations and will displace and kill many more, while also wiping out whole species in the coming decades, if we continue. We should be doing everything we can to avert this crisis, change our carbon emitting ways and try to prevent the extinction of one million species, over the coming decades.

*"We need a whole new way of thinking.... We need to cooperate and work together and share the resources of the planet in a fair way. We need to start living within the planetary boundaries, focus on equity and take a few steps back for the sake of all living species. We need to protect the biosphere, the air, the oceans, the soil, the forests.*

*This may sound very naive, but if you have done your homework then you know that we don't have any other choice. We need to focus every inch of our being on climate change, because if we fail to do so than all our achievements and progress have been for nothing...But this does not have to be. There is still time. According to the IPCC report we are about 11 years away from being in a position where we set off an irreversible chain reaction beyond human control."*<sup>5</sup>  
– Greta Thunberg speaking at the European Economic and Social Committee, Brussels, February 21, 2019

People like me, and possibly you too, need a "whole new way of thinking". We cannot purchase our way out of this one, despite the multitude of new "green" and "ethical" options now available.

One way of thinking I have begun to fall in love with, is the idea of the Planthropocene, as proposed by Natasha Myers in her recent article "How to grow liveable worlds: Ten (not-so-easy) steps for life in the Planthropocene"<sup>6</sup>.

Perhaps you should read this article before going any further. (see reference below for the link) Myers playfully proposes a way out of the Anthropocene.

*"We have to remember that we are living under a spell, and this spell is destroying our worlds. It's time to cast another spell, to call other worlds into being, to conjure other worlds within this world. It is clear that the situation we find ourselves in now leaves us at the limits of language, and grasping at the edges of imagination. We need art, experiment and radical disruption to learn other ways to see, feel and know."*<sup>7</sup>

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<sup>4</sup> Article: Where in the world do people emit the most CO2? by Hannah Ritchie, October 04, 2019.

<https://ourworldindata.org/per-capita-co2>

<sup>5</sup> Audio: "You're acting like spoiled irresponsible children". Speech by Greta Thunberg, climate activist. 21/02/2019. Duration: 10:04 minutes. Copyright: EU <https://www.eesc.europa.eu/en/news-media/videos/youre-acting-spoiled-irresponsible-children-speech-greta-thunberg-climate-activist>

<sup>6</sup> How to grow liveable worlds: Ten (not-so-easy) steps for life in the Planthropocene by Natasha Myers, 7 January 2021 <https://www.abc.net.au/religion/natasha-myers-how-to-grow-liveable-worlds:-ten-not-so-easy-step/11906548>

<sup>7</sup> How to grow liveable worlds: Ten (not-so-easy) steps for life in the Planthropocene by Natasha Myers, 7 January 2021 <https://www.abc.net.au/religion/natasha-myers-how-to-grow-liveable-worlds:-ten-not-so-easy-step/11906548>

The process created as part of this project, attempts to inhabit the Planthroposcene, by way of art and creative expression. I am not entirely sure in this process; I was able to avoid anthropocentrism entirely. Planthropocentric thinking is a relatively new, rock scramble through bushland at night guided by moonlight (as opposed to “path”). If this sounds like fun, then this process is for you, but really this process is for anyone who would like to fall in love with plants, to get to know them a little better and hopefully over time, learn how to sustain vegetal life. It involves tuning into to the plants, trees and landscapes around you, finding joy and solace in their chlorophyll, green, life-giving beauty.

It was a process created in Summer, so you may also want to also try this process in Summer. Each day we will consider a different part of the plant, from the seed to the fruit and each day I will share with you a story related to this part of the plant by a different writer. We will also embark on an eco-art activity to explore the themes and functions of this part of the plant.

Let us begin with a particular plant kin; *Eucalyptus sideroxylon*, commonly known as Mugga Ironbark or Red Ironbark. To the Wiradjuri people, on whose land I live, ki is known as Magaa.<sup>8</sup>

**Note:** Throughout this process I will be referring to plants by the pronoun “ki” and the plural “kin”. Robin Wall Kimmerer makes this suggestion as an alternative to referring to plants as “it” and “its”.<sup>9</sup>

*In the English language, if we want to speak of that sugar maple or that salamander, the only grammar that we have to do so is to call those beings an “it.” And if I called my grandmother or the person sitting across the room from me an “it,” that would be so rude, right? And we wouldn’t tolerate that for members of our own species, but we not only tolerate it, but it’s the only way we have in the English language to speak of other beings, is as “it.” In Potawatomi, the cases that we have are animate and inanimate, and it is impossible in our language to speak of other living beings as “it”s.<sup>10</sup>*

When we relegate plants and animals as mere “it”, we are giving ourselves licence to not consider “it”, as a living being with needs and a right to exist. “it” is something that us humans use and do what we like with.

*...the language of “it,” which distances, disrespects, and objectifies, I can’t help but think is at the root of a worldview that allows us to exploit nature. And by exploit, I mean in a way that really seriously degrades the land and the waters...<sup>11</sup>*

In establishing plants and animals as “ki” and “kin” we recognise them as and ourselves as equal players in a dynamic, living earth system. By recognizing “ki” and “kin” in our language we are also distinguishing between the inanimate “it” of non-living man-made things and the growing, breathing, sensing living plants and animals that once lost, cannot be replaced.

*I’ve been thinking about the word “aki” in our language, which refers to land. And there’s a beautiful word — “bimaadiziaki,” which one of my elders kindly shared with*

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<sup>8</sup> Wiradjuri Plant Use in the Murrumbidgee Catchment. Compiled by Alice Williams and Tim Sides. Published by the Murrumbidgee Catchment Management Authority, Wagga Wagga. Copyright © State of New South Wales, 2008.

[https://archive.ils.nsw.gov.au/\\_data/assets/pdf\\_file/0009/495261/archive-wiradjuri-plant-use.pdf](https://archive.ils.nsw.gov.au/_data/assets/pdf_file/0009/495261/archive-wiradjuri-plant-use.pdf)

<sup>9</sup>Podcast: On Being with Krista Tippett with Robin Wall Kimmerer. *The Intelligence of Plants*. Original Air Date: February 25, 2016.

Text taken from transcript. <https://onbeing.org/programs/robin-wall-kimmerer-the-intelligence-of-plants/>

<sup>10</sup> As above.

<sup>11</sup> As above.

me. It means “a living being of the earth.” But could we be inspired by that little sound at the end of that word, the “ki”? And use “ki” as a pronoun, a respectful pronoun inspired by this language as an alternative to “he,” “she,” or “it,” so that when I’m tapping my maples in the springtime, I can say, “We’re going to go hang the bucket on ki. Ki is giving us maple syrup this springtime.” This, then, of course, acknowledges the being-ness of that tree, and we don’t reduce it to an object....

... “ki,” is, of course, also the word for “who” in Spanish and in French. It turns out that, of course, it’s an alternate pronunciation for “chi,” for life force, for life energy. I’m finding lots of examples that people are bringing to me where this word also means a living being of the earth.

... “kin” is the plural of “ki.” So that when the geese fly overhead, we can say, “Kin are flying south for the winter. Come back soon.” So that every time we speak of the living world, we can embody our relatedness to them. <sup>12</sup>

I have chosen Magaa, to guide us through this process after much research and deliberation. Originally, I chose the weed *Lactuca serriola* because I feel that weeds are sorely misunderstood, but it turns out *Lactuca serriola* is self-pollinating and wouldn’t work in this context because it was important to include a section on the pollinators. (Check the notes section on the last page to read about weeds.)

Looking at other creature pollinator plants, led me to thinking of plants and trees indigenous to Wiradjuri Country. The old trees who have been here, on this land a long time. There are many trees I love near my home but there is one who brings me so much joy and delight whenever ki is flowering, and this of course is Magaa. Ki’s red blossoms to me, are more of a joyful hot pink and so ki always stands out on a summer walk. Our beloved and critically endangered Regent Honey Eater is also a big fan. As you can see from the picture below.



Photograph by Greg Roberts of the natural history blog, Sunshine Coast Birds. <sup>13</sup>

<sup>12</sup> Podcast: On Being with Krista Tippett with Robin Wall Kimmerer. *The Intelligence of Plants*. Original Air Date: February 25, 2016. Text taken from transcript. <https://onbeing.org/programs/robin-wall-kimmerer-the-intelligence-of-plants/>

<sup>13</sup> Blog: sunshinecoastbirds -A natural history blog by Greg Roberts, Sunshine Coast, Australia <http://sunshinecoastbirds.blogspot.com/2018/04/regent-honeyeater-in-spotlight.html>

*Magaa is a small to medium-sized tree that is endemic to eastern Australia. It has dark, deeply furrowed ironbark, lance-shaped adult leaves, flower buds in groups of seven, white, red, pink or creamy yellow flowers and cup-shaped to shortened spherical fruit.*<sup>14</sup>

My research process and thinking about the Planthroposcene led me to the question...How can we as humans (rich persons in the west) work with all kinds of plants to radically shift our own perceptions and our eco-systems to prevent the worst effects of Climate Change?

The aforementioned anthropologist, Natasha Myers asks us to name plants as our most powerful ally.<sup>15</sup> Tim Flannery one of Australia's leading writers on climate change, names seaweed and large-scale seaweed farming as one of humanities best hopes for drawing carbon from the atmosphere to slow global warming.<sup>16</sup>

The vegetal world offers many solutions to our contemporary problems, if only we can grow our understanding of plants and their eco-systems. Sadly, unless you study science, ecology, agriculture, grew up with gardeners/farmers or have indigenous heritage, the vegetal world is not part of our education. We are becoming plant and landscape illiterate. Which is odd when many of us are aware that we owe our very existence to plants.

Plants provide humans with vital oxygen through photosynthesis and they are largely responsible for our food, clothing, medicine, and shelter. This relationship is hardly one-sided, in return humans expel carbon dioxide and disperse seeds, so plants can reproduce and thrive. You would think that given we owe our existence to plants; we would be more grateful for the gifts they give us or acknowledge the partnership through understanding them better.

The next 7 days are designed to help you connect with the plants in your neighbourhood, learn about them and to observe and better understand them, their needs and their gifts. Myers would call this, learning how to co-conspire with them<sup>17</sup> and Pope Francis would consider this to be environmental education.

*Environmental education should facilitate making the leap towards the transcendent which gives ecological ethics its deepest meaning. It needs educators capable of developing an ethics of ecology, and helping people, through effective pedagogy, to grow in solidarity, responsibility and care*<sup>18</sup>.

There have been many other influences from the ecology and spiritual ecology community, as well as my own local community that have led to the development of this process. Namely, Rahamim Ecology Centre, the Sisters of Mercy, Pope Francis (Laudato Si), Thich Nhat Hahn, Joanna Macy, David Abram, Monica Gagliano and Robin Wall Kimmerer.

Locally, the Wiradjuri Elders, the River Yarners, the members of the Bathurst Community Climate Network and my dear friends, Sally Neaves, Alice Blackwood and Jen Ringbauer who are passionate environmental educators.

So, it's high time we made friends with and loved just a little bit more, the plants in our lives, all other plant kin and bring about the Planthroposcene.

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<sup>14</sup> From Wikipedia, the free encyclopedia. [https://en.wikipedia.org/wiki/Eucalyptus\\_sideroxylon](https://en.wikipedia.org/wiki/Eucalyptus_sideroxylon)

<sup>15</sup> 'How to grow liveable worlds: Ten (not-so-easy) steps for life in the Planthroposcene' by Natasha Myers. Published on [www.abc.net.au/](http://www.abc.net.au/). Thursday 7 January 2021.

<sup>16</sup> 'Can seaweed help curb global warming?' Ted Talk with Professor Tim Flannery.

<sup>17</sup> 'How to grow liveable worlds: Ten (not-so-easy) steps for life in the Planthroposcene' by Natasha Myers. Published on [www.abc.net.au/](http://www.abc.net.au/). Thursday 7 January 2021.

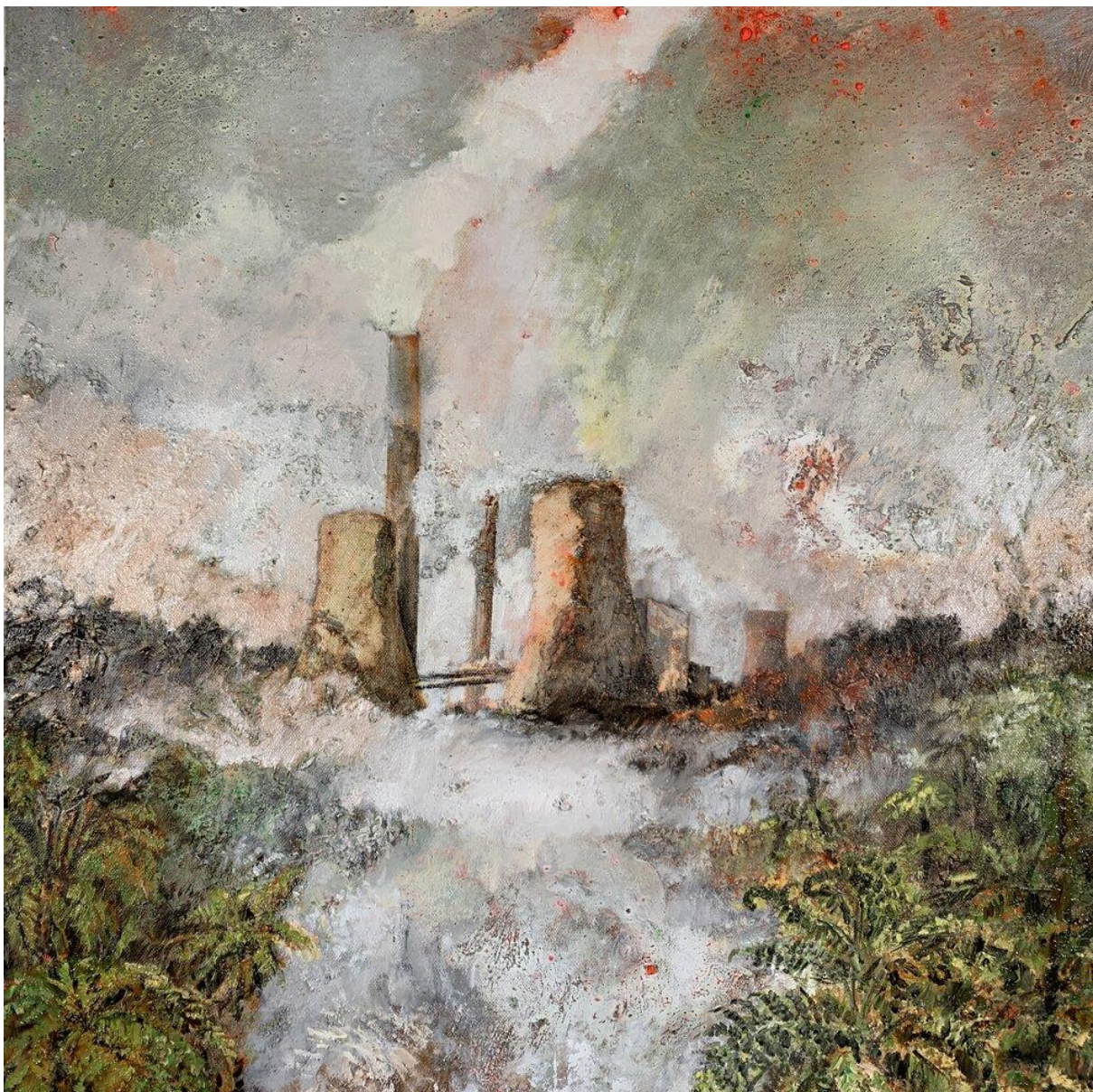
<sup>18</sup> Pg.164 On Care for Our Common Home: The Encyclical Letter Laudato Si' Catholic Church, Monsignor Kevin W Irwin (2015)

The next seven-day process is a creative way to help you do just this.

**\*\*\* Note:** If you live in an environment with a distinct lack of plant life. Use the lack of plants here as the consideration and contemplation. Complete the process using the small signs of plant life you can find, but also contemplate their scarcity.

One artist who stays with the trouble this presents, is Australian artist Mandy Martin<sup>19</sup>.

She has been painting mining industry landscapes for over two decades. Her work is distressing but beautiful and invites us to deeply consider how art and creative practice can bring presence and awareness to the devastation of earth and the climate.

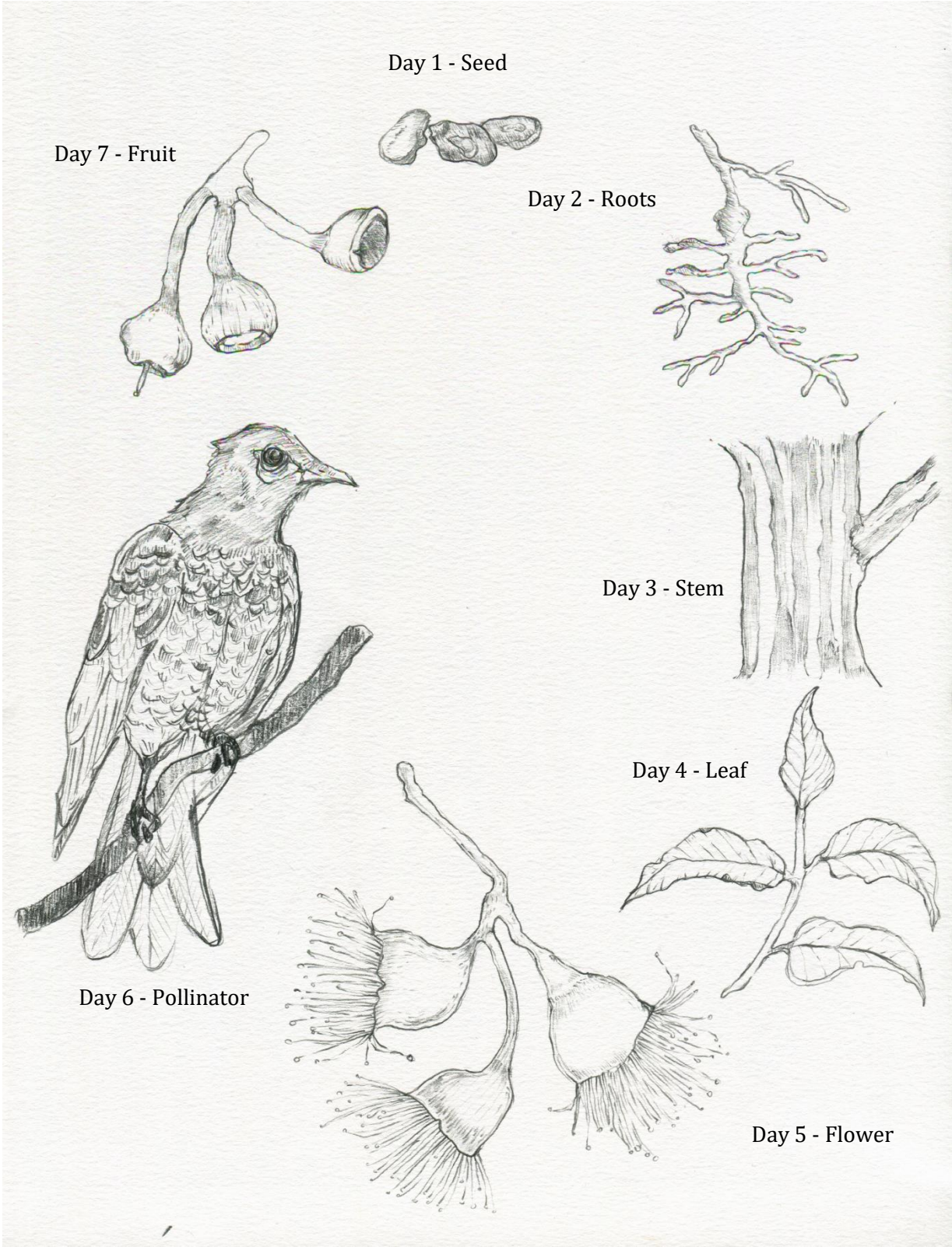


Mandy Martin " STILL 3", 2019, Pigment, Acrylic and oil on canvas, 50 X 50 cm.

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<sup>19</sup> Mandy Martin: <http://mandymartinartist.com/>

Our dear friend Magaa, demonstrates how we will embark on this process.



'Circle; Eucalyptus sideroxylon' by Pricilla Ambrosini 2021



## **Each day for the next 7 days we will:**

- ❖ Read the story of for that day (20mins)
- ❖ Water the seeds of happiness (10 mins) Lovely to do first thing in the morning.
- ❖ Visit your sit spot for at least 1 hour and there do the following
  - Resting in awareness (20mins – 1 hr)
  - Observation of ecosystem (20mins – 1hr)
  - Journaling about observations (10mins – 30 mins)
- ❖ Complete an eco-art activity. It does not have to be “good” (20mins – 3hrs)
- ❖ Reflect on the eco art activity, through journaling (20mins – 1 hr)
- ❖ Walk the land (20mins – 2hrs) Lovely to do this at dusk.

You will need to set aside anywhere from 3 – 8 hrs to complete the reflections for each day.

## **Preparing for the journey ahead**

*“Peace is every step”*

– Thich Nhat Hahn<sup>20</sup>

We will start today in preparation for the next seven days by doing a few tasks. I encourage you to have a “*buy nothing day*” approach to all below.

Instead borrow, forage, make and mend, try to avoid the convenience of purchasing as much as possible.

### **#1 Plant some seeds**

You can do this however you like really, the main idea is to take a seed, put it in soil and then nurture it so it can grow. However, I would encourage you to avoid what might be considered the normal way of doing this where I live. Which is go to the local chain, cheap as, hardware store and buy everything you need there, this might be the easy option, but it slightly defeats the purpose of attempting to conspire with the plants.

If you would like some further pointers on how to do this, keep reading.

### **Things you will need:**

- ❖ **Seeds.** (Before you buy them...See if any avid gardening friends have any to spare?)  
If you are buying seeds, choose local and organic seeds. Try to avoid major chain stores as they often sell seed that has not been sustainably cultivated or may involve criminally cheap labour of farmers. If you are a beginner start with a plant kin that will germinate quickly and easily. For instance, peas, rocket, leek, lettuce, sweet pea. Stick to what will grow this month and check whether it is in season before you plant it. If you are more experienced with planting seeds, perhaps try propagating native plants.



<sup>20</sup> 'Peace Is Every Step: The Path of Mindfulness in Everyday Life' by Thich Nhat Hahn 1996.

- ❖ **Seed Raiser Potting Mix or a patch of soil.** If you are slightly new to planting seeds it is best to use special seed raising potting mix or you can use a mix of coir and sand. Just remember, whatever you use must be sterile. Using garden soil in pots doesn't work terribly well. I am still in the process of trying to source these items without plastic. In Australia it is quite tricky.



- ❖ **Watering can, spray bottle, or any bottle.** Since you will be watering your seedlings daily, you will need something to water them with. For very small seedlings, it is better to use a spray bottle, or watering can with a very thin spout. If you don't want to buy one, other low-cost options are to use a teapot. For a while I was using discarded plastic bottle and punched holes in the lid, so the water didn't drown the seed but dripped out much more slowly.

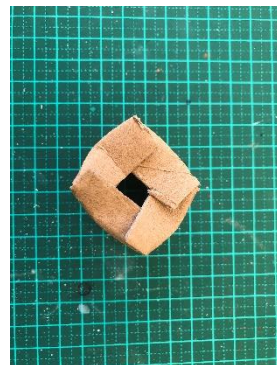


- ❖ **Vessel to raise seed in.** Just remember any plastic you use will be around longer than either you or the plant. One idea that I find super handy is to save any cartons or vessels that you might usually throw away. There are also ways of using recycled paper and folding it into a pot shape, look online for details of how to do this. If you eat eggs, you can use old egg cartons. My favourite way is to save toilet rolls. See below for instructions.

### Biodegradable Toilet Paper Roll Seedling Pots



- Step 1: Fold the Roll into a Square.
- Step 2: Cut the toilet Roll in Half.
- Step 3: Make four cuts, into the. Bottom of the roll.
- Step 4: Crease the Flaps.
- Step 5: Fold the Flaps Cardboard Box Style.
- Step 6: Plant away.



Remember *peace is in every step*, so enjoy the process of planting new little lives.

Each day this week we are going to water these seeds and watch them grow. Thich Nhat Hahn likes to talk about *watering the seeds of happiness* and so each day we will do this literally. Every time you see these seedlings and you water them. Think of it as *watering the seeds of happiness*. Start today by giving them a drink.

## **#2 Find a sit spot**

Over the next week you will need a place you can sit, in observation of your plant kin and their visitors. Your sit spot should...

- ❖ Be a place with a variety of plant life and their more than human visitors.
  - ❖ A place that is near your home and within walking or bike riding distance.
  - ❖ A place that feels welcoming and relaxing to you to sit for any length of time.
- Make sure there is enough shade.

Your sit spot can be your backyard, a balcony, a friend's garden, a park or if you live close to any kind of wild or green space this is ideal. You want to try and avoid travelling a long distance to get there or avoid driving there if possible.

You will return to this place each day. So, feel free to bring anything with you that will make it more comfortable to sit here, such as a bottle of water, chair, blanket, or cushion.

After trying a few different sit spots near my house, I chose to make my sit spot for this seven-day process in my backyard.



There is so much life happening in this small garden space and so many creature kin visitors, like this mama brushtail possum currently inhabiting my roof.

While it is not ideal for possums to live in your roof, I am waiting till her baby is big enough for them to leave together safely, before I gently move them into the possum boxes installed in nearby trees.



My sit spot.

## **How to find a sit spot...**

Ask consent to be here and touch the soil. "May I sit here?"

Do you feel welcome here? Tune in to your senses.

Spend some time just sitting here. If you feel agitated or that something is not quite right. Move on and keep looking. If you feel safe and that you could sit here for some time, then you may have found your sit spot.

Acknowledge the traditional custodians of this land if you are not indigenous yourself.

If you are indigenous you may have customs already about sit spots and how to find them, ask your local elders if you are not aware of these.

You can also acknowledge your ancestors if you are of this land.

## **#3 Walking the land**

Each day we will walk the land around your home.

You may want to think today about walking tracks that you complete near your home.

The idea is to get to know the plants in your neighbourhood, even if you live in a city. If you are not able to walk the land around your home, you could exchange this for barefoot walking meditation and getting to know the plants in your immediate vicinity.

If there aren't any perhaps bring some new indoor plants into your life and get to know them. If you live in the city where there are very few plants, spend time considering why this is and use the walks and sit spot to dream up where plants might thrive.

## **#4 Gather an artist's toolkit**

We will also be making an artwork each day. I encourage you to resist the urge to buy any special art materials and instead use what you already have around your home or use what you find on walks.

Berries and tree sap can make amazing inks. Paintbrushes and pens can be fashioned from sticks, reeds, grass, hair and feathers. While I would have loved to include how to make these materials, I was unable to this time round due to time constraints. Perhaps look online to look up how to make these kind of natural art materials or give it a go and trust your intuition.

Feel free to have a look around your home now and see what you could use? Do you have any art making materials or stationery already? What surfaces could you work on? Do you have any old card, cardboard, or paper to work on? Could you keep some cardboard and surfaces aside over the next few days?

If you would like all your artworks in one place, you could use a journal or a folder. Again, there is no need to buy anything. Often, I will make my own artist books or back at art school I would simply take a found book, often a very old piece of fiction with a pretty cover and then create artworks over the text. Thank you to my old flatmate Laura, who taught me how to do this.

We will also be journaling each day; you can simply use scraps of paper or you can keep all your thoughts and words in one place by using a journal or book. As before, see what you already have at home before purchasing anything new.

## **Other things to remember:**

Please know, we are not looking to plants to rediscover ourselves, we do not want to make this journey all about us. If we constantly look to the other to understand more about ourselves, this can be thought of as a kind of narcissism.

This journey will involve lots of time spent outdoors. Please make sure you protect your body while outside. You may like to wear, covered shoes, long sleeves, long pants, a hat and insect repellent or sunscreen.

You may also want to download these apps to help you with your practice over the next seven days. Insight Timer<sup>21</sup>, Plant ID<sup>22</sup>, iNaturalist<sup>23</sup> or any other plant and wildlife apps specific to your area.

*“The plant exists in a state of open communion in which the fiction of personalised boundaries collapses”<sup>24</sup> - Monica Gagliano*

To create a sacred space for yourself during this time, you may want to limit your time spent talking with other humans and spend the next week in solitude. If this is at all possible.

Other helpful ways of creating a sacred space of learning is to avoid watching TV or spending time online. It may also be helpful to rise with the sun and go to bed when it grows dark. However, I am quite aware that these things may be completely impossible for people in shared living arrangements and families. Feel free to complete the next seven days in whatever way suits you and your arrangements, also feel free to complete each day, one day a week for seven weeks. This is your journey and it is up to you how you wish to proceed.

The focus of this creative and reflective process is to slow down enough to gain valuable insights from the ecosystems you live in. Accepting land as pedagogy or teacher, we develop awareness to hopefully become more deeply in touch with earth systems and better know how to fulfil our ecological function as human, within our own place of reference.

I do not offer any definitive answers only a process which may lead to you developing your own answers for how restore and re-story the green and wild spaces near you.

If you are Christian or Catholic this is also a way of connecting with the kin-dom of God<sup>25</sup>, recognising our body does not end at our skin and we are not separate from the eco-systems we live in.

*‘There are two reasons for not using the regular word employed by English Bibles “kingdom”. First, it is obviously a sexist word that presumes that God is male. Second, the concept of kingdom in our world today is both hierarchical and elitist – as is the word “reign”. The word “kin-dom” makes it clear that when the fullness of God becomes a day-to-day reality in the world at large, we will all be sisters and brothers – kin to each other; we will indeed be the family of God.’*  
- Ada María Isasi-Díaz

If you are a leader, you may want to use this program to connect with the questions of how your project or organisation benefits plants, eco-systems, and non-human creatures?

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<sup>21</sup> App: Insight Timer. <https://insighttimer.com/>

<sup>22</sup> App: Plant ID. <https://plant.id/>

<sup>23</sup> App: iNaturalist. <https://www.inaturalist.org/>

<sup>24</sup> ‘Thus Spoke the Plant: A Remarkable Journey of Groundbreaking Scientific Discoveries and Personal Encounters with Plants’ by Monica Gagliano 2018.

<sup>25</sup> Ada María Isasi-Díaz, *Mujerista Theology* (Maryknoll: Orbis; 1996), 103. as cited by Elizabeth Dowling, Keynote address, ‘Our Common Home - Our Common Spirit’ Staff Day, Our Lady of Mercy College, Heidelberg, August 9th, 2018.

What ways could plants, and humans conspire in your project or organisation?

In what ways could the humans you work with, give back to the landscape you live in?

Thank you for embarking on this journey with plant-kin and our more than human friends.

*“Prayer is a plant... but its growth depends on the care we take to nourish it”*

– Catherine McAuley<sup>26</sup>



Sketch of Bodhisattva Dharanimdhara, 'Bodhisattva Protector of the Earth' also known as the 'Earth Holder', on recycled cardboard in Eucalyptus sap ink.

### **EcoSattva Vows**

Based on my love of the world and understanding of deep interdependence of all things,

I vow...

- ❖ To live in Earth more lightly and less violently in the food, products and energy I consume.
- ❖ To commit myself daily to the healing of the world and the welfare of all beings; to discern and replace human systems of oppression and harm.
- ❖ To invite personal discomfort as an opportunity to share in the challenge of our collective liberation.
- ❖ To draw inspiration, strength and guidance from the living Earth, from our ancestors and the future generations, and from our siblings of all species.
- ❖ To help others in their work for the world and to ask for help when I feel the need.
- ❖ To pursue a daily spiritual practice that clarifies my mind, strengthens my heart and supports me in observing these vows<sup>27</sup>

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<sup>26</sup> Pg. 7 Quotations from the Writings of Catherine McAuley  
[https://www.mercyworld.org/f/45074/x/649958085d/catherine\\_quotes.pdf](https://www.mercyworld.org/f/45074/x/649958085d/catherine_quotes.pdf)

<sup>27</sup> Based on Joanna Macy's "Five Vows" from the Work that Reconnects and published in her book, Active Hope (p. 202). Collaboration between Joanna & One Earth Sangha's co-founders, Kristin Barker and Lou Leonard, developed & offered at the end of the first Eco-Sattva Training. <https://oneearthsangha.org/programs/ecosattva-training-v1/vows/>

## Day One: Seed



'Seed; Eucalyptus sideroxylon' by Pricilla Ambrosini 2021

A seed is: *'the fertilized ripened ovule of a flowering plant containing an embryo and capable normally of germination to produce a new plant'*.<sup>28</sup>

*"The question of whether seeds are alive or not perennially challenges classroom scientists. In fact, these seemingly lifeless objects do lack "vital signs" and so, are considered dormant, but capable of coming to life. When conditions are right to support growth, seeds waken from their dormancy and burst forth -- germinate -- in a period of intense activity..."*

*In a dry, inactive state, seeds can survive adverse conditions such as freezing temperatures, drought, or fungus attacks, which the adult plant could not. Imagine what would happen if seeds didn't have this ability and, for instance, germinated in the fall right before a cold winter....*

*Just like humans, seeds have needs that must be met if they are to thrive and grow. Armed with the genetic information needed to make a new plant, seeds wait to break dormancy until they have an ample supply of water, optimum temperatures, and a well-aerated soil or other spot in which to dig in.*

*Excerpt from 'Thinking Like a Seed' by Eve Pranis<sup>29</sup>*

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<sup>28</sup> Merriam Webster Dictionary definition. <https://www.merriam-webster.com/dictionary/seed>

<sup>29</sup> Article: Thinking Like a Seed by Eve Pranis. <https://garden.org/learn/articles/view/901/>

## **Gifts and Responsibilities:**

Seeds are little packages containing within a mini plant, root, shoot, one or two mini seed leaves and a small amount of food to keep it going till the seedling can photosynthesise on its own.

Seeds are so varied and travel in so many ways from the adult plant via wind, water, creature, human and my personal favourite, explosion. Seeds lose viability over time so they, must germinate within a certain period. Some seeds need more external intervention or help than others.

- ❖ Did you know home gathered seed is often more successful than bought seed?
- ❖ Did you know orchid seeds are so tiny they look like grains of dust?

## **Seed Story #1**

### ***'Protecting Seeds and Their Stories: The Sacred in Everyday Life'***

by Llewellyn Vaughan-Lee

*The recent UN Climate Change Summit, the marches in New York and around the world, once again brought into our collective consciousness the need for real change. As did the shocking news of the global loss of species. The vital need to protect our ecosystems is part of a cry that embraces the whole earth, from the smallest creature to the vast oceans. And in the midst of this call to cease our globally self-destructive behaviour is a story that touches each of us, every day.*

*It is in every bite of an apple, every bowl of rice, every piece of bread we butter. It is the essential and elemental story of seeds, how we are losing our heritage, and how this effects our soul as well as our body.*

*As I take my walk these early fall mornings, I pass by an old apple tree with gnarled and empty branches. Only a few weeks ago these same branches pushed over the hedgerow, laden with red and golden fruit. Nature's generosity is one of life's wonders; and yet, seeing these empty branches, I am also reminded of the hidden sadness of loss, knowing how once in this country we had around 5,000 apple varieties but now mostly grow only 15 varieties. Accordian, Camack Sweet, Haywood June, Sally Crocket, are just a few names of what has been lost. Like apples, all seeds, our most essential source of sustenance, are losing their biodiversity. They are suffering the same fate as much of the natural world, with many varieties being made extinct—75% lost from the world's fields<sup>1</sup>: yet another example of what our mechanized world is destroying, the ecocide we are witnessing.*

*And yet behind this visible tragedy is another deeper sorrow, the loss of the stories of seeds, stories that have nourished our souls for millennia, just as the fruits of seeds have nourished our bodies. The story of the seed planted in the earth, germinating, growing in the darkness, breaking through the surface towards the sunlight, is one of the most ancient stories of fertility. These stories tell of the mystery of death and rebirth—both the outer, physical rebirth of nature as winter turns to spring, and also an inner transformation, reminding us that we too can descend into the inner world, the darkness within us, where we can experience the secrets of the soul, a spiritual rebirth. Stories of seeds not only connect us to the seasons of the Earth but also to our sacred inner nature.*

*These stories of the soul are part of our human history, our spiritual and mythic heritage that has nourished us with the sacred meaning of life—as real as grains ground into flour.*

*For example, the myth of Demeter and Persephone speaks of the mysteries that belong to the sacred feminine, mysteries that were practiced at Eleusis in Greece for over a thousand years. In*



*this story, Persephone, the maiden, is gathering flowers in a meadow, when Hades—god of the underworld, who had fallen in love with her—carries her off into his kingdom. Here he gives her the seed of the sweet pomegranate, because of which she has to remain in the underworld for part of the year as Hades' queen and wife, returning to the surface every spring. The seed eaten in the underworld images the mystery of fertility and creativity that transforms a girl into a woman and gives her the instinctual knowledge of conception and birth. This ancient feminine mystery embraces life and sexuality and reveals its sacred meaning—an inner and outer transformation. And yet as a culture we consider this to be just a myth—how many women today are nourished by this knowledge, feel its primal power?*

*Just as we need to treasure the physical seeds that remain, valuing life's diversity, so do we need to remember the stories of seeds, to keep alive this inner mystery of life and rebirth, of transformation in the darkness. Stories of seeds are in our sacred texts. In the Gospel of St. John there is the simple image of a grain of wheat falling into the ground, and through its death "bringing forth much fruit."*

*Without such stories and their images our souls are not nourished, and we forget our connection to the Earth and its rhythms, and the seasons of our own soul. We remain stranded in the surface masculine world of science and technology, starved of an inner nourishment essential to our well-being and wholeness. As the powerful interests of agribusiness claim ownership of seeds, destroying their diversity, there is no place for planting and harvesting as a meeting of spirit and matter, no opening to the inner world—no place for the sacred.*

*What can we do? How can we respond? First, we can witness what is happening. Just as we need to become aware of how we are destroying the beautiful and fragile Earth, the wonder of her diversity, we can also recognize how we are forgetting her stories, this loss of the sacred. And from this awareness we might begin to feel the grief, the soul's sadness, both for the outer ecocide and for the less noticed but just as tragic spiritual desolation caused by our forgetting. We are losing our own heritage, stories of life's sacred meaning that we should be passing onto our children. Only from a fully felt awareness can we respond, can we remember and reclaim the symbol of the seed, its myth and how it speaks to us.*

*Part of the tragedy of our present culture is that all our attention is on the outer, the physical world. And yes, outer nature needs our attention; we need to act before it is too late before we ravage and pollute the whole ecosystem. We need to save the seeds of life's diversity. But there is an inner mystery to a human being, and this too needs to be rescued from our present wasteland; we need to keep alive the stories that nourish our souls. If we lose these seeds, we will have lost a connection to life's deeper meaning—then we will be left with an inner desolation as real as the outer.*

*Coming home I cut an apple for my breakfast cereal and taste its sweetness. I feel how this food is alive. In the words of Vandana Shiva, "It is not just pieces of carbohydrate, protein and nutrient, it is a being; it is a sacred being." Just as we need to stop our soil from becoming toxic, we also need to keep alive the soul's sacred stories, before it is all too late. Protecting both seeds and their stories are vital to our survival.*

From the book 'Sacred Seed' by Global Peace Initiative of Women (GPIW), Dr. Vandana Shiva.<sup>30</sup>

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<sup>30</sup> Sacred Seed' by Global Peace Initiative of Women (GPIW), Dr. Vandana Shiva. Published by The Golden Sufi Centre, U.S. (1 November 2014)

## **Watering your seed kin**

As you water your seed kin today, here are some conversation starters to begin conspiring with plants. You don't have to talk to your plant like Saint Francis of Assisi was fond of doing with birds and wolves, but feel free to if you find it comes naturally.

*"While persons brought up within literate culture often speak about the natural world, indigenous, oral peoples sometimes speak directly to that world, acknowledging certain animals, plants, and even landforms as expressive subjects with whom they might find themselves in conversation."*<sup>31</sup> — David Abram, *Becoming Animal*

These questions are both practical and imaginative but also may involve some research.

- ❖ Consider the water, as you gift it to your seed. Where did it come from? Where did this water start its journey? What journey did this water take to be here to nurture this seed? *If you do not know where the water from your tap comes from, resolve to find out? Do some research online and find out.*
- ❖ Consider the transformation this little seed will make over the next seven days. How does your spiritual tradition regard this miracle?
- ❖ What seed metaphors are used in your spiritual tradition and how to they relate to the physicality and ecology of this process?

## **Visit your sit spot**

Ask consent to be here today, touch the soil, acknowledge the traditional custodians of this land or your ancestors if they are of this land.

## **Sitting**

You can complete this mediation however you wish and following which ever faith tradition you identify with. However, it is best for the purposes of this program to be completed in silence, sitting outdoors in your sit spot for 10mins or less if you are new to this kind of sitting mediation or 20mins – 1 hr, if you are used to practicing in this way.

It may help to use a timer, such as Insight Timer<sup>32</sup>.

If you have never meditated or sat in silence before, perhaps just try starting with 5 or 10mins of sitting. While this doesn't sound like much time for some, this is a challenge.

When I first started meditating, I would sit with closed eyes and within 2mins, I was flooded with imagery. Faces, scenes, flashes of colour. It was intense. I would blink my eyes open often until I felt calm enough to continue. Later when I started practicing in groups, I would sometimes become so sad I would cry uncontrollably, my whole body shaking. It was so strange, as I didn't feel sad at all until I sat in silence, with a group.

Hopefully, your first experiences of meditation are calmer than this, but if you do find the experience very intense, know that this is quite normal, and it might be more helpful to sit for very short amounts of time even as short as 3mins. As you grow into being comfortable sitting you can sit for longer periods of time.

If you are someone who finds it difficult to sit because you feel very restless and you need to get up and move your body. You might find it easier to do something physical before trying to sit in silence. Yoga itself is the art of using the body in such a way that we prepare ourselves

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<sup>31</sup> Pg. 10 *Becoming Animal: An Earthly Cosmology* by David Abram (2010)

<sup>32</sup> <https://insighttimer.com/>

for meditation. Feel free to go on a walk uphill or do some yoga before you sit if this is an issue for you.

If you would like further guidance, here are some instructions from Venerable Pema Chodron, that are simple in nature and can be practiced no matter what religion or none you adhere to. You can return to these instructions as many times as you need over the next seven days.

*So as meditators we might as well stop struggling against our thoughts and realise that honesty and humour are far more inspiring and helpful than any kind of solemn religious striving for or against anything.*

*In any case, the point is not to try to get rid of thoughts, but rather to see their true nature. Thoughts will run us around in circles if we buy into them, but really, they are there like dream images. They are like an illusion- not really all that solid. They are, as we say, just thinking.*

*Over the years, Rinpoche continued to refine the instructions on posture. He said it was never a good idea to struggle in meditation. So, if our legs or back were hurting, we were told it was fine to move. However, it became clear that by working with proper posture, it was possible to become far more relaxed and settled in one's body by making very subtle adjustments. Large movements brought comfort for about five or ten minutes, and then we just wanted to shift again. Eventually we began following the six points of good posture as a way to really settle down. The six points are: 1. Seat, 2. Legs, 3. Torso, 4. Hands, 5. Eyes, and 6. Mouth, and instruction is as follows.*

- 1. Whether sitting on a cushion or on the floor or in a chair, the seat should be flat, not tilting to the right or left or to back or front.*
- 2. The legs are crossed comfortably in front of you – or, if you're sitting in a chair, the feet are flat on the floor, and the knees are a few inches apart.*
- 3. The torso (from head to the seat) is upright, with a strong back and an open front. If sitting in a chair, its best not to lean back. If you start to slouch, simply sit upright again.*
- 4. The hands are open, with palms down, resting on the thighs.*
- 5. The eyes are open, indicating the attitude of remaining awake and relaxed with all that occurs. The eye gaze is slightly downward and directed about four to six feet in front.*
- 6. The mouth is very slightly open so that the jaw is relaxed, and the air can move easily through both mouth and nose. The tip of the tongue can be placed on the roof of the mouth.*

*Each time you sit down to meditate, you can run through these six points, and anytime you feel distracted during you meditation, you can bring your attention back to your body and run through the six points. Then with a sense of starting afresh, return once again to the out breath. If you find that thoughts have carried you away, don't worry about it. Simply say to yourself, "thinking", and come back to the openness and relaxation of the out breath. Again, and again juts come back to being right where you are.<sup>33</sup> – Pema Chodron*

## **Observation**

In place at your sit spot, watch the goings on of all life here.

What are you aware of? What do you notice? If you get bored, allow yourself to get bored, then use that boredom to focus on details and things you may not have seen before.

Try to sit in observation for at least 20mins.

## **Journaling**

Write down all you heard, felt, saw, smelt and experienced during your observation.

There are no wrong answers. Write as much or as little as you like.

It can take the form of stream of consciousness writing or it can be curated and crafted words like prose. Write however you feel most comfortable and for as long as is comfortable.

## **Eco art activity**

Today this ecosystem is your teacher.

Think of all the plant life here and ask yourself...

- ❖ How did these plants come to be here?
- ❖ When were they planted or seeded?
- ❖ How long have they been growing for?
- ❖ What kind of plants exist here?
- ❖ Do you know them by their names?
- ❖ How many different plant species are here?
- ❖ What functions are they performing?
- ❖ Why is this eco-system valuable to other species?

Make an artwork in honour of this ecosystem, using whatever medium you like.

As well as trying to capture the physical qualities of this place and these beings, try to capture what it feels like to sit here and acknowledge the plant life surrounding you.

Choose art materials that you feel most drawn to, or whatever you have available.

When you have finished your artwork, give it a title.

Here is an artwork I created of my sit spot using this process.

It was drawn on paper using charcoal collected from the Blue Mountains after the summer bushfires of 2020.



*'How to draw every plant here in just one picture?' Found charcoal on paper 2020*

Here is another picture of the landscape I was attempting to draw, with my little bark bag full of charcoal to the right-hand side of the paper.



Photograph of artwork and view of landscape drawing 2020

### **Giving art a voice**

On finishing your artwork, reflect on the process and what you can learn from its imagery.

- ❖ What does this place want you to know about it?
- ❖ What does this place mean to other species?
- ❖ What is this place asking you to learn?
- ❖ What is place asking you to do?

Consider this quote and what you think about it. – Reflect on this in your writing.

*“Both ownership and custodianship break down the foundation of a true dialogue with the vegetal. Although the two attitudes are different, both are validated by the apparent inability of plants to express themselves, which creates a justification for objectifying them.”<sup>34</sup>*

– Monica Gagliano

### **Walk the land at dusk**

While walking today try to pay heightened attention to the plants and landscape you are walking through. What do you notice? What are you drawn to? To what in the landscape do you feel an aversion to? Focus your attention on the plant life on your walk.

Can you call them by their name?

Take photographs of your walk if you like, or the plants you meet.

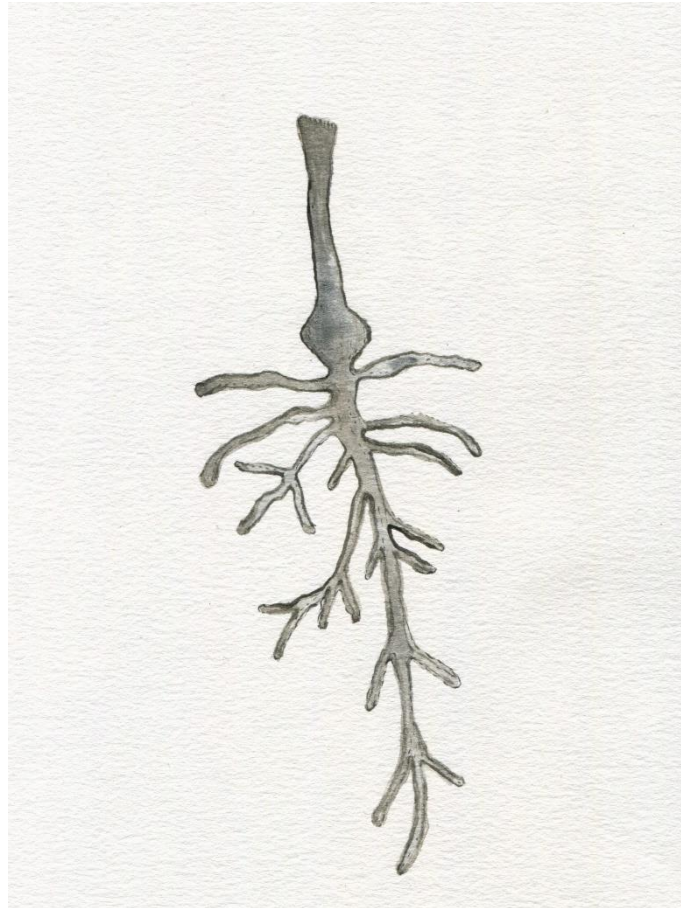
Here are some photos of my walk today...

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<sup>34</sup> Pg. 35-36 Thus Spoke The Plant: A Remarkable Journey of Groundbreaking Scientific Discoveries and Personal Encounters with Plants by Monica Gagliano (2018)



## **Day Two: Roots**



'Roots; Eucalyptus sideroxylon' by Pricilla Ambrosini 2021

Roots are *'the usually underground part of a seed plant body that originates usually from the hypocotyl, functions as an organ of absorption, aeration, and food storage or as a means of anchorage and support, and differs from a stem especially in lacking nodes, buds, and leaves.'*<sup>35</sup>

The root system is of course the growing downwards portion of the plant. When a seed germinates, the radicle is the first organ to emerge. It elongates into the soil to form the tap root. Then gives off lateral branches called secondary and tertiary roots, which thus forms the root system.

### **Gifts and Responsibilities:**

The roots branch through large and deep areas in the soil which anchors the plant very firmly into the ground. The root system plays vital roles in absorbing water and mineral salts from the soil and transports them upwards towards the leaves, to support new growth in the plant and keep it sustained. Roots sometimes store the products of photosynthesis and some roots are modified to absorb moisture and exchange gases.

Charles Darwin once claimed that a plant's roots plants are similar to an animal's brains<sup>36</sup> This does make one wonder about what might life be like if we lived upside down? With our brains in the ground, our feet and reproductive systems (flowers) waving about in the wind.

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<sup>35</sup> Merriam Webster Dictionary definition. <https://www.merriam-webster.com/dictionary/root>

<sup>36</sup> The power of movement in plants by Charles Darwin (1880)

Researchers have furthered this idea by developing the term “Plant neurobiology” which highlights the similarities between plants and animals. Daniel Chamovitz in “What a plant knows” says “*The question, I posit, should not be whether or not plants are intelligent – it will ages before we all agree on what that term means; the question should be “are plants aware?” and, in fact, they are*”<sup>37</sup>. He goes on to list the ways they are aware.

- ❖ Aware of visual environment (differentiating between red, blue, far red and UV lights and respond accordingly)
- ❖ Aware of aromas surrounding them and respond to minute qualities of volatile compounds wafting through the air.
- ❖ Plants sense when they are being touched and can distinguish different kinds of touches.
- ❖ They are aware of gravity.
- ❖ They are aware of their past (they remember past infections and the conditions they have weathered, and they modify their current physiology based on these memories)

Chamovitz later claims “*The plant psyche is devoid of an ego and super ego though it may contain an id, the unconscious part of the psyche that gets sensory input and works according to instincts.*”<sup>38</sup>

This new research at the edge of new plant science is slowly debunking the concept that because plants and trees have no intelligence, we can do what we like with them.

Perhaps if we start recognising the true nature of plants, start to value their unique offerings to the world and help them to flourish, we may be able to grow deeper into an awareness of living systems and help alleviate suffering in the human world from climate change.

Looking below the surface, at root systems and mycelium networks can help us better understand just how plants know, sense and respond.

### **Side note:**

We cannot talk about root systems without also discussing another important underground factor, the mycorrhizal network. Sometimes affectionally known as the “wood wide web” when discussed in relation to forests or “the earth’s natural internet”. The mycorrhizal network is revealed when you dig a little way into the earth and see white stringy thin fibres. It is a fungal network whereby; plants provide fungi with food in the form of carbohydrates. In exchange, the fungi help the plants suck up water, and provide nutrients like phosphorus and nitrogen, via their mycelia.<sup>39</sup>

The more we learn about how root systems and the mycorrhizal network engage the more this knowledge challenges our understanding of plants or trees as individuals and begs the questions. Do trees communicate with each other? Why do they share food with their own species and sometimes even go so far as to nourish their competitors? Pioneering biologists, such as Suzanne Simard initially faced ridicule in the scientific community for even daring to put forth this line of thinking. However now her research and that of others, on how mycorrhizal networks allow for trees and plants to regulate survival, growth, and defence, is widely accepted. We now know plants aren't just sitting there quietly growing. By linking to the fungal network, they can help out their neighbours by sharing nutrients and information, or they can sabotage unwelcome plants by spreading toxic chemicals through the network.<sup>40</sup>

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<sup>37</sup> Pg. 159. What a Plant Knows: A Field Guide to the Senses. Updated and Expanded Edition. by Daniel Chamovitz (2017)

<sup>38</sup> Pg. 160. What a Plant Knows: A Field Guide to the Senses. Updated and Expanded Edition. by Daniel Chamovitz (2017)

<sup>39</sup> ‘Plants talk to each other using an internet of fungus by Nic Fleming, 11 November 2014

<http://www.bbc.com/earth/story/20141111-plants-have-a-hidden-internet?ocid=fbert>

<sup>40</sup> The Hidden Life of Trees: What They Feel, How They Communicate by Peter Wohlleben. 2015



- ❖ Did you know, trees speak a sophisticated silent language underground, communicating complex information via smell, taste, and electrical impulses?
- ❖ Did you know that the average tree has as much mass below ground as it has above ground?

## **Roots story #2**

### **'The Underground Railroad'**

by Linda Chalker-Scott.

Excerpt from 'How Plants Work: The Science Behind the Amazing Things Plants Do' 2015

*TUCKED IN THE CORNER of my backyard is a small opening, covered with a thick layer of wood chips. It's bounded by an arborvitae hedge on two sides, a red- bud tree, a dogwood, and several smaller shrubs and groundcovers. Pulling back the moist, decomposing mulch, I can see a mass of fine white threads as well as fibrous roots. As I dig deeper, my trowel thuds against thicker, woodier roots. This complicated network of thick and thin roots, intersected by those fine white threads, runs in all directions like a city roadmap. Yet because it's hidden underground, we often neglect this network-or worse, damage it through our activities. And those white threads? They're not roots but beneficial mycorrhizal fungi.*

*Plant roots serve several functions: they anchor and stabilize the plant, store food, produce growth substances, and take up water and minerals. They represent the beginning of a plant 's internal trans- port system, somewhat similar to our own circulatory system. But rather than being driven by an active pumping heart, transportation in plants is passive and depends on a water gradient that begins in the soil and ends in the atmosphere.*

*Like the spokes on a wheel, roots radiate outward from the base of the stem, colonizing the soil and tapping pockets of water and nutrients. Some species have rhizomes (underground stems) that grow entwined with the roots. They serve as hidden growing points from which new roots and shoots arise. In fact, some of the clusters of golden rod, poplar trees, and other common plants are nothing more than clones of a single individual whose roots and rhizomes have taken over a piece of land. We see this in our own gardens with spreading groundcovers and perennials.*

### **How Far Roots Spread**

*One of the gardener's standard reference points is the dripline, that invisible circle on the ground corresponding to the outermost leaves on a tree or shrub. We mulch, water, fertilize, and protect the soil between the trunk and the dripline, because the roots are there. But, in fact, roots grow beyond this circle. It's estimated that woody plants may have root systems that are at least two to three times the diameter of the dripline. Most of this far-reaching system is made up of fine fibrous roots that are difficult to see when we're digging in the land- scape. It's not surprising we don't realize those tiny roots creeping into our annual border are from that maple tree 20 feet away.*

*Root growth is opportunistic. Fine roots that happen to hit pockets of water, nutrients, or oxygen in the soil will scavenge these resources and push onward. If roots hit a dead end, however, they die back to a larger root. If you were able to watch the root zone under time-lapse photography, you'd see a flurry of activity as tiny roots zoom in every direction, sometimes morphing into tiny starbursts of filaments when they hit the mother lode. Roots that survive the exploratory phase thicken and harden, eventually becoming permanent storage organs as well as parts of the transport system.*

*Unlike woody roots, fine roots can be transient. A good example of transient roots can be found in the mulch in my garden that we were exploring. In the wet months of the year, the mulch is always moist and roots find their ways upward to take advantage of the oxygen and nutrients in this upper layer. The above ground parts of many plants undergo dormancy, but roots grow all year round.* <sup>41</sup>

## **Watering your seed kin**

As you water your seed kin today here are some conversation starters to conspire with these plants and find out more about them. These questions are imaginative designed to help you think creatively but also may involve some research online.

- ❖ Where would you like to be planted once you grow roots?  
*E.g. Best location considers amount of sunlight needed per day.  
Research this if you don't know the answer.*
- ❖ What conditions will you need to be successful in your growth?  
*E.g. how much water, how often?*
- ❖ What else will you need from the soil once you have roots?  
*Again, you may need to look this up.*

## **Visit your sit spot**

Ask consent to be here today, touch the soil, acknowledge the traditional custodians of this land or your ancestors if they are of this land.

## **Sitting**

As yesterday, you can complete this mediation however you wish and following which ever faith tradition you identify with. However, it is best for the purposes of this program to be completed in silence, sitting outdoors in your sit spot for 10mins or less if you are new to this kind of sitting mediation or 20mins – 1 hr, if you are used to practicing in this way.

It may help to use a timer, such as the app, Insight Timer.

1. *Whether sitting on a cushion or on the floor or in a chair, the seat should be flat, not tilting to the right or left or to back or front.*
2. *The legs are crossed comfortably in front of you – or, if you're sitting in a chair, the feet are flat on the floor, and the knees are a few inches apart.*
3. *The torso (from head to the seat) is upright, with a strong back and an open front. If sitting in a chair, it's best not to lean back. If you start to slouch, simply sit upright again.*
4. *The hands are open, with palms down, resting on the thighs.*
5. *The eyes are open, indicating the attitude of remaining awake and relaxed with all that occurs. The eye gaze is slightly downward and directed about four to six feet in front.*
6. *The mouth is very slightly open so that the jaw is relaxed, and the air can move easily through both mouth and nose. The tip of the tongue can be placed on the roof of the mouth.*

*Each time you sit down to meditate, you can run through these six points, and anytime you feel distracted during you meditation, you can bring your attention back to your body and run through the six points. Then with a sense of starting afresh, return once again to the out*

*breath. If you find that thoughts have carried you away, don't worry about it. Simply say to yourself, "thinking", and come back to the openness and relaxation of the out breath. Again, and again just come back to being right where you are.*<sup>42</sup>

## **Observation**

In place at your sit spot, watch the goings on of all life here.

Today, focus on what plants and trees have their roots here, think about the vast network of roots underneath you.

Look for signs of the roots showing above ground. Can you see any mycelium?

Look at the soil here, what kind of soil is it?

What are the conditions of the soil that would lead to healthy root systems in plants?

Try to sit in observation for at least 20mins.

## **Journaling**

Write down all you heard, felt, saw, smelt, and experienced during your observation. Remember there are no right or wrong ways of doing this. It can take the form of stream of consciousness writing or it can be curated and crafted words like prose. Write however you feel most comfortable and for as long as is comfortable.

Focus your attention and wiring today on roots, soil and things that may be unseen beneath you that you know are there.

## **Extra reflection**

ID any of the plants here that you are unsure of or take photos of them to ID them later at home.

## **Eco art activity**

Today the plants and trees here are your teacher.

Today we acknowledge the plant life here may be speaking to us through our senses, if we are willing to listen. Consider the following:

*"Obviously these other beings do not speak with a human tongue; they do not speak in words. They may speak in song like many birds, or in rhythm, like the crickets and the ocean waves. They may speak a language of movements and gestures or articulate themselves in shifting shadows. Among many native peoples such forms of expressive speech are assumed to be as communicative, in their own way, as the more verbal discourse of our species (which after all can also be thought of as a kind of vocal gesticulation, or even as a sort of singing). Language for traditionally oral peoples is not specifically human possession, but a property of the animate earth, in which we humans participate."*<sup>43</sup> — David Abram

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<sup>42</sup> Page 32 'When things fall apart: Heart advice for difficult times' by Pema Chodron. Shambala publications 1997

<sup>43</sup> Page 10 'Becoming Animal: An Earthly Cosmology' by David Abram. 2010

What gestures, movements and shadows do you notice here in this place?

Think of roots as brains and stems as legs.

Plants as creatures that seem upside down to us.

With their heads in the soil and feet in the air.

What kind of knowledge and ways of sensing would this generate?

### **Eco art activity option #1**

Create a song for the plants here, thinking about the ideas above.

It can be a song with or without words, using humming, whistling or vocal variations.

It can be long or short, complex, or simple.

If you have grown up thinking that you can't sing, leave these feelings of inadequacy, and know that in many cultures all voices are needed and valued. You are not singing for anyone else this time but for yourself. Allow yourself to become playful in creating textures, sounds and rhythms with your voice. Become curious as to what sounds you can make. Try not to judge the sounds that you are making, or label them as good or bad. Allow yourself simply to explore. It doesn't matter what you sound like, or what kind of voice you have. The point is connecting with the plants and land here using vibrations from your throat.

You might like to try mimicking what you hear, in this eco-system. Combine deep listening to this place to reproduce these sounds.

Spend at least 5mins exploring sound and song. If you are using words in your song, try not to make the words about yourself and your experience. Instead consider what it might be like to be plant sensing their environment, to have brains in the earth and be hooked up to the 'wood wide web'

When you have spent some time listening and singing. Draw your song on paper without using traditional notation. Instead use marks, scratches, shapes and symbols to express the sounds that you were making. Think of how you would convey these plants and their root systems visually.

Or if this seems too weird to you and too much out of your comfort zone.

### **Eco art activity option #2**

Write a poem to the plants in this place, their root systems, and the network of mycelium hidden from plain human sight.

As above, try not to make the poem about you, consider what it might be like to be plant sensing their environment, to have brains in the earth and be hooked up to the 'wood wide web'.

Remember Basho's words...

*"Go to the pine if you want to learn about the pine, or to the bamboo if you want to learn about the bamboo. And in doing so, you must leave your subjective preoccupation with yourself. Otherwise you impose yourself on the object and do not learn. Your poetry issues of its own accord when you and the object have become one – when you have plunged deep enough into the object to see something like a hidden glimmering there. However well-phrased your poetry*

*may be, if your feeling is not natural – if the object and yourself are separate – then your poetry is not true poetry but merely your subjective counterfeit.”<sup>44</sup>*

Attempt to express in human language the story of having roots and having your brains in the soil and your feet and your reproductive system (flowers) in the air waving about for all to see. Your poem does not have to be logical or linear. Express whatever you feel is being communicated to you from the plants here.

When you have finished your song or poem, give it a title.

Here is the poem I wrote for this exercise.

### **Rooted**

What does it mean to be of place?

To sink sensors downwards,  
gravitropism.

Clouds moving through,  
shifting stems and leaves

eating up the light,

drinking up the morning dew

transformation and magic

all the while still and stay

drawing everything needed from sun and soil

deeply connected suspended between earth and sky.

Trunk solid, branches bending, leaves rustling

May we all learn the conviction to sit still.

Roots beneath us, buds above us.

Surrounded by green embrace. <sup>45</sup>

### **Giving art a voice**

After finishing your song or poem, reflect on the process and what you can learn about plants from it.

- ❖ What was being communicated to you through your senses from the plants and how was it being communicated?
- ❖ How did you feel about trying to capture this communication in the form of a song or poem?
- ❖ Were you able to consider the vast underground network often hidden from our view and thoughts? What conclusions did this lead you to about plant life?

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<sup>44</sup> 'On Love and Barley: Haiku of Basho' (Translation: Lucien Stryk). 1985

<sup>45</sup> 'Rooted' by Anastasia Freeman 2021

❖ Is there anything else you thought, felt, or feel compelled to do after this activity?

Consider this quote and what you think about it, reflect on this in your journal.

*“Teach us to discover the worth of each thing(kin), to be filled with awe and contemplation, to recognise that we are profoundly united with every creature as we journey to your infinite light.”<sup>46</sup> - Pope Francis. Laudato Si*

### **Walk the land at dusk**

While walking the land today, consider the underground network beneath you.

What signs do you see of this usually hidden world?

What other networks in this ecosystem are also hidden from the everyday concerns of humans?

Try to ID some of the plants on your walk that you do not know the names of. For this you could use an app or take a guide with you.

Are there any online plant guides for your local area, you could download for free?

Take photographs of your walk and the plants you meet if you like.



Evidence of mycelium (the white stuff)

## Day Three: Stem



'Stem; Eucalyptus sideroxylon' by Pricilla Ambrosini 2021

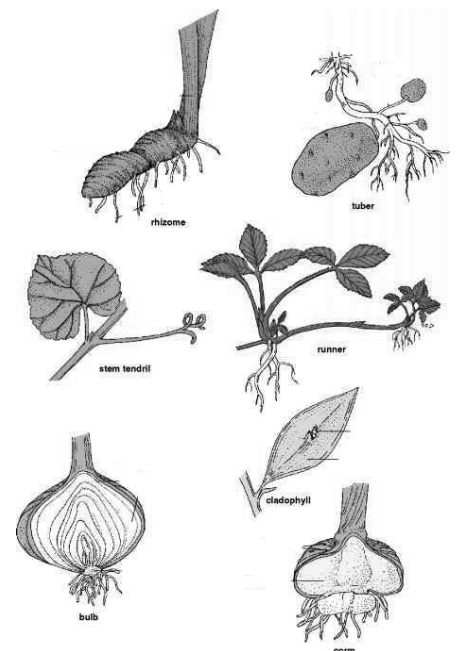
The stem is '*the main trunk of a plant. specifically: a primary plant axis that develops buds and shoots instead of roots*'<sup>47</sup>

If roots are the brain of the plant, perhaps stems are similar to backbones, but more than this they are a conduit for water and minerals. The stem, in botany, is the part that bears buds and shoots with leaves.

There are four types of herbaceous (soft) stems and four types of woody (hard) stems.

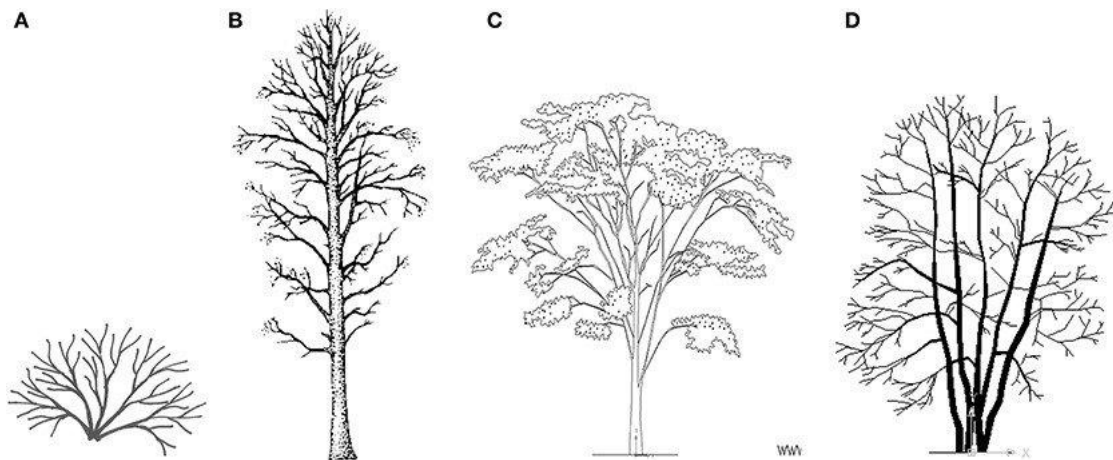
For herbaceous (soft) stems, which are usually thin, soft and green in colour apart from those stems that grow underground (potato and onion).

These are: climbers, bulbs, tubers and runners. like potato and onion stems.

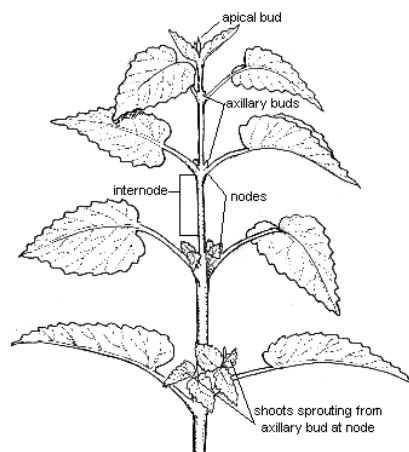


<sup>47</sup> Meriam Webster Dictionary definition. <https://www.merriam-webster.com/dictionary/stem>

A woody plant is one that produces wood as its structural tissue and thus has a hard stem. This kind of plant evolved to support leaf canopies in the sunlight above their competition. The four types of woody plants are: Shrubs, trees with main stem throughout the plant, trees with short main stem with many branches, and lastly trees with multiple stems.



The stem is normally divided into nodes and internodes.



The nodes hold one or more leaves, as well as buds which can grow into branches. The internodes distance one node from another.

The term "shoots" is often confused with "stems"; "shoots" generally refers to new fresh plant growth. In most plants' stems are located above the soil surface.

### **Gifts and responsibilities:**

The four main responsibilities of stems are:

1. To support and the elevate the leaves, flowers and fruits of the plant.
2. To transport fluids between the roots and the shoots.
3. To store nutrients for the plant.
4. To produce new living tissue.

Their gifts might include the development of buds, which look like a bump on the stem of a plant. These are the developing shoots, which will become branches of the plant.



- ❖ Did you know when we are eating celery, we are eating the stem and it contains collenchyma tissue, which provides support for the plant? Collenchyma tissue is made up of elongated living cells filled with water, and the pressure of the water against the cell walls creates a stiffness that gives celery its crunch.
- ❖ Did you know, the largest known living single-stem tree on Earth is called General Sherman and he is a giant sequoia tree in the Giant Forest of Sequoia National Park in California, USA? He is estimated to be around 2,300 to 2,700 years old.

### **Stem Story #3**

#### ***'What a Plant Remembers'***

by Daniel Chamovitz

The oaks and the pines, and their brethren of the wood, have seen so many suns rise and set, so many seasons come and go, and so many generations *pass into silence, that we may well wonder what "the story of the trees" would be to us if they had tongues to tell it, or we ears fame enough to understand.*

*-Maud van Buren, Quotations for Special Occasions*

*Memories often take up a good portion of an average person's daily mental wanderings. We may remember an especially savory feast, the games we played as children, or a particularly humorous incident at the office from the day before. We can envision a breathtaking sunset that we once saw on the beach, and we also remember significantly traumatic and scary experiences. Our memory is dependent on sensory input: a familiar smell or a favorite song can trigger a wave of detailed memory that transports us back to a particular time and place.*

*As we've seen, plants benefit from rich and varied sensory inputs as well. But plants obviously don't have memories in the way we do. They don't cower at the thought of a drought or dream about the sunbeams of summer. They don't miss being encased inside a seedpod, nor do they feel anxious about premature pollen release. Unlike Grandmother Willow in Disney's Pocahontas, old trees don't remember the history of the people who have slept in their shade. But as we've seen in earlier chapters, plants clearly have the ability to retain past events and to recall this information at a later period for integration into their developmental framework. Tobacco plants know the colour of the last light they saw. Willow trees know if their neighbours have been attacked by caterpillars. These examples, and many more, illustrate a delayed response to a previous occurrence, which is a key component to memory.*

*Mark Jaffe, the same scientist who coined the term "thigmomorphogenesis," published one of the first reports of plant memory in 1977, though he didn't refer to it as such (instead, he talked about one- to two-hour retention of the absorbed sensory information). Jaffe wanted to know what makes pea tendrils curl when they touch an object suitable to wrap themselves around. Pea tendrils are stem-like structures that grow in a straight line until they happen upon a fence or a pole they can- use for support, and then they rapidly coil around the object to grab onto it.*

*Jaffe demonstrated that if he cut a tendril off of a pea plant but kept the excised tendril in a well-lit, moist environment, he could get it to coil simply by rubbing the bottom side of the tendril with his finger. But when he conducted the same experiment in the dark, the excised tendrils didn't coil when he touched them, which indicated that the tendrils needed light to perform their magic twirling. But here was the interesting catch: if a tendril touched in the dark was placed in the light an hour or two later, it spontaneously coiled without Jaffe having to rub it again.*

*Somehow, he realized, the tendril that had been touched in the dark had stored this information and recalled it once he placed it in the light. Should this storage and later recollection of information be considered "memory"?*

*In fact, research on human memory conducted by the renowned psychologist Endel Tulving provides us with an initial foundation from which to explore plants and their unique "recollections." Tulving proposed that human memory exists on three levels. The lowest level, procedural memory, refers to nonverbal remembering of how to do things and is dependent on the ability to sense external stimulation (like remembering to swim when you jump in a pool). On the second level is semantic memory, the memory of concepts (like most of the subjects we learned in school). And the third level is episodic memory, which refers to remembering autobiographical events, like funny costumes from childhood Halloween parties or the loss we felt at the death of a dear pet. Episodic memory is dependent on the "self-awareness" of the individual. Plants clearly do not make the cut for semantic and episodic memory: these are the memories that define us as human beings. But plants are capable of sensing and reacting to external stimulation, so by Tulving's definition plants should be capable of procedural memory. And indeed, Jaffe's pea plants illustrate this. They sensed Jaffe's touch, remembered it, and coiled in response.*

*Neurobiologists know quite a bit about the physiology of memories and can pinpoint the distinct (but still interconnected) areas of the brain that are responsible for different types of memory. Scientists know that electric signalling between neurons is essential for memory formation and storage. But we know much less about the molecular and cellular basis of memory.*

*What's fascinating is that the latest research hints that while memories are infinite, only a very small number of proteins are involved in memory maintenance.*

*We need to be aware, of course, that what we refer to as "memory" for people is actually a term that encompasses many distinct forms of memory, beyond the ones described by Tulving. We have sensory memory, which receives and filters rapid input from the senses (in a blink of an eye); short-term memory, which can hold up to about seven objects in our consciousness for several seconds; and long-term memory, which refers to our ability to store memories for as long as a lifetime. We also have muscle- motor memory, a type of procedural memory that is an unconscious process of learning movements such as moving fingers to tie a shoelace; and immune memory, which is when our immune systems remember past infections in order to avoid future ones. All but the last are dependent on brain functions. Immune memory is dependent on the workings of our white blood cells and antibodies.*

*What's common to all forms of memory is that they include the processes of forming the memory (encoding information), retaining. The memory (information storage) and recalling the memory (retrieval of the information). Even computer memory employs exactly these three processes. If we're going to look for the existence of even the simplest memories in plants, these are the processes we need to see happening.<sup>48</sup>*

## **Watering your seed kin**

As you water your seed kin today here are some conversation starters to begin conspiring with the plants. These questions are imaginative in nature designed to help you think creatively but also may involve some research online.

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<sup>48</sup> Pg. 135 'What a plant knows: A field guide to the senses' by Daniel Chamovitz (2012, 2017)

- ❖ Are there any shoots or stems beginning to appear yet?
- ❖ What nutrients or minerals this little plant will need?
- ❖ What is essential to its growth and maturity?  
(If you don't know then do some research and look it up.)
- ❖ Are there any other plants around you that look like they might be missing something from their diet? You can tell by observing if they look stressed or damaged in anyway. Research these plants and what they might need.

## **Visit your sit spot**

### **Sitting**

You can complete this mediation however you wish and following which ever faith tradition you identify with. However, it is best for the purposes of this program to be completed in silence, sitting outdoors in your sit spot for 10mins or less if you are new to this kind of sitting mediation or 20mins – 1 hr, if you are used to practicing in this way.

Turn back to reread Pema Chodron's instructions on how to meditate, if you need to.

### **Observation**

In place at your sit spot, choose one plant that you are drawn to. No need to ask why you are drawn to it. Just notice where your attention is drawn.

Today, focus on this singular plant being.

Take in all its details, its form, its shape, its colour, how it moves in the wind.

Observe this plant for at least 20mins.

Ask yourself and consider, what gives it strength and support?

### **Journaling**

Write down all you heard, felt, saw, smelt and experienced during your observation. There are no wrong answers. Write as much or as little as you like. It can take the form of stream of consciousness writing or it can be curated and crafted words like prose. Write however you feel most comfortable and for as long as is comfortable.

Focus your attention today on this one plant being. What did you discover by observing this plant kin?

### **Eco art activity**

Today we are going to create an artwork inspired by the Zen tradition.

Consider the following quote by artist Bakr York, "*less is more. It's not about the amount of labour put in during execution, but about the elegance of thought put in beforehand.*"<sup>49</sup>

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<sup>49</sup> <https://www.bakryork.com/articles/what-is-zen-art#ultimate-bodhicitta>

Today, we will try to capture the simple form of the stem of the plant kin you have been observing today.

We will try to capture its form in just a few simple brushstrokes. For this, it is best to use a wet medium on card or thick paper with a paint brush or homemade version of a paintbrush, see ideas for this in the table below.

Medium	Surface	Tool
Ink	Thick paper	Paintbrush
Watercolour paint	Watercolour paper	Fern
Crushed berry juice	Card	Feather
Tree sap	Part of an old cardboard box	Leaf
Coffee grind juice	Old paper bag	Homemade paintbrush

Take your chosen art supplies to your sit spot and return to the plant you were observing before.

Focus on its stems, the shape, the shadows, the weight of leaves on the stem and its weight distribution, its relation to gravity, the negative space surrounding the form.

We will try to capture the shape and form of the stems only in monochrome, so you only need one colour or one type of medium.

- ❖ Watch your plant kind with focused attention on it's stems.
- ❖ Trace its form in the air with your brush, this will help you get a feel for the movement needed in your hands and brush and understand how to capture its form. Do this as many times as you like.
- ❖ When you feel you understand the stem shape and form and feel confident you can capture its likeness. Use the bush to paint and capture the stem in as few brush strokes as possible, on your paper or card. No need to spend much time on it, paint quickly and deliberately. Paint only the stems, no need for any other details.
- ❖ Your first attempt will most likely not be very realistic and will fail to capture the stems as they are.
- ❖ Study your first painting and work out, where you have not quite captured kin correctly.
- ❖ Then, attempt a second painting, in the same manner as the first.
- ❖ Keep attempting to capture its shape and form as realistically as possible.
- ❖ Have as many attempts as you like until you are happy with your painting and feel that you have been able to capture its shape and form.

Here is what I created for this eco-art activity....

Crushed berries from the native blue Flax Lilly were used to create an ink.





### **Giving art a voice**

Today consider your art making process and the plant kin you worked with today.

1. What did you learn about this plant kin?
2. What did you discover in trying to capture the structure of this plant kin?
3. Summarise your experience today's artmaking process:
  - a) On a head (thought) level?
  - b) On a heart (feeling) level?
  - c) On a hand (behavioural) level?

### **Final reflection for today**

*“Planthroposcenes are scenes or epistemes, both ancient and modern, in which people have learned how to grow liveable worlds by staging solidarities with the plants. A Planthropos is a collective formation of plants and their people, where people live like their future hinges on the future of plant life. These are the scenes that take shape when people figure out how to be accomplices to these green beings who are the substance, substrate, symbol, sign, and sustenance of our economies the world over, and who keep us breathing, sheltered, fed, clothed, pleased, medicated, intoxicated, and adorned.”<sup>50</sup> – Natasha Myers*

<sup>50</sup> Q&A Natasha Myers: Are the trees watching us? (2020) <https://www.spikeartmagazine.com/articles/qa-natasha-myers>

## Walk the land at dusk

While walking today, pay attention to the variety of forms that plants take.

What shape and function are their stems or trunks... woody or green?

How are they growing to interact with the world around them?

Do you remember their names?



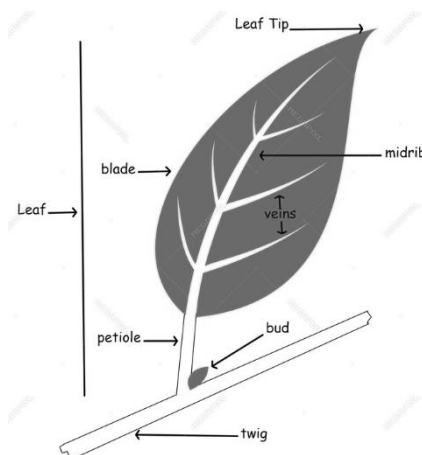
## Day Four: Leaf



'Leaf; Eucalyptus sideroxylon' by Pricilla Ambrosini 2021

A leaf is *'a lateral outgrowth from a plant stem that is typically a flattened expanded variably shaped greenish organ, constitutes a unit of the foliage, and functions primarily in food manufacture by photosynthesis.'*<sup>51</sup>

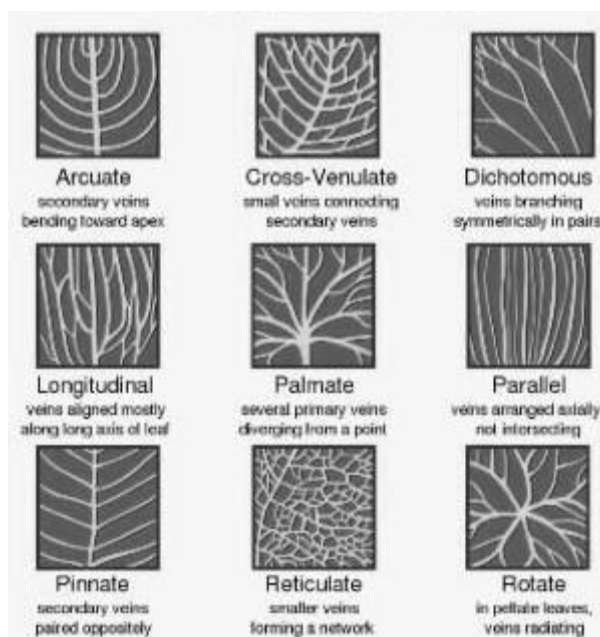
Each leaf typically has a leaf blade (lamina), stipules, a midrib, and a margin



When attempting to identify plants, we often first look to leaves, there are a few things to notice when working out who is who in the vegetal world.

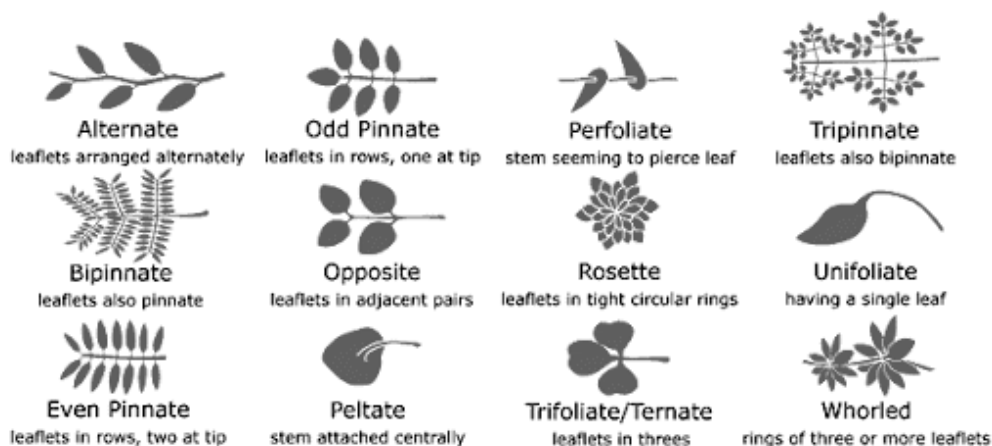
<sup>51</sup> Meriam Webster Dictionary definition. <https://www.merriam-webster.com/dictionary/leaf>

1. Look at the arrangement of veins in a leaf. This is called the venation pattern. There are many types but the main three are reticulate, parallel and furcate venation.



2. Look at the arrangement of leaves on a stem. This is known as phyllotaxy. The number and placement of a plant's leaves will vary depending on the species, with each species exhibiting a characteristic leaf arrangement.

There are four main types of leaf arrangement or phyllotaxy. These are: alternate, spiral, opposite, or whorled.



3. Look at the shape of the leaf. The leaf shape can be round, oval or oblong, lance shaped or elliptic.
4. Look at the thickness of a leaf. Is the leaf delicate or leathery?
5. Smell the leaf fragrance. When you crush or stroke the leaf, what does it smell like?<sup>52</sup>

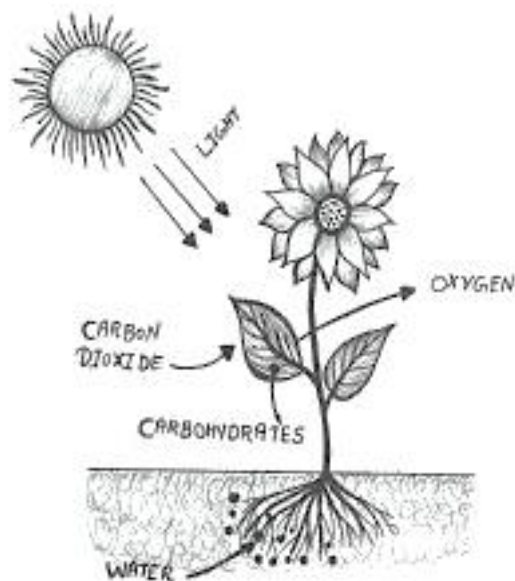
<sup>52</sup> Plant leaf identification: how to tell plant leaves apart by: Teo Spengler  
<https://www.gardeningknowhow.com/garden-how-to/info/plant-leaf-identification.htm>



## **Gifts and Responsibilities:**

Plants need sunlight, water, and soil to grow, but where do they get their food?

They make it themselves via photosynthesis



*Plants are called autotrophs because they can use energy from light to synthesize, or make, their own food source. Many people believe they are “feeding” a plant when they put it in soil, water it, or place it outside in the Sun, but none of these things are considered food. Rather, plants use sunlight, water, and the gases in the air to make glucose, which is a form of sugar that plants need to survive. This process is called photosynthesis and is performed by all plants, algae, and even some microorganisms. To perform photosynthesis, plants need three things: carbon dioxide, water, and sunlight.*

*The last requirement for photosynthesis is an important one because it provides the energy to make sugar. How does a plant take carbon dioxide and water molecules and make a food molecule? The Sun! The energy from light causes a chemical reaction that breaks down the molecules of carbon dioxide and water and reorganizes them to make the sugar (glucose) and oxygen gas. After the sugar is produced, it is then broken down by the mitochondria into energy that can be used for growth and repair. The oxygen that is produced is released from the same tiny holes through which the carbon dioxide entered. Even the oxygen that is released serves another purpose. Other organisms, such as animals, use oxygen to aid in their survival.*

*The whole process of photosynthesis is a transfer of energy from the Sun to a plant. In each sugar molecule created, there is a little bit of the energy from the Sun, which the plant can either use or store for later.<sup>53</sup>*

- ❖ Did you know, plants in cold climates have needle-like leaves that are reduced in size, plants in hot climates have succulent leaves that help to conserve water?
- ❖ When leaves turn a different colour in Autumn, they are returning to their normal colour. During the summer months, the chlorophyll present in the leaves causes the leaves to turn green, blocking the leaves’ actual colour.

<sup>53</sup> What is Photosynthesis. Excerpt from the Structure and Function unit of our curriculum product line, Science and Technology Concepts TM (STC) <https://ssec.si.edu/stemvisions-blog/what-photosynthesis>

- ❖ Did you know, when the leaves of deciduous<sup>54</sup> plants fall, they create a layer on the ground that helps the ground absorb moisture, and when they start to decompose, they release nutrients into the soil that are used by other plants to grow.

**Note:** This is one good reason not to rake up fallen leaves. Another is that healthy soils make healthier plants that are more low-maintenance and need less water to survive. Leaves can also provide shelter on your property for beneficial insects and amphibians over the winter and help birds by creating a place to forage for food in cold weather. (make sure you research this more if you usually rake up leaves. As this approach can have ramifications for lawns.... But seriously, also rethink needing a lawn in the first place.)

## **Leaf Story #4**

### ***'THE HONORABLE HARVEST'***

by Robin Waller Kimmerer

*The crows see me coming across the field, a woman with a basket, and argue my provenance loudly among themselves. The soil is hard under my feet, bare except for a scattering of plow-scraped rocks and a few of last year's corn stalks, their remnant prop roots squatting like bleached-out spider legs. Years of herbicides and continuous corn have left the field sterile. Even in rain-soaked April not a blade of green shows its face. By August it will once again be a monoculture of corn plants in straight rows of indentured servitude, but for now it's my cross-country route to the woods.*

*My entourage of crows leaves me at the stone wall, a loose wind-row of glacial cobbles raked from the field to mark its boundary. On the other side the ground is soft underfoot and deep in centuries of leafmold, the forest floor flocked with tiny pink spring beauties and clumps of yellow violets. The humus stirs with trout lilies and trillium poised to rise through the winter-brown mat of leaves. A wood thrush hangs a silvery trill on the still-bare branches of the maples. The dense patches of leeks are among the first to appear in the spring, their green so vivid that they signal like a neon sign: PICK ME!*

*I resist the urge to answer their call immediately and instead address the plants the way I've been taught: introducing myself in case they've forgotten, even though we've been meeting like this for years: I explain why I've come and ask their permission to harvest, inquiring politely if they would be willing to share.*

*Eating leeks is a spring tonic that blurs the line between food and medicine. It wakens the body from its winter lassitude and quickens the blood. But I have another need, too, that only greens from this particular woods can satisfy. Both of my daughters will be home for the weekend from the far places where they live. I ask these leeks to renew the bonds between this ground and my children, so that they will always carry the substance of home in the mineral of their bones. Some of the leaves are already expanded-stretching toward the sun-while others are still rolled into a spear, thrusting up through the duff. I dig my trowel in around the edge of the clump, but they're deeply rooted and tightly packed, resisting my efforts. It's just a small trowel and it hurts my winter-softened hand, but at last I pry out a clump and shake away the dark earth.*

*I expected a cluster of fat white bulbs, but in their place I find ragged papery sheathes where the bulbs should be. Withered and flacid, they look as if all the juice has already been sucked out of them. Which it has. If you ask permission, you have to listen to the answer. I tuck them back in*

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<sup>54</sup> Deciduous: meaning a tree or a shrub that sheds its leaves annually.

*the soil and go home. Along the stone wall, the elderberries have broken bud and their embryonic leaves reach out like gloved purple hands.*

*On a day like this, when the fiddleheads are unfurling and the air is petal soft, I am awash in longing. I know that "thou shalt not covet thy neighbor's chloroplasts" is good advice and yet I must confess to full-blown chlorophyll envy. Sometimes I wish I could photosynthesize so that just by being, just by shimmering at the meadow's edge or floating lazily on a pond, I could be doing the work of the world while standing silent in the sun. The shadowy hemlocks and the waving grasses are spinning out sugar molecules and passing them on to hungry mouths and mandibles all the while listening to the warblers and watching the light dance on the water.*

*It would be so satisfying to provide for the well-being of others like being a mother again, like being needed. Shade, medicine, berries, roots; there would be no end to it. As a plant I could make the camp-fire, hold the nest, heal the wound, fill the brimming pot.*

*But this generosity is beyond my realm, as I am a mere heterotroph, a feeder on the carbon transmuted by others. In order to live, I must consume. That's the way the world works, the exchange of a life for a life, the endless cycling between my body and the body of the world. Forced to choose, I must admit I actually like my heterotroph role. Besides, if I could photosynthesize, I couldn't eat leeks.*

*So instead I live vicariously through the photosynthesis of others. I am not the vibrant leaves on the forest floor-I am the woman with the basket, and how I fill it is a question that matters. If we are fully awake, a moral question arises as we extinguish the other lives around us on behalf of our own. Whether we are digging wild leeks or going to the mall, how do we consume in a way that does justice to the lives that we take?*

*In our oldest stories, we are reminded that this was a question of profound concern for our ancestors. When we rely deeply on other lives, there is urgency to protect them. Our ancestors, who had so few material possessions, devoted a great deal of attention to this question, while we who are drowning in possessions scarcely give it a thought. The cultural landscape may have changed, but the conundrum has not-the need to resolve the inescapable tension between honoring life around us and taking it in order to live is part of being human.<sup>55</sup>*

## **Watering your seed kin**

As you water your seed kin today here are some conversation starters to begin conspiring with the plants. These questions are imaginative and creative in nature designed to help you think creatively but also may involve some research online.

- ❖ Has any part of your plant kin started to form yet?
- ❖ How long until your plant forms leaves? Look up the typical germination period for this plant
- ❖ How will its' leaves be useful to others (humans and other creatures too)?
- ❖ What is this plant gifting this ecosystem through its leaves? Consider all aspects including photosynthesis and compost of dead leaves.

## **Visit your sit spot**

Ask consent to be here today, touch the soil, acknowledge the traditional custodians of this land or your ancestors if they are of this land.

## **Sitting**

You can complete this mediation however you wish and following which ever faith tradition you identify with. However, it is best for the purposes of this program to be completed in silence, sitting outdoors in your sit spot for 10mins or less if you are new to this kind of sitting mediation or 20mins – 1 hr, if you are used to practicing in this way.

Feel free to re-read the original instructions by Pema Chodron if needed.

## **Observation**

In place at your sit spot, watch the goings on of all life here.

Today, place yourself in a position where you can best observe the leaves of various plants.

Focus on the leaves of the plants all around you. What do you notice?

Consider the plants here photosynthesising and gifting you with oxygen that you need to survive.

If you like you can choose just one or two leaves to focus on for a full 10mins. Notice every little detail of this leaf. No need to pluck it from the plant. Observe without taking.

## **Journaling**

Write down all you heard, felt, saw, smelt and experienced during your observation.

Remember there are no right or wrong ways of doing this.

Focus your writing today on the leaves, the process of photosynthesis and all the gifts that plants give us though their leaves.

## **Eco art activity: Option #1**

Becoming plant dance.

(You may want to do this in solitude, away from the eyes of other humans.)

Stand tall, bare feet on the soil or grass beneath you. Stretch your hands above your head, to the sky and think of your hands as leaves.

Use your body to mimic the movements of plants and trees around you. Study their rustles and movements in the wind, if they are still, stay as still as they. Do your best to use the different parts of your body to imitate them as best you can. Move your body in any way, you feel inclined. You could see what it feels like to imitate any creature your eyes perceive.

Moths, butterflies, lizards or beetles.

Allow yourself to feel each movement and enjoy each stretch and movement.

Perform your plant dance for at least 10mins but if it feels good you can dance and move for longer.

Journal about this experience after.

## **Eco Art Activity Option #2**

Consider the process of photosynthesis.

The plant takes everything it needs from its immediate environment and produces no waste in the process. Any waste products are used by other forms in the eco-system. This is something as humans we should try to emulate.

Usually when we consume items that we need to sustain ourselves such as food. We produce much rubbish in the process.

Waste can be used and reused; however, rubbish which goes to landfill, cannot assist any other beings.

*Food and yard waste (in landfill), is decomposing and releasing methane, a greenhouse gas that's 28 times more potent than carbon dioxide. Landfill gas also contributes to smog, worsening health problems like asthma<sup>56</sup>.*

By not being reabsorbed into any ecological system, rubbish will sit in the soil tightly packed and barely decomposing. It will sit there for hundreds of years. Our rubbish becomes problematic for so many creatures, plants, and eco-systems but ultimately it is also a human problem of pollution. Which effects our health, water supply and air-quality.

There are many indigenous stories from around the world where plants are guides and markers for moral behaviour. In this instance by dealing with and using or reusing our own waste we should observe how plants only take what they need and give more than they take.

They also use waste materials for their own advantage.

All waste is biodegradable and breaks down within the eco-system, benefiting other organisms.

With this in mind, I present to you an eco-art challenge...

**Can you create a meal or dish that involves as little waste and transport as possible?**

Try to S.O.L.V.E it.



<sup>56</sup> 'Landfills have a huge greenhouse gas problem. Here's what we can do about it' by Erica Gies  
<https://ensia.com/features/methane-landfills/>

## Here are some tips to help you:

- ❖ What can you forage in your neighbourhood? (weeds, fruits, nuts) Remember anything hanging over a fence is fair game. What food plants have you noticed on your dusk walks? You could make a dish based around whatever food you can forage.  
**(Note: Be very careful while foraging. Only eat plants, fruits, weeds, and nuts that you 100% know, it is the correct plant and is edible)**
- ❖ Research and find out where you can buy local, organic and ethical food (if you don't know already). Try local markets, food Co-Ops and wholefood stores.
- ❖ Research or find out where you can buy nude or unpackaged foods?
- ❖ If you don't already have one, start a compost, worm farm or Bokashi bucket to deal with and use your own food waste. Some cities also have communal composts that you can take your food waste to. (This is so much easier than you think: Rahamim created a free online course all about composting that you can complete<sup>57</sup>)

## A Zero Waste Meal Challenge:

1. Look up a zero-waste recipe for whatever food is growing abundantly right now in your local area.
2. Collect all your items needed as sustainably and ethically as possible.
3. Make the dish or meal.
4. Photograph your final edible artwork. Post your photograph on social media if you use it, using the hashtag #zerowastefood and let your friends and family know, it can be done.
5. Say 'Grace' or a 'Gatha' over your meal, if you feel so inclined. This shows gratitude for all the elements that went into making this dish.
6. Share your meal with a neighbour or friend.

My favourite Gatha from Thich Nhat Hahn is:

*My bowl, empty now,  
will soon be filled with precious food.  
Beings all over the Earth are struggling to live.  
How fortunate we are to have enough to eat.*

*In this food,  
I see clearly  
the entire universe  
supporting my existence.*

*Earth brings us into life  
and nourishes us.  
Earth takes us back again.  
We are born and we die with every breath.<sup>58</sup>*

I chose to make use of the abundance of fresh plums growing along roadsides all over Bathurst this summer.



<sup>57</sup> Contact ISMAPNG to find out more or email [sally.neaves@ismapng.org.au](mailto:sally.neaves@ismapng.org.au)

<sup>58</sup> "The World We Have: A Buddhist Approach to Peace and Ecology," by Thich Nhat Hanh. Parallax Press (2008)

My recipe used fresh foraged plums, homemade pie crust, local honey, local flour and local single source cream that comes in a glass jar (I reuse glass jars for preserving olives, when my olive tree bears fruit.)



The one item that I always struggle to find without rubbish involved is butter. I am still investigating a workaround for this. As even making it myself needs cream which in the amount I need only comes in plastic.

I seem to get given or offered fresh eggs by friends and neighbours with chooks, so am quite lucky in this way. I get them from my local food co-op otherwise.

Even our eggshells are used. We collect them in the jar, seen below. When the jar is full, we bake them and then smash them into small pieces. These then get placed on the garden around our vegies.

*The calcium from eggshells is also welcome in garden soil, where it moderates soil acidity while providing nutrients for plants. Tomatoes that have a handful of eggshell meal worked into the planting site are not likely to develop blossom end rot, and plenty of soil calcium reduces tip burn in cabbage, too.<sup>59</sup>*



<sup>59</sup> Using Eggshells in the Garden (2013) by Barbara Pleasant <https://www.growveg.com.au/guides/using-eggshells-in-the-garden/>

A few more pictures of the pie making process...



### **Giving art a voice**

Today consider your own kind of photosynthesis.

Journal about the process of becoming plant and/or attempting to make a dish that involved no rubbish.

- ❖ What were the challenges?
- ❖ Could you make every meal this way? Why/ Why not?
- ❖ Did you feel self-conscious in your plant dance? Why?
- ❖ What are the barriers that prevent you from eating an ecologically sustainable diet?
- ❖ Monica Gagliano

### **Walk the land at dusk**

While walking today try to pay heightened attention to the leaves and consider the process of photosynthesis.

What do you notice? What are you drawn to?

Can you ID plants by their leaves?

Take photographs of your walk if you like.





## **Final reflection for today**

### *THE FIVE CONTEMPLATIONS*

*1. This food is a gift of the Earth, the sky, numerous living beings, and much hard and loving work.*

*2. May we eat with mindfulness and gratitude so as to be worthy to receive this food.*

*3. May we recognize and transform unwholesome mental formations, especially our greed, and learn to eat with moderation.*

*4. May we keep our compassion alive by eating in such a way that reduces the suffering of living beings, stops contributing to climate change, and heals and preserves our precious planet.*

*5. We accept this food so that we may nurture our brotherhood and sisterhood, build our community, and nourish our ideal of serving all living beings.”*

— Thich Nhat Hanh <sup>60</sup>



Another photo from one of my neighbourhood walks. (2021)

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<sup>60</sup> ‘How to Eat’ by Thich Nhat Hanh 2014. <sup>60</sup>

## **Day Five: Flower**



'Flower; Eucalyptus sideroxylon' by Pricilla Ambrosini 2021

*A flower is 'the specialized part of an angiospermous plant that occurs singly or in clusters, possesses whorls of often colourful petals or sepals, and bears the reproductive structures (such as stamens or pistils) involved in the development of seeds.'*<sup>61</sup>

We often as humans marvel at the beauty of flowers. They are the subjects of whole genres of art, poetry and music. When we see a beautiful flower, for many our instinct is to pick it and take it home with us.

Yet flowers play a vital role in plant reproduction and while beautiful, their function is to attract pollinators and be a site in which reproduction of the plant can take place. Funnily enough the human equivalent is the genitals, so next time you pick a flower, consider what you are really holding in your hand.

It is also fascinating to think that humans send flowers to grieving people or to celebrate an occasion. Flowers are reminders of beauty, but this beauty is fleeting, and this gift is temporary, only lasting a couple of days. A week at most.

For me, flowers are symbols of temporality and beauty being fleeting, perhaps that is why we use flowers in all major life events and rituals.

To the plant, flowers are a chance at new life, but the plant must be pollinated before it can bear fruit. We will think more about this process of pollination tomorrow.

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<sup>61</sup> Merriam Webster definition of flower <https://www.merriam-webster.com/dictionary/flower>

As the world's climate changes, plants are adapting by shifting their blossoming seasons and new research suggests that over the past 75 years, flowers have also adapted to rising temperatures by changing the pigment in their petals. This can either make them either more or less attractive to pollinators depending on the flower.<sup>62</sup>

Warming temperatures affect native and non-native flowering plants differently, which could change the look of our local landscapes over time. Many of our food crops are flowering plants and so how climate change affects the blossoming of our food crops is a concern for many, yet new research suggests that it is our native flowering species that are more at risk than non-native plants.

*"The timing of a plant's life cycle is crucial for species survival," said study co-author Jen Lau, an associate professor in the IU Bloomington College of Arts and Sciences' Department of Biology and a member of the Environmental Resilience Institute. "When a plant flowers determines whether it will be pollinated by bees or other insects and how much time it will have to produce seeds. Our data makes me worry that we will have a very weedy world in our future." The researchers' findings suggest non-native plant species may be better at shifting their flowering time compared to native plant species. These differences are thought to influence a species' success both now and in future warmer environments.*<sup>63</sup>

- ❖ Did you know, figs are technically not a fruit? They are actually inverted flowers.
- ❖ Did you know, cut flowers for market use, take up a large amount of water, pesticides and refrigeration to keep them fresh? Its hard to calculate the carbon footprint of a single bouquet, but its estimated that 100 million roses, the average number sold in the US on valentines Day produces 9,000 metric tonnes of carbon dioxide. Almost 80% of the 6.8 billion stems of flowers annually sold in the U.S. are imported, with the majority grown in greenhouses in Colombia or Ecuador. Cut flowers have a significant impact on climate change

## **Flower Stories #5**

### ***'How climate change disrupts plant-animal relationships***

by Gunnar Bartsch and the University of Würzburg

*Higher mean temperatures as associated with climate change can have a severe impact on plants and animals by disrupting their mutually beneficial relationship: The pasque flower (*Pulsatilla vulgaris*), for example, is very sensitive to rising temperatures by flowering earlier each year, whereas one of its major pollinators, a solitary bee species, does not quite keep pace by hatching earlier. In the worst case, this may cause the seed production of the plant to decrease and impair reproduction while requiring the bee to switch to other plants to forage on to compensate for the lack of food supply.*

*This is the key finding of a new study conducted by scientists from the University of Würzburg which has been published in the journal Plos One. Dr. Andrea Holzschuh from the Department of Animal Ecology and Tropical Biology (Zoology III) and PhD student, Sandra Kehrberger, were in charge of the study.*

*"We studied the impact of temperature on two solitary bee species that emerge in spring and on *Pulsatilla vulgaris*, one of the earliest flowering plants," Sandra Kehrberger describes their experiment. The scientists were particularly interested in how different temperatures in winter*

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<sup>62</sup> Flower colors are changing in response to climate change by Lucy Hicks (2020)

<https://www.sciencemag.org/news/2020/09/flowers-are-changing-their-colors-adapt-climate-change>

<sup>63</sup> Native plant species may be at greater risk from climate change than non-natives (2019) Source: Indiana University

<https://www.sciencedaily.com/releases/2019/05/190531135820.htm>

and spring affect the hatching time of the European orchard bee (*Osmia cornuta*) and of the red mason bee (*Osmia bicornis*) as well as the onset of flowering in the pasque flower.

The phenological synchrony of the two events, hatching and flowering, is crucial in the life of both plant and bee: "For solitary bees, it is all about the correct timing of hatching in spring when the growing season starts since already a short period of time without flowering plants that provide food can have negative consequences for the bees' survival and the number of offspring," Andrea Holzschuh explains. But the timely onset of flowering is also essential for plant species that flower at the beginning of the growing season and rely on solitary pollinators. "A lack of pollinators can have serious consequences for the plants and their reproductive success," Sandra Kehrberger adds.

For their study, the scientists placed bee cocoons on eleven grassland sites in the Würzburg area. On seven grasslands, they additionally studied the effect of temperature on the onset of flowering in the pasque flower. "Because the surface temperatures of the respective grasslands were different, we were able to investigate the impact of higher temperatures as an effect of climate change on the onset of flowering in *Pulsatilla vulgaris* and on the hatching of the mason bees," Kehrberger says.

The result was clear: As the temperatures increased, the pasque flower started to flower earlier. The emergence of the two solitary bee species lagged somewhat behind. This poses the risk that the first flowers of the pasque flower bloom in the absence of suitable pollinators. As a result, reduced viability and reproductive success could negatively affect the population size and even push a species to extinction in the long run. Climate change thus presents another risk for the native red-list species *Pulsatilla vulgaris*. However, this temporal mismatch can also endanger the solitary bees due to the reduced availability of nectar and pollen.

"Our research shows that climate change also threatens domestic plants and solitary bee species which are already under great pressure from habitat loss and intensive agriculture," Sandra Kehrberger concludes. The two scientists want to use their research results to demonstrate the scope of the threat. They hope that their findings will help to better estimate the possible consequences of climate change on plant-pollinator interactions and highlight the importance of limiting global warming to a minimum.<sup>64</sup>

## **'A DIFFERENT VIEW OF SELF'**

by Joanna Macy

The Vietnamese Zen master Thich Nhat Hanh was once asked what we need to do to save our world. "What we most need to do," he replied, "is to hear within us the sounds of the Earth crying." The idea of the Earth crying within us, or through us, doesn't make sense if we view ourselves only as separate individuals. Yet if we think of ourselves as deeply embedded in a larger web of life, as Gaia theory, Buddhism, and many other, especially indigenous, spiritual traditions suggest, then the idea of the world feeling through us seems entirely natural.

This view of the self is very different from that found in the Business as Usual model. Its extreme individualism takes each of us as a separate bundle of self-interest, with motivations and emotions that only make sense within the confines of our own stories. Pain for the world tells a different story, one about our interconnectedness. We feel distress when other beings suffer because, at a deep level, we are not separate from them. The isolation that splits us from the living body of our world is an illusion; the pain breaks through it to tell us who we really are....

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<sup>64</sup> How climate change disrupts plant-animal relationships (2019) University of Würzburg  
<https://www.sciencedaily.com/releases/2019/07/190724104028.htm>

*...Our pain for the world arises out of our inter-existence with all life. When we hear the sounds of the Earth crying within us, we're unblocking not just feedback but also the channels of felt connectedness that join us with our world. These channels act like a root system, opening us to a source of strength and resilience as old and enduring as life itself.*

*In the process, the view that we are separate from our world falls away. The term deep ecology, coined by Norwegian eco-philosopher Arne Naess, captures the essence of this shift. When we perceive our deeper identity as an ecological self that includes not just us but also all life on Earth, then acting for the sake of our world doesn't seem like a sacrifice. It seems a natural thing to do.<sup>65</sup>*

## **Watering your seed kin**

As you water your seed kin today here are some conversation starters to begin conspiring with the plants.

- ❖ Will these plants one day bear flowers?
- ❖ What will these flowers look like? If you don't know, look it up.
- ❖ What function does the flower play for this plant?
- ❖ How does this plant reproduce?
- ❖ What pollinators might visit this plant kin?
- ❖ What effect will climate change have on this plants ability to reproduce and be pollinated?
- ❖ Will this plant grow easily in this eco-system in 20 years, with the effects of global warming?

## **Visit your sit spot**

Ask consent to be here today, touch the soil, acknowledge the traditional custodians of this land or your ancestors if they are of this land.

## **Sitting**

Today, let's try a different kind of mediation. If you would prefer to keep practicing as you have been on the previous days, you are more than welcome to keep practicing in that manner. You could try for sitting slightly longer today, if you feel able.

If you would like to try this flower gazing mediation, read the instructions below.

Flowers can be powerful vehicles for meditation because there is so much beauty present and their interconnectedness to contemplate.

## HOW TO DO FLOWER-GAZING MEDITATION:

- ❁ Find a flower to gaze at that is easy to see from where you will be sitting.
- ❁ Practise body stillness by sitting comfortably. Sit up tall. You can cross your legs and rest your hands (facing down) on knees.
- ❁ Gently close your eyes and relax your facial muscles.
- ❁ Breathe deeply to stabilise the mind: as you inhale, roll your shoulders up to your ears, and as you exhale, drop your shoulders down. Repeat three times.
- ❁ Once the mind is present, gently open your eyes, and gaze at the flower, and study it. Notice its unique shape, contours, colours, texture and scent present in front of you.
- ❁ Close your eyes halfway and see how long you can focus on the flower without blinking or closing eyes all the way. Fixing the gaze helps anchor the mind.
- ❁ When you feel the need to blink, gently close your eyes, and imagine the flower that you were just concentrating on. See how well you can remember details of the flower. Capture a picture of the flower in your mind and focus on it.
- ❁ The picture you just captured in your mind might fade away. When this happens, you need to recall details of the flower. Gently open your eyes again, and re-study the flower in front of you.

(This practice can be done daily for approximately 10 minutes each session.)<sup>66</sup>

### **Observation**

In place at your sit spot, focus on any flowers that are present here.

Consider how long a flower in its present form will last for.

If the world warms considerable as predicted. How will this eco-system change?

Will the plants here survive a warmer climate? How will a warmer climate affect their blooming?

### **Journaling**

Write down all you heard, felt, saw, smelt and experienced during your observation. Remember there are no right or wrong ways of doing this.

Focus your attention today on your reaction to the questions above.

Usually with flowers we focus on their beauty and enjoying their beauty, try to move past this usual focus to learn more about plant use for flowers and how climate change will affect the vegetal world and this eco-system.

Consider how flowers are part of a plant continuation of life, usually humans find flowers so alluring we pick them as decorations without consideration of their role for plants, insects and other creatures.

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<sup>66</sup> Based on Mindfulness Practice: Flower-Gazing Meditation by Cheria Swenson  
<https://www.cheriaswenson.com/post/flower-meditation>

## Eco art activity

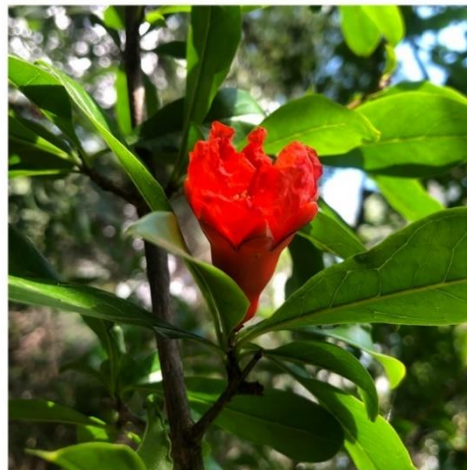
Today find a flower or blossom in this eco-system, observe the flower without picking it.

Consider its lifespan. How long will this flower be a flower?

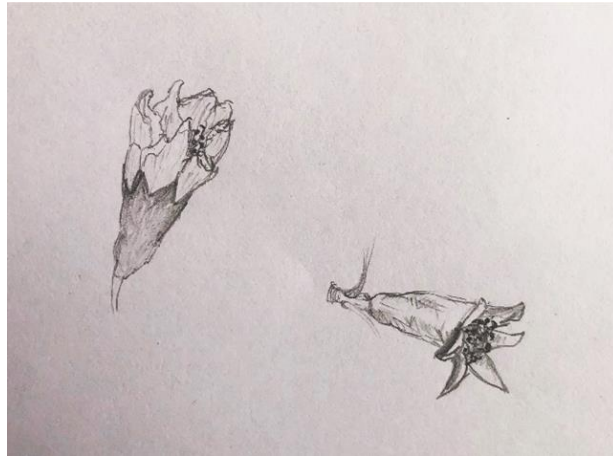
If you are unsure, do some research to find out or observe this plant over time, returning to the same flower to find discover the answer.

Take photographs of this flower and other flowers on the same plant if it has any.

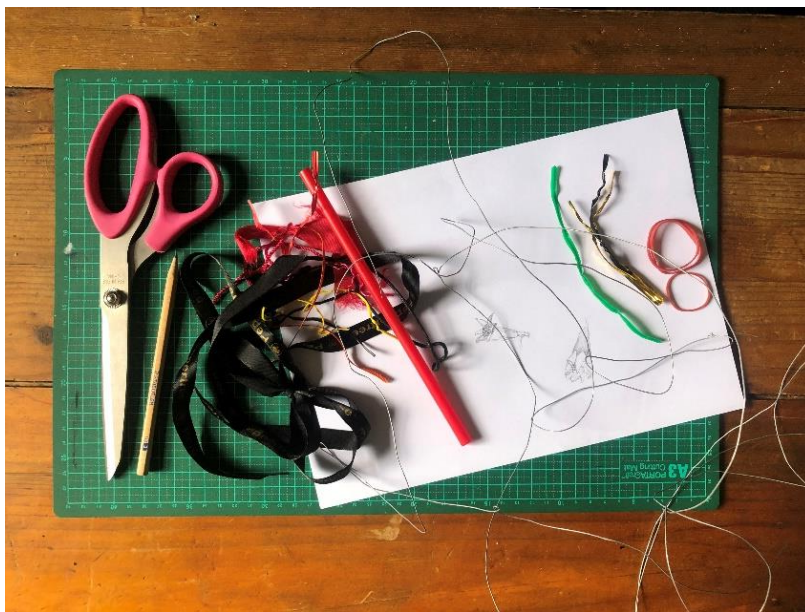
If there are flowers in different stages of blossom and decay. Attempt to capture the different stages of the flower. Also try to capture the flowers from varying angles and perspectives.



Sketch the flower from varying angles to understand its form. It is better to work from life but if you must then look at the photographs you have taken.

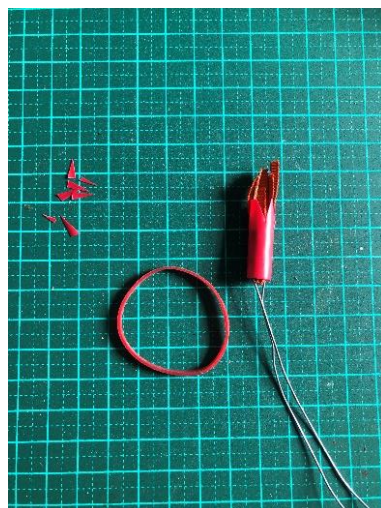


Attempt to recreate the flower out of materials that would be considered as waste or rubbish. Focus on the details of its shape that you can recreate easily.



You can make as many or as few as you like.

They do not have to be pretty and they do not have to be 'good'.



Using these man-made flowers create a ritual for yourself to honour any pain you feel over our warming planet and what might be lost to us through climate change.



## **For your ritual**

- ❖ Ask consent to the plant kin you have been working with to take one of their flowers to use in your ritual.
- ❖ Use any of the four elements to inspire your ritual.  
Water, Fire, Earth, Air.  
(if using fire be wary of any fire hazards and make sure there are no fire bans in place, make sure there is water nearby to put out a fire if needed.)
- ❖ Incorporate your man-made flowers somehow.
- ❖ Perform the ritual outside, near your chosen plant if possible.
- ❖ Try not to destroy the home-made flowers in your ritual.  
(burning or burying non-biodegradable objects can be hazardous to your health and the health of other species)

## **Some key contemplations during your ritual for honouring your pain for the world:**

- ❖ Compare and observe the qualities of the man-made flower to the flower.  
What feelings arise from this comparison?
- ❖ As part of the ritual offer vows or promises to this eco-system.
- ❖ You can write your own or use the eco-sattva vows found on page 14.
- ❖ As part of the ritual deeply consider how climate change will affect the plant, animal and insect kin-doms.  
What in turn does this mean for humans?
- ❖ Consider what all earthlings stand to lose if we do not change our goals and lifestyles.
- ❖ You can incorporate any aspect of your own spiritual tradition into this ritual.
- ❖ Design this ritual for yourself alone.  
Let the plants and soil bear witness to your commitment.

At the end of your ritual, keep your home-made flowers somewhere in your home to remind you of what took place and your commitment to this eco-system. If you think they look ugly, let their ugliness remind you of the ugliness of human rubbish and let this remind you to a commitment of reducing your rubbish.

## **Giving art a voice**

Today consider your process in designing flowers and creating a sacred space to conduct a ritual for yourself and this eco-system you live in.

- ❖ What thoughts arose for you?
- ❖ How did this ritual make you feel?
- ❖ Has this process changed anything for you?

## **Walk the land at dusk**

While walking today try to pay heightened attention to the flowers and blossoms around you. Consider them for their wonderful function of reproductivity as well as their beauty.

Can you admire them without picking them?

Take photographs of your walk if you like, or the flowers you meet.



### **Final reflection for today**

*All rituals are nothing if they are empty of the energy of mindfulness and concentration. We could call these energies the Holy Spirit. When a priest celebrates the Eucharist, breaking the bread and pouring the wine, it's not the gesture and the words that create the miracle of the Eucharist.*

*It's the priest's capacity to be alive, to be present at that moment, that can wake up the whole congregation. The priest can break the bread in such a way that everyone becomes aware that this piece of bread contains life. That requires strong practice on the part of the priest. If he's not alive, if he's not present, if he doesn't have the power of mindfulness and concentration, he won't be able to create life in the congregation, and in the church.*

*That is why empty rituals don't mean anything. For all of us—priest, monk, and layperson—our practice is to generate the energy of concentration and mindfulness.<sup>67</sup>*

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<sup>67</sup> 'The Moment is Perfect' by Thich Nhat Hahn <https://www.lionsroar.com/the-moment-is-perfect/>

## **Day Six: Pollinators**



'Regent Honey Eater' by Pricilla Ambrosini 2021

A pollinator is *an agent (such as an insect) that pollinates flowers.*<sup>68</sup>

In writing this section, I have just spent the past few months researching pollinators and why they are of vital importance to our eco-systems and food chains. In my work as a public engagement and education officer for Orange Regional Museum, I have been working steadily towards a collaborative exhibition with Orange Regional Gallery and the SPARKE Network. The exhibition is called 'Pollinators' will feature a large-scale art installation of children's artworks depicting four pollinators active in the Central West. The Australian Painted Lady Butterfly, the Blue Banded Bee, the Grey-headed Flying-fox and the Red Wattlebird.

When we talk about pollinators, most of the discussion tends to focus on bee's and their vital contribution of pollinating the crops we rely on for food, medicine, and fabric. Yet three-fourths of the world's flowering plants depend on animal pollinators to reproduce.<sup>69</sup> Which is quite astounding and leaves us to question whether our hyper-focus on bees is rather narrow. Pollinating species include a variety of insects, bees, wasps, beetles.

Globally pollinator populations are shrinking. It is estimated that more than 1 million species will be lost by 2050 due to Climate Change<sup>70</sup>. With so many pollinators disappearing from our landscapes, three-fourths of flowering plants that require pollination by creature are at risk too. As well as Climate Change, pollinator species are in decline due to agricultural

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<sup>68</sup> Merriam Webster definition of pollinator <https://www.merriam-webster.com/dictionary/pollinator>

<sup>69</sup> 'Insects & Pollinators' by NRCS <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/pollinate/>

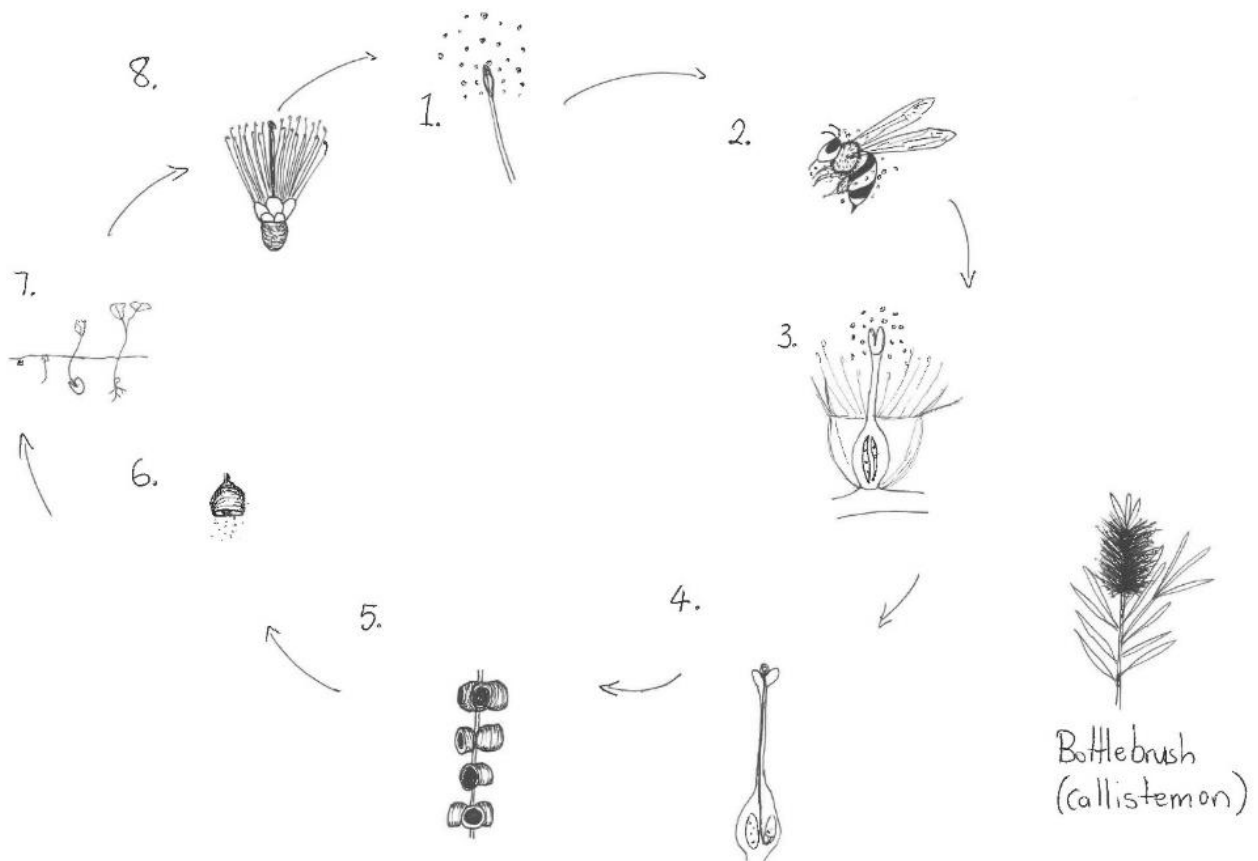
<sup>70</sup> 'An unnatural disaster' by Paul Brown 2004 <https://www.theguardian.com/science/2004/jan/08/biodiversity.sciencenews>

expansions, land-clearing for mining, logging and industry, habitat fragmentation, widespread pesticide use and the spread of emergent pathogens, parasites and predators.

## **Gifts and Responsibilities:**

The pollination cycle demonstrated by our friend Callistemon, also known as bottlebrush.

### **The Pollination Cycle**



- 1) Anthers in flower release pollen
- 2) Pollinator visits flower and picks up pollen on their face, body or legs
- 3) Pollen on their body rubs off on to the stigma of another flower
- 4) Flower is pollinated
- 5) Flower becomes a fruit or vegetable
- 6) Fruit or vegetable produces a seed
- 7) Seed germinates
- 8) A new plant grows and continues the cycle

\*Pollination can also occur by wind and water.

- ❖ Did you know, you can protect pollinators by planting native flowering plants, reducing your use of pesticides and telling others of the danger these animals and insects are in through chemical misuse, loss of habitat and diseases?
- ❖ Did you know, Australia has around 2,000 native bee species, all of which are important pollinators.

## **Pollinator Story #6**

Grey-headed Flying Foxes are nocturnal pollinators who love the sweet nectar of our native flowers and can sometimes be found covered in pollen. They are essential to the health of native forest ecosystems as pollinators. Despite this and the fact that they are listed as a vulnerable species, many in Australia still consider them to be a pest. I wrote this poem for them a few years ago, when many in Bathurst were trying to get rid of them from Machattie Park (Due to substantial foraging and roosting habitat loss, these creatures now inhabit many urban parks in Australia and feed on fruit in agricultural orchards.)



Image courtesy of Tim Bergen. ©Tim Bergen<sup>71</sup>

### **Immigration**

They moved into town at night,  
the new Bathurstian immigrants.

Ignoring the amenities and pissing where they liked.

In the paper a local councilman, sites other communities 10 times our population as fair warning.

His words are full of half-truths and a lack of scientific evidence.

Yet the message is clear,  
they are not welcome  
here.

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<sup>71</sup> Image courtesy of Tim Bergen. ©Tim Bergen. <https://www.bergenphotography.net/>

Neutral faced consultants are hired to deal with “The Problem” and explain without emotion, there is a three-stage plan to move them on.

Most in favour of getting rid of the little bastards are unaware of the cost.

117K in Singleton, 1 million dollars in Sydney, more than 3 million in Melbourne.

When I ask the consultant, the success rate of such expensive programs, she looks tired.

“One out of seventeen dispersals in NSW has been successful.”

All over the world, in every tongue the prophets have exclaimed

“love thy neighbour”

Except in Australia where it is our god damn given right, to move them on, send them back, lock them up or shoot them down.

Our prophets seem more interested in economics and self-help books, our Indigenous elders are silenced on talk show television, while our refugees are treated worse than wildlife.

We humans are not a threatened species and so...

The new Bathurstian immigrants are more native than most Australians, yet their dwindling numbers does not protect them.

Each year they follow the blossoming of native plants,

plague proportions are exaggerated everywhere they follow their food source.

When the flashing lights, smoke and noise subside, they move back in to where they first arrived.

Ignoring the locals and screeching in the dark.

And so, the council places brochures in all surrounding letterboxes.

They had them printed already, before all the money was spent and the three-stage plan was executed.

On the front a gentle grey, furry face licks a spiny blossom.

Tiny pink tongue, ancient dark eyes, dinosaur wings.

It reads

“How to live with grey-headed flying foxes.”<sup>72</sup>

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<sup>72</sup> ‘Immigration’ by Anastasia Freeman (2017)

## **Watering your seed kin**

As you water your seed kin today here are some conversation starters to begin conspiring with the plants. These questions are imaginative and creative in nature designed to help you think creatively but also may involve some research.

- ❖ How will this plant kin support and give sustenance to other species?
- ❖ What pollinators are in this eco-system? If you don't know look it up.
- ❖ What pollinators will be attracted to this plant kin?

## **Visit your sit spot**

Ask consent to be here today, touch the soil, acknowledge the traditional custodians of this land or your ancestors if they are of this land.

## **Meditation**

You can complete this mediation however you wish and following which ever faith tradition you identify with, as you have been invited to do every other day. See if you can sit a little longer today.

## **Observation**

In place at your sit spot, conduct a pollinator count. If you are not sure which are pollinators. Just observe and note each creature you see here and focus on how these creatures are interacting with the plants here.

Some tips on how to conduct a wild pollinator count:

- ❖ Take 10 minutes to watch one flower in your sit spot.
- ❖ Summer or spring may be the best time to do this activity. You may also like to take photographs.
- ❖ If you need some help with identifying the insects, visit the link below.  
(note: this link is for Australians, if you are elsewhere look online for a local insect ID resource.) <https://wildpollinatorcount.com/resources/bee-fly-or-wasp-2/>
- ❖ Choose a time of day that is sunny, warm and calm. These weather conditions are important, as many insects don't like flying when it's cold, raining or very windy. If there is a shower of rain, wait at least an hour and for the sun to come out before doing your observation. Some pollinators don't fly in strong winds, so make sure it is calm or only lightly breezy when you perform your observation.
- ❖ Choose a single large flower to observe, or a group of smaller flowers within your visible range.
- ❖ Watch the flowers continuously for 10 minutes.
- ❖ You can record any insect on a tally sheet if you like.
- ❖ Watch for insects that visit the flowers and moves around on the stamens or pistil (the flower's reproductive parts).
- ❖ If you can, try not to count the same individual insect twice.
- ❖ If you have more time, try multiple counts in different locations, or on different flowers.
- ❖ Some flowers are more attractive to pollinators than others, so you might see some interesting patterns.

## Journaling

Write down all you heard, felt, saw, smelt and experienced during your observation. There are no wrong answers. Write as much or as little as you like. It can take the form of stream of consciousness writing or it can be curated and crafted words like prose. Write however you feel most comfortable and for as long as is comfortable.

Focus your attention today on the pollinators and how they interacted with plants.

What behaviours did you observe?



'Brushtail and bins' by Anastasia Freeman 2020

## Eco Art Activity Option #1

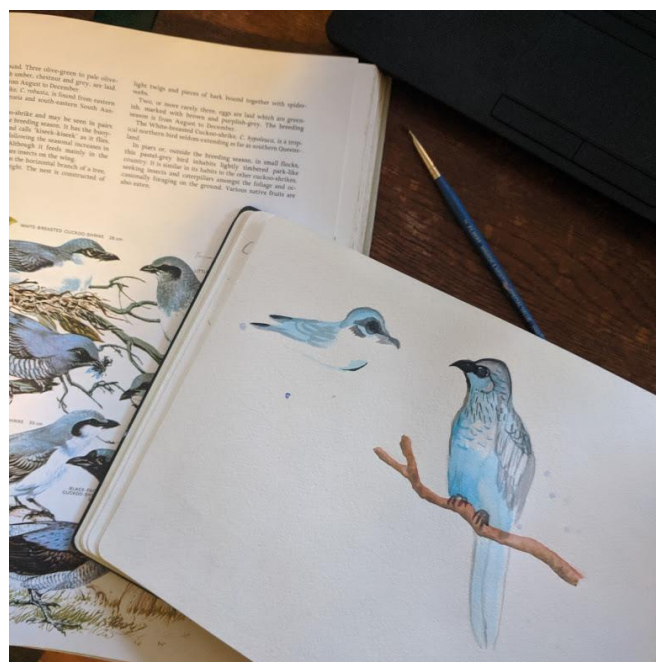
Research and consider a local native pollinator in your area that is vulnerable and at risk of extinction.

What kinds of foraging plants does it require?

What habitat does it require?

What tangible ways can you practically assist its recovery in your local ecosystem?

Make an artwork about this pollinator and share it on social media, to raise awareness of its plight. In your post, mention the ways that practical people can help this pollinator in your local area.



'Sketching birds in journal' by Anastasia Freeman 2020



## **Eco Art Activity Option #2**

Make practical item for the pollinators in this eco-system, or in your garden, balcony, or place of work.

It can be a temporary structure.

Research which pollinators are native to this eco-system if you do not already know.

Then research the kind of structure that would best suit the pollinators in this area.

Some examples are: Water station, bird bath, insect hotel, nest boxes or materials, pond, or planting native plant species for habitat and food sources.

Remember to research carefully best practice for the pollinators you are wishing to assist. For example, many native bees in my area are solitary and ground dwelling so prefer bare earth and mudbricks to the insect hotels that are made out of sticks and wood.

Focus on native species and how best to assist and attract them to this place.

Attempt to make items yourself rather than purchasing them, or if you must purchase anything try to get it second hand.

A super easy one to try and make is a beneficial insect water station. Simply find a shallow dish, fill it with smooth rocks and stones. Then add water. Many regular bird baths are too steep for dragonflies, damselflies, bees and other helpful insects to perch on.

Or if you would like to set up a bird bath, make sure that you place it in a shady location and provide logs or sticks across it for birds to perch on. If there is now where for them to perch, they will not be able to use the bird bath.



Remember that any watering stations need to be maintained by emptying them and refilling at least once a week. Also be aware that if you leave stagnant water sitting for too long, it will become a breeding ground for mosquitos.

## **Several simple tips to help and encourage pollinators:**

- ❖ Plant a pollinator-friendly garden with a variety of flowering plants to give a succession of bloom from Spring to Autumn.
- ❖ Plant diverse native species, including trees such as flowering eucalypts, mid-height species like Lilly-pilly, Grevillea, Callistemon and Leptospermum and ground cover plants like native Australian daisies.
- ❖ Don't mow the lawn too often or too short: Grasses and other ground cover plants provide food and habitat for pollinators.
- ❖ Leave patches of exposed, well-drained earth for ground-dwelling solitary bees to nest in.
- ❖ Provide undisturbed habitat for a variety of pollinators in your school or garden.
- ❖ Always check small cracks and holes in walls and brickwork for solitary bees before deciding to fill them.
- ❖ Avoid using pesticides.
- ❖ Go wild! If you can, let a corner of your schoolyard or backyard go "wild." This provides shelter, food, and nesting areas for many pollinators.
- ❖ Provide sources of water for different kinds of pollinators.
- ❖ Don't be too tidy. Leave some leaf litter and dead wood around for pollinator habitat and foraging.
- ❖ Check out Australian Pollinator Week and take part.  
<https://www.australianpollinatorweek.org.au/>
- ❖ Go to Dr Megan Halcroft's website Bees Business for free information on how to create pollinator habitat gardens and how to support our native beneficial insects  
([www.beesbusiness.com.au](http://www.beesbusiness.com.au))
- ❖ Take 10 minutes in your garden to join in the Wild Pollinator Count.  
<https://wildpollinatorcount.com/>
- ❖ Spread the word. Talk to others about pollinators and how we can help them.

### **Giving art a voice**

Today consider how it felt to make something functional that will benefit other creatures.

What feelings emerged when thinking about the plight of our pollinators?

How did it feel to take a small action to assist these creatures?

In what other ways could you do small acts of mercy for other creatures?

Write any other thoughts and feelings that emerged for you today.

## **Walk the land at dusk**

While walking today try to pay heightened attention to the creatures around you.

Which insects, bees, butterflies, birds and small mammals do you notice, that may be pollinators? Are any of them at work pollinating?

Can you call them by their name?

Take photographs of your walk if you like, or the pollinators you meet.



Crimson Rosella

## **Final reflection for today**

Bathurst wildlife photographer Tim Bergen takes the most magnificent images of our local pollinators. Here are just a few of his shots. Be sure to visit his website to see more.





## **Day Seven: Fruit**



'Fruit; Eucalyptus sideroxylon' by Pricilla Ambrosini 2021

A fruit is *the ripened ovary of a seed plant and its contents*<sup>73</sup>

### **Gifts and Responsibilities:**

After the fertilization of flowering plants, the ovule develops into a seed. The surrounding ovary wall enlarges and forms a fruit around the seeds. Technically, a fruit is a mature, ripened ovary. The two main functions of fruit are to prevent the seeds from drying and to disperse the seed. The fruit may be either fleshy or dry.

Fleshy fruits, like the tomato or apple, hold juices that prevent the seeds from drying until they are mature. Fleshy fruits also serve to help disperse the seeds. For example, some animals are attracted to the nutritious fruit and eat the seeds along with the fleshy fruit. The seeds pass through their digestive tract and are dispersed or disseminated away from the parent plant. This dissemination of seed is an important evolutionary trait for the survival of the plant species. Although dry fruits are not fat and juicy like the tomato, they do help prevent the seed from drying. Dry fruits have other means of dissemination. For instance, the dandelion has evolved a dry, feathery fruit to take advantage of the wind for dissemination.

There is great diversity of fruits. Three major divisions include simple fruits, aggregate fruits, and multiple fruits.<sup>74</sup>

<sup>73</sup> Merriam Webster definition of fruit <https://www.merriam-webster.com/dictionary/fruit>

<sup>74</sup> [https://www.mishicotffa.org/uploads/2/3/2/7/23271034/fruit\\_function\\_reading.pdf](https://www.mishicotffa.org/uploads/2/3/2/7/23271034/fruit_function_reading.pdf)

- ❖ Did you know nuts, although normally considered part of a separate human food group than fruits, are actually fruits with hard shells?
- ❖ Did you know, a strawberry has an average of about 200 seeds? A pomegranate can contain up to 1,000 seeds.

## **Fruit Story #7**

Here are two stories from the Jewish Tradition relating to fruit, trees and ecology. (special thanks to Donna Jacobs Sife who shared these with me.)

### ***'The Tree'***

*A man was travelling through the desert, hungry, thirsty and tired, when he came upon a tree bearing luscious fruit and affording plenty of shade, underneath which ran a spring of water. He ate of the fruit, drank of the water and rested beneath the shade.*

*When he was about to leave, he turned to the tree and said: "Tree, O tree, with what should I bless you?"*

*"Should I bless you that your fruit be sweet? Your fruit is already sweet.*

*"Should I bless you that your shade be plentiful? Your shade is plentiful. That a spring of water should run beneath you? A spring of water runs beneath you.*

*"There is one thing with which I can bless you: May it be G-d's will that all the trees planted from your seeds should be like you . . ."75*

*I recall the early days, after 1905, when God granted me the privilege to ascend to the Holy Land; and I arrived at Jaffa. There I first merited meeting our great master, Rabbi Abraham Isaac Kook (of blessed memory), who greeted me with good cheer, as was his sacred custom to receive all people.*

*We chatted together on various Torah topics. After an early Minchah (the afternoon prayer-service), he went out, as was his custom, to stroll a bit in the fields and collect his thoughts. I accompanied him.*

*During the walk, I plucked a twig or a flower. Our great master was taken aback when he saw this. He told me gently:*

*"Believe me — in all my days, I have been careful never to pluck a blade of grass or flower needlessly, when it had the ability to grow or blossom. You know the teaching of the Sages, that there is not a single blade of grass below, here on earth, which does not have a heavenly force above telling it, Grow!*

*"Every sprout and leaf of grass says something, conveys some meaning. Every stone whispers its inner message in its silence. Every creature utters its song [of praise for the Creator]."*

*Those words, spoken from a pure and holy heart, engraved themselves deeply on my heart. From then on, I began to feel a strong sense of compassion for all things.<sup>76</sup>*

<sup>75</sup> Talmud, Taanit 5b [https://www.chabad.org/library/article\\_cdo/aid/470845/jewish/The-Tree.htm](https://www.chabad.org/library/article_cdo/aid/470845/jewish/The-Tree.htm)

<sup>76</sup> Reb Aryeh Levine (1885-1969), known as the 'Tzaddik of Jerusalem' Story shared by Donna Jacobs Sife.

## **Watering your seed kin**

As you water your seed kin today here are some conversation starters to begin conspiring with the plants. These questions are imaginative and creative in nature designed to help you think creatively but also may involve some research.

- ❖ Will this plant bear fruit?  
(Using the botanical definition of fruit, not the common fruit we eat)
- ❖ What ideal conditions are needed for this plant to grow to maturity and bear fruit?
- ❖ Are there pruning techniques or special nutrients in the soil for fruit to grow?
- ❖ What specie other will benefit from this fruit?
- ❖ Can you harvest seeds from this fruit to propagate?

## **Visit your sit spot**

Ask consent to be here today, touch the soil, acknowledge the traditional custodians of this land or your ancestors if they are of this land. Take a piece of fruit with you today. Whatever you already have at home.

## **Sitting**

As with every other day, you can complete this mediation however you wish and following which ever faith tradition you identify with. If you would like to try something different today. Below is a fruit meditation.

*When you look deeply at an orange, you realize that an orange—or any fruit—is nothing less than a miracle. Try it.*

*Take an orange and hold it in your palm. Breathe in and out slowly and look at it as if you were seeing it for the first time.*

*When you look at it deeply, you will be able to see many wonderful things—the sun shining and the rain falling on the orange tree, the orange blossoms, the tiny fruit appearing on the branch, the colour of the fruit changing from green to yellow, and then the full-grown orange. Now slowly begin to peel it.*

*Smell the wonderful scent of the orange peel. Break off section of the orange and put it into your mouth. Taste its wonderful juice.*

*The orange tree has taken three, four or six months to make such an orange for you... It is a miracle. Now the orange is ready and it says, "I am here for you." But if you are not present, you will not hear it. When you are not looking at the orange in the present moment, then the orange is not present either.*

*Being fully present while eating an orange, an ice cream cane, or any other food is a delightful experience.<sup>77</sup> – Thich Nhat Hahn*

Or you can try this guided tangerine meditation with Brother Phap Linh from Plum Village:  
<https://www.youtube.com/watch?v=PMj5pxvXHJw>

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<sup>77</sup> 'A Pebble for Your Pocket' by Thich Nhat Hanh.

## **Observation**

In place at your sit spot, are there any fruits here in this eco-system?

Can you pick one and explore it? Remember to ask permission.

If there are no fruits here, which plants will bear fruit in Summer or Spring?

Try to sit in observation for at least 20mins.

## **Journaling**

Write down all you heard, felt, saw, smelt and experienced during your observation.

There are no wrong answers. Write as much or as little as you like.

It can take the form of stream of consciousness writing or it can be curated and crafted words like prose. Write however you feel most comfortable and for as long

Focus your attention today on fruit.

How do you feel about this being the final day?

What has been strange, interesting, joyful or challenging about the past week?

## **Eco Art Activity**

Today you will make a mandala.

*Mandalas are found among the most ancient art forms created by human beings. Rock carvings found all over the world incorporate the circular form and its variations such as spirals, crosses, concentric circles. It is thought that they express worshipful awe of nature's cycles and the mysteries of life and death. The alternation of day and night, the ever-changing moon, and the rhythms of the seasons are aptly expressed by circular designs.*

*The circle is the most natural form known to mankind. The Universe is made up of planets, stars, moons and the sun, all spherical in shape. The sun rises and sets in a never-ending circle; seasons pass in an annual circle. Trees, rocks and raindrops are circular, and most fruits and flowers are spherical. The cells and atoms that make up everything within the universe are circular.*

*The word "mandala" is Sanskrit for "circle." According to mandala artist Charles Gilchrist, creator of "Sacred Geometry," a wandering guru may have brought the first meditation mandalas to Tibet in about the eighth century. Mandalas have been found across the Far East, and Native Americans symbolism is based on the "sacred hoop." Mandalas are considered to be of Eastern origin, but it would be difficult, if not impossible, to find any civilization without some awareness of the circle's symbolism and potential for spiritual self-examination. <sup>78</sup>*

Today you could make either a physical mandala with found natural fruits, leaves and flowers at your sit spot, then leave it to the elements. You can photograph it if you wish.

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<sup>78</sup> 'The History of Mandalas' <https://thesoundtemple.com.au/the-history-of-mandalas/>



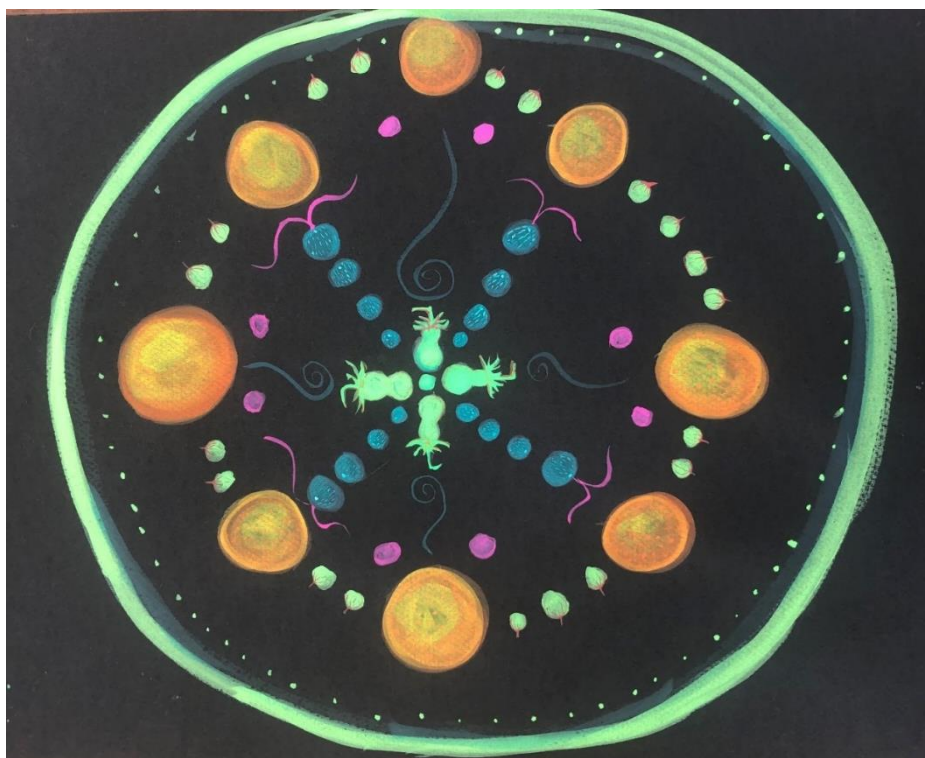


*Children making mandalas in Autumn at Rahamim Ecology Centre 2017*

Or, you could make a 2D mandala using fruit as the inspiration.



In season fruits. Here I used gouache on black paper to make this mandala, but you can use whatever materials you have on hand at home. You may wish to make it colourful.



When your making mandala, you can choose to either start at the centre and work your way outwards, or you could choose to start at a border and work inwards. Each will give you a different experience. You could even try both ways of working and see how the artwork and experience differs.

You can also ask nature and the artworks itself to help you work, notice fine details and title your artwork.

Mandala making should be a calm relaxing experience, there is no need to strive for perfection, realism, symmetry or any particular outcome.

Remember the idea of a mandala, is to express microcosms and circular ways of thinking about the universe. This is beautifully represented in the symbol of fruit. Within fruit is the seed to begin a new life. As you create a mandala, contemplate all the ways that fruit is life giving and life bearing.

There is so much joy and beauty in a single piece of fruit. Allow your mandala help you express this.

### **Giving Art a Voice**

Today, think and write the about mandala making process and fruits as gifts.

What thoughts and feelings came to mind as you were making your artwork?

Look at your artwork and its title, how do you interpret this message?

When you consider fruit and mandalas' as a microcosm of the universe, what thoughts, feelings and ideas emerge for you? Does this instil any kind of action you would like to take?

### **Walk the land at dusk**

While walking today try to pay heightened attention to the fruits and buds around you.

Are any of them edible? Admire their form and consider their role in containing the seeds for you new life.

Take photographs of your walk if you like, or the plants you meet.



The seeds and fruit of a walnut tree I found on my walk today.

## **Final reflection for today**

*Here David George Haskell discusses the effect of the rumble of subways, noise and motion of city construction on a single city Callery Pear tree in Manhattan, USA.*

*“These movements become part of the tree. The city dwells within the pear. When a plant is shaken, it grows more roots, investing proportionally more of its bodily resources in anchorage. Roots stiffen, making them more resistance to sway and bend.... A city tree therefore clings more tightly to the earth than its countryside cousins...Wood is an embodied conversation between plant life, shudder of ground, and yaw of wind.”<sup>79</sup>*

## **Final Reflection for Photosynthetic Visions**

As part of a final reflection, you may wish to consider:

What are the barriers to building life affirming and regenerative systems in your neighbourhood?

In what ways am I prevented from conspiring with plants?

Can you overcome these obstacles in your life to reduce your carbon footprint and live simply, closer to the earth and her rhythms?

How can we enter the Planthropocene?



*A plant person growing on the grounds of Rahamim Ecology Centre 2019*

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<sup>79</sup> Pg. 189. ‘The songs of trees: stories from nature’s great connectors.’ by David George Haskell (2017)



The seeds I planted at the start of the seven-day process and an eggplant and broccoli planted earlier.

## **Conclusion of Photosynthetic Visions**

Creating this weeklong process has been a real source of joy and I hope that it is helpful to humans other than myself. Being able to spend a week in contemplation of plants was very much a process of healing and learning to find a source of joy after struggling for a long with anger and frustration.

It is my hope that, whatever stage of the journey you find yourself on, in becoming a human with a lighter carbon footprint, you are also able to creatively respond to the deep stress and suffering of our plant and animal kin, as well as the humans in our lives.

I wish you the best in watering the physical seeds of happiness and the metaphorical seeds of happiness. May you grow deeper downwards, and your knowledge and awe of the natural world grows and bears fruit.

I also wish you the best in growing a daily spiritual practice that also acknowledges and honours our life-giving ecosystems.

Here are a few final suggestions for ways that you can conspire with plants and reduce your carbon footprint.

### **Tips for fulfilling the ecological function of the human**

- ❖ Pull up any invasive species that are threatening native eco-systems.
- ❖ Learn all about the indigenous plants in your ecosystem.  
Make a commitment to restore them.
- ❖ Deal with your own waste yourself. Compost, reuse and mend.
- ❖ Grow your own plants from seed.
- ❖ Grow your own food.
- ❖ Learn how to cook with wholefoods, seeds, nuts and grains.
- ❖ Plant trees in your community, with your community.
- ❖ Support small landholder farms, organic, local and sustainable agriculture and food producers.
- ❖ Only consume and buy items that are biodegradable and that can be composted after use or returned in a closed loop system.

- ❖ Create and restore wetlands, rivers, creeks, ponds.
- ❖ When outside, pick up the trash of others – keep a bag on you always to do this.
- ❖ Create meaningful rituals that remind of us of our relationship to earth and more than human kin.
- ❖ Nurture a daily spiritual practice that assists you to live simply.
- ❖ Learn the function of various weeds and pests so you can work with them instead of against them.
- ❖ Show mercy to insects, spiders and other non-human species by not killing or harming them. They play an important role in your eco-system.

### **Ways of slowing down the consumption process.**

- ❖ Invest in water systems that use water more than once and put water back into the landscape.
- ❖ Use all waste.
- ❖ Invest in renewable energy systems.
- ❖ Learn how to sew, crochet, knit, make your own clothes and belongings.
- ❖ Learn how to cook things from plants and make everyday items from plants and plant products.
- ❖ Support companies that make nude or package free necessary items (soaps, shampoo, deodorant, tooth tablets)
- ❖ Work less and buy less, slow your whole life down.

### **Get in touch**

If you have enjoyed Photosynthetic Visions and have any questions or feedback, you can email me at [ecoartsbathurst@gmail.com](mailto:ecoartsbathurst@gmail.com)

Note: As a document, this current version feels unfinished and I hope to keep working on this as a work in progress. So, stay tuned for a handmade version of Photosynthetic Visions that includes more notes, research, stories, artworks, and poetry.

### **About the author**



Anastasia Freeman is sometimes an artist and often an educator living on Wiradjuri Country in Bathurst, Australia. As well as being passionate about the transformative process of education and creative practices, Ana has volunteered with WIRES wildlife rescue and the Bathurst Community Climate Action Network to take direct action on climate related issues. She has great interest in the ways individuals and organisations can heal landscapes and habitats through living/working simply and mindfully which has led her to study permaculture. She is now attempting to grow her own food and learn more about plants, ecosystems and gardening.

## **About the illustrator**

Priscilla Ambrosini is a Brisbane born artist that is currently based in Melbourne. Her art practice encompasses drawing, collage, printmaking, handmade objects, installation works.

The exploration and the retrieval of memory, to the submerged vivid, sentimental, intimate and forgotten, have served to inform Ambrosini's work.



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