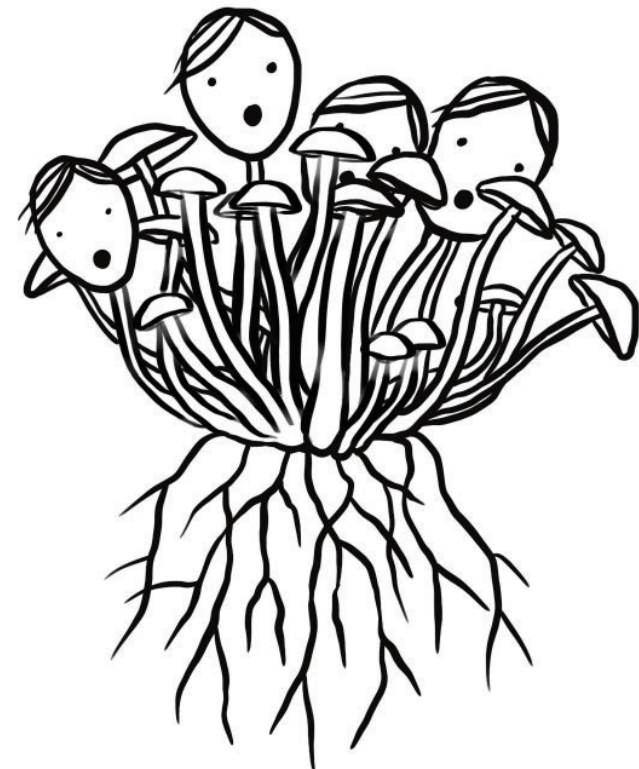


LEARNING COLLABORATION WITH FUNGI

A guided walk in the forest
(facilitator version)

Lenka Vráblíková and
Elspeth Mitchell



Information for facilitator (not to be read aloud):

This walk is rooted in ideas of critical ecofeminist and decolonising pedagogy. It deliberately counters the ways in which situated bodies, senses and modes of connection are erased in processes of learning characteristic of educational models that are prevalent in conventional pedagogy.

Instructions

- *The walk should take place outside among the trees, in a forest or a park.*
- *The walk comprises of five activities and should take about an hour and a half (although you can slow down or take out activities to suit the needs of the group).*
- *Plan a rough route before setting out. We recommend taking circular route so that you end up near where you started.*
- *The regular text is to be read out loud to the group. The parts in italics are for your information.*

Accessibility

- *The location of the walk should be appropriate for the needs of the group.*
- *Make sure that adjustments are made to ensure all group members can participate. Ask the group about their accessibility requirements before going on the walk.*

What to bring with you

- *Students will need a printed copy of the student version of the guide and a pencil or a pen.*
- *The facilitator will need a sheaf of note paper or blank sheets of paper the size to scribble a few words on (each student will need at least one), and a bag or a basket.*
- *The facilitator will need a watch to time the activities.*

English translation published in 2024

FUTUROPOLIS: School of Emancipation

FUTUROPOLIS: Škola emancipace
škola / do výuky / smysly

Drawings: Eva Kořátková



EVROPSKÁ UNIE
Evropské strukturální a investiční fondy
Operační program Výzkum, vývoj a vzdělávání



www.futuropolis.cz

Useful sources

Anna Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton University Press, 2015)

Anna Tsing, 'The Art of Inclusion, or How to Love a Mushroom', *Manoa*, v. 22 (2010) pp.191–203.

Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teaching of Plants*, (Penguin, 2013)

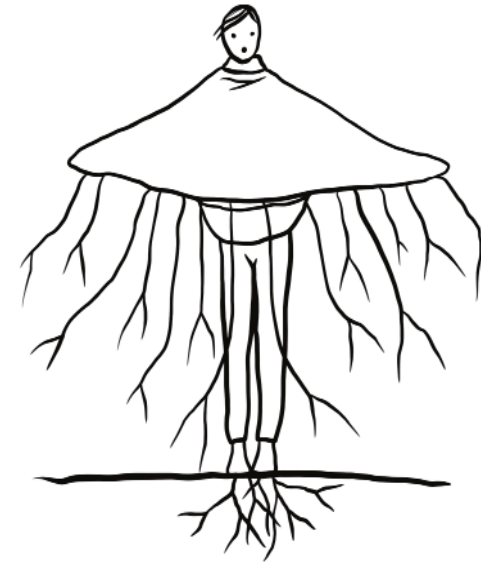
Robin Wall Kimmerer, *Gathering Moss: A Natural and Cultural History of Mosses* (Oregon State University Press 2003)

Pauline Oliveros, *Deep Listening: A Composer's Sound Practice*, (Deep Listening Publications, 2005)

John Cage, *A Year from Monday: new lectures and writings by John Cage*, (Wesleyan University Press, 1967)

Eddie Kohler, *About Indeterminacy*, www.lcdf.org/indeterminacy/index.cgi

Introduction: We Have Mushroom Fever!



Instructions for facilitator

Hand out student version of the guide to the participants. This section ('We have mushroom fever!') works as the introduction to the walk. Read the following text aloud together. You can then continue directly with Activity no. 1 or walk to the location where you want the activity to start.

Fungi are amazing organisms that surprise us in their huge diversity, imaginative methods of connection and strange biological forms. We have mushroom fever, and hope that soon you will too!

This guided walk will create fresh and diverse connections with nature and each other in collaboration with fungi. Inspired by practices such as collective action, slow movement and radical noticing, it will encourage connection and collaboration of different kinds. It is time to unlearn competition and rigid individualism. These ways have only got us into the trouble we find ourselves today: a climate emergency, resurgent nationalism and deep inequalities.

Through the walk, we invite you to learn about yourself and others through sensuous, creative and collective activities.

What are we going to learn on the walk?

1. To emphasize our connection to our bodies as sensuous beings shaped by experiences and encounters with others and the world. Our bodies are continuously sensing and recording information all around. What if we changed our everyday approach and noticed different things or listened differently? (*Note 1*)
2. To foster collaboration (rather than competition) as practices for social and environmental justice. This is inspired by fungi and their ways of living. Some fungi can share nutrients with plants and others break down toxic chemicals to keep their microcosm habitable. We too can prioritise collaboration and sharing over competition for ecological care, land stewardship and societies based on compassion and solidarity. The aim of the following activities is to learn how to generate decentralised and non-hierarchical communities from the encounters with the ecology and biology of fungi.
3. To explore our deep interconnection with other organisms. Symbiosis means a close biological interaction between two or more different organisms (*note 2*). Lichen is a symbiosis of fungus and algae. Our bodies, made up from more than 60% of bacteria, fungi and other microbes, are another symbiosis. Knowing ourselves is to also know our other companions. To live and thrive, we, all our parts and others must build a relationship together. Neither can survive alone. This guided walk directs our attention to ‘becoming together’.

You will need:

- A pencil or a pen

Let’s follow the fungi and re-learn how to live, move and share with others.

Note 6 - John Cage

John Cage (1912-1992) was an experimental music composer and a mushroom hunter who believed noticing mushrooms and noticing sounds in music were related skills. A number of his compositions are called Indeterminacy and are made up of one-minute-long paragraphs, thoughts and anecdotes that are read aloud in random order, sometimes to alongside dance or music. The sounds are unexpected and open-ended.

Note 7 – Kurt Weill

Kurt Weill (1900-1950) was a German-born American composer. Together with the dramatist Bertolt Brecht he developed the famous The Threepenny Opera that is mentioned in Cage’s composition.

Notes

Note 1 - Anna Tsing

The walk has been inspired by research of feminist anthropologist Anna Tsing who explores the economies and ecologies surrounding the Matsutake mushroom. We have been particularly inspired by her ideas of 'noticing' and invoking other senses in our exploration of the world.

Note 2 – Symbiosis

A Greek word meaning „living together” used for close biological associations. Lichen, composed of a fungus and algae, is a good example of symbiosis. Our bodies are another example. Scientists have found that only 43% of the cells that make up our bodies are actually human. Most what counts as 'us' is made of bacteria, fungi, and other microbes who live as part of us.

Note 3 Pauline Oliveros

Our first activity is inspired by American feminist experimental queer composer Pauline Oliveros (1932-2016). Pauline Oliveros was interested in listening and created lots of activities aimed at 'radical attentiveness' to help us listen more deeply.

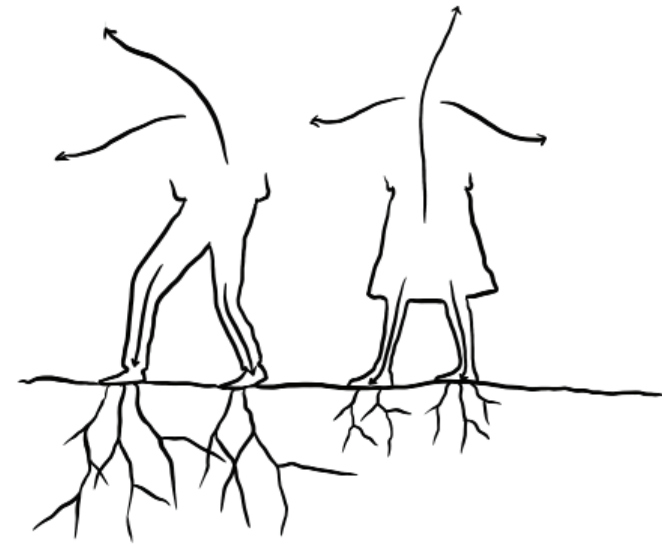
Note 4 - Puhpowee

The word "puhpowee" is mentioned in book *Braiding Sweetgrass* (2013) written by mother, biologist, writer and enrolled citizen of the Citizen Patowatomi Nation, Robin Wall Kimmerer. Together with Robin Wall Kimmerer's other book - *Gathering Moss* (2003) - *Braiding Sweetgrass* inspired many aspects of this guided walk, especially the focus on language in Activity no. 3.

Note 5 - Mycorrhiza

Fungal mycelium forms connections between fungus and tree root called mycorrhiza. Mycorrhiza webs connect not just tree root and fungus, but also, tree and tree. Some people call this, inspired by the internet [world wide web], 'the Wood Wide Web'.

Activity no. 1: Moving at Mycelial Pace



Instructions for facilitator

The first activity is a very slow walk (note 3). Rather than have a destination, the group should explore the space around them. The area should encourage slowness and attentiveness in the movement. The activity ends when everyone completes their walk at their own pace. You can then continue the walk at the normal pace until you start the next activity. The recommended duration of the activity is about 5-10 minutes.

Introduction

One of the ways in which most bodies (animals, plants, bacteria, and fungi) experience the world is through moving. How we move in the world creates different bodies in a variety of shapes and forms. Some are long, some thin, some thick, some short, some are so small we can't even see them. Fungus mycelium is one kind of such 'body.' It is made of entangled threads and lives mainly underground. Its shape depends on how it grows and where it grows rather than the kind of fungus it is. Fungus mycelium is very attentive to what is around it and grows itself towards or away from different areas accordingly. Each one is a completely different shape.

Compared to the different shapes of fungus mycelium, human bodies seem quite uniform. Yet, while our outside shape might be similar, the experiences of our body, what it feels like to each unique person, are very varied and diverse. The shape of our body and inner experience depends on how we grow and where we grow. Movement and space make all different human bodies unique.

Learning from the attentiveness of mycelium to what is around them, we will imagine that we are a fungal hypha – the branch or root that forms mycelium underground. We will try moving very slowly and branching off in different directions.

Instructions

Move as slowly as possible. Step forward with the heel to the ground first, let the weight of the body shift along the outside edge of the foot to the small toe and across to the large toe. As the weight of the body fully aligns with that foot then begin the transition of shifting to the other foot. Small steps are recommended as balance may be challenged. Maintain good posture, with shoulders relaxed and head erect. Breathe. As you pay attention to what is around you, think carefully about what you grow towards. The challenge for this exercise is that no matter how slow you are walking, you can always go much slower.

As you move:

Think about how many times you blink.
Think about how many times you breath.
What movements are harder?
What movements are easier?

When you are done growing slowly like mycelium wait for others to finish. Then continue your walk until you find your destination of your next stop.

Reflection

The purpose of the exercise is to challenge your normal pattern or rhythm of walking. Shifting the weight from side to side in an extremely slow walk may teach us how to reconnect with very subtle energies in the body.

2) Do you want to learn more about creating new relationships with nature and others? You can go for a guided walk 'Learning Collaboration with Fungi' with your friends or family also outside the school. Or you can create your own guided walk. There are so many amazing non-human organisms around us from whom we can learn something new!

Final reflection (in the classroom)

Although fungi are a lot of fun, there is also a serious side to our activities. We believe that learning in collaboration with fungi helps us unlearn habits of competition and control. It helps develop new connections (with ourselves and others, non-human or otherwise) that activate social and ecological justice. New connections create new perspectives, and these can be brought into the classroom, or at home, with family or friends, to inform how we live, move and share. Maybe we can all be more like a fungus every day.

Why is learning with fungi important? It is not enough to just learn about these amazing organisms in science class. If we learn alongside fungi they show us how parts of our world, such as education and schooling, could be different. What if we brought the sensations and sensitivities that we practiced in the woods into our classroom every day? What if we communicated and shared like fungi and trees, respecting our uniqueness and differences?

Next time you are eating mushrooms on a pizza, or spot fungi in the leaf litter on the floor, think about what you learnt from our fungus inspired collective activities introduced in this walk.

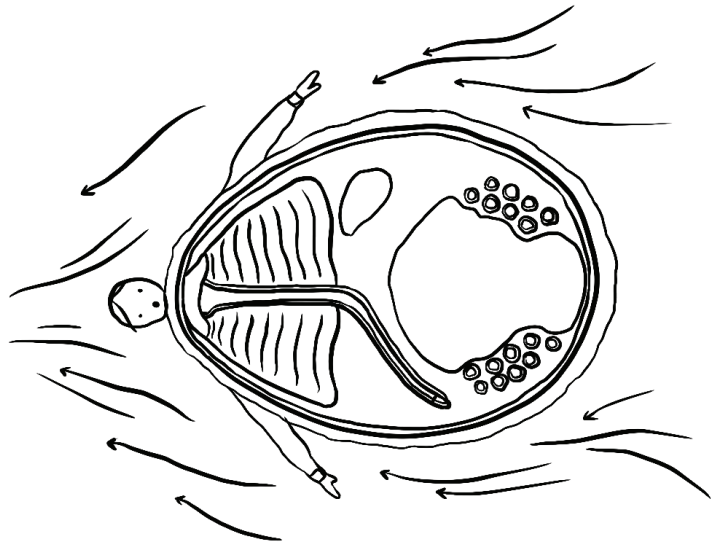
Propositions for further activities

1) A group discussion. Reflect on the walk.
What part was easiest for you?
What did you find the most difficult?
How did it feel to work in collaboration?
Does your place in the group feel different than before?
How did the activities connect you to plants, fungi, trees, other members of the group and surroundings?
What obstacles were there in forming connections? What collaborations were difficult?
What collaborations or connections can we experiment with in the classroom?

How did you feel in the movement?
Was anything difficult, beyond the limit? What was it?
What kind of movement was it? Can you describe it?
How different it was from the way you usually move? What do you think this movement generated?

The extreme slow walk may be practiced any time. It is a great thing to do when the world seems to be going too fast. Variations that you could try: Walk with music. Walk with eyes closed. Walk singing long notes—one per breath. Walk backwards.

Activity no. 2: A Spore in (E)motion



Instructions for facilitator

This part of the walk encourages a faster pace than activity no. 1. The next stopping point could be chosen in advance or “on the go” but choose a direction in a space where the group can stand or sit in a circle, such as a clearing as this will be used for activity no. 3. The activity ends when everyone completes their walk in their own pace. The recommended duration of the activity is about 5-10 minutes.

Introduction

Some fungi do not only grow underground, but they also grow above it. They produce mushrooms, the fruiting body of the fungus. By growing mushrooms, fungi can cross vast distances. They do this using spores. A mushroom can contain up to 16 billion spores. Spores are microscopic particles used to reproduce (much like the seeds of a plant). They are so small and light that they can be carried thousands of meters high, travelling in the air, in water or in the stomachs of foraging animals, including humans like us.

Step no.2: Inspired by John Cage, create a collective one-minute composition from the words and phrases you wrote down earlier in Activity no. 3. The order of the text will be unexpected, random and indeterminate.

Draw pieces of paper from the bag or basket until there are none left. You should all have at least one piece of paper.

Option no.1:

[recommended for groups of 15 or more participants, or for groups that are more shy]. Stand in a circle. The facilitator will make a gesture to indicate the start and the end of the one-minute performance. Moving around the circle each person one by one performs the word through out the duration of the performance. The collective composition is generated through the random order of drawing the sheets of paper.

Option no.2:

The facilitator will make a gesture to indicate the start and the end of the performance. Once the performance begins, the group can vocalise or perform their word(s) in any manner and as many times as you desire. Perhaps you repeat it again and again in different ways. Try things that are unexpected.

Reflection

How did the performance represent your time on the walk?
Does it bring any feelings or memories?
Did it make you notice anything new?

Thank you for taking up the challenge of learning and unlearning with fungi. The walk ends here. Final reflection will take place in the classroom.

Music and mushrooms:
 two words next to one
 another in many dictionaries.
 Where did
 he write *The Three-Penny Opera*?
 Now he's
 buried below the grass at the
 foot of High Tor.
 Once the season
 changes from summer to fall,
 given sufficient
 rain, or just
 the mysterious dampness that's in
 the earth,
 mushrooms grow there,
 carrying on,
 I am sure,
 his business of working with
 sounds.
 That we
 have no ears to hear the
 music the spores shot off
 from basidia make obliges us
 to busy ourselves microphonically.

Indeterminacy Story #113
from John Cage, Indeterminacy: New Aspect of Form in Instrumental
and Electronic Music

Used with gracious permission from the John Cage Trust

Instructions

Imagine you are an individual microscopic spore. The pace and the manner of your movement is entirely up to the kind of spore you become and how you imagine you travel. You may travel slowly or very fast. You may punctuate your movement with breaks. You can walk on tiptoes, jump, roll, or use different body parts (like your bum) to move around. You may change your method of travel at any time. The important thing is that, like a spore, you engage your whole body and senses in the movement.

- **Look** around (both into the far distance or zoom in closely to inspect what is around you).
- **Listen** to sounds around you, including the sounds you make with your breathing or the rustle of clothes.
- **Touch** and let yourself be touched: touch grasses, leaves, and branches, or other spores. Let them brush past you too.
- **Taste** the air. Roll it slowly in your mouth, as you would your favourite dinner or snack.

Reflection

Think about your journey and sensations as a spore. A forest or a park is a busy environment and there is a lot going on and to take in.

What sensation was the strongest?
 What sensation was the weakest?
 What did moving like a spore feel like?

Activity no. 3: Noticing through Language



Instructions for facilitator

For this activity, ask the group to stand or sit in a circle. Place the bag or basket you have taken with you into the middle of the circle. Each participant should have a pencil or pen with which to write. Hand out the sheets of note paper. At the end of the activity, participants will have added the note (or several) to the bag or the basket in the middle. Make sure to keep the bag or the basket with the notes with you as it will be used during the final activity, Activity no. 5. Recommended duration of this activity is about 5-10 minutes.

Introduction

Different languages create very different ways of knowing the world. For example, in the Indigenous American language Potawatomi they use a unique word *Puhpowee*, meaning the force that causes mushrooms to push up from the earth overnight (note 4). It is interesting that many languages, such as Czech and English, do not have a word for this event between mushroom and earth. Maybe it is because we do not notice it? Do you think we should have a word for this experience? What else could we make new words for?

At the same time, activities that are seen as unproductive are not thought of in a positive manner. We may fear things that do not have a clear outcome. Sometimes we might even feel threatened by what is unexpected and try to put it under our control.

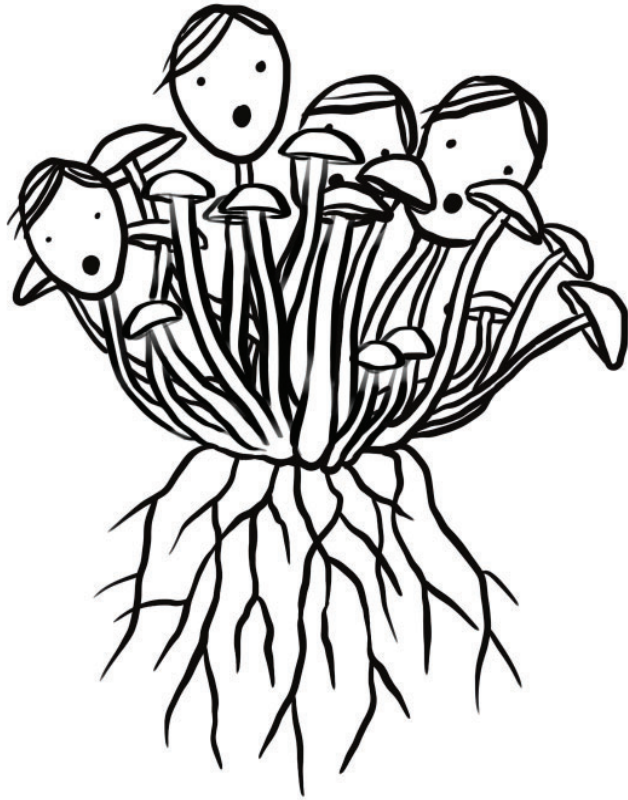
This activity is designed to help us to unlearn the rigid habits of mastery and control. It is inspired by American composer and mushroom hunter John Cage (note 6). Mushrooms are unpredictable: they pop-up unexpectedly yet sometimes they grow in patterns such as lines or circles. Mushrooms helped John Cage to listen and pay attention in new ways. Inspired by mushrooms, in his musical compositions, he made listeners pay attention to all the sounds around them, whether composed or incidental. Let's listen to one of his compositions.

The composition is called "Music and Mushrooms." It is about what happens to the body of a famous composer, Kurt Weill, after his death (note 7). New compositions emerge through the decomposition of his body: mushrooms grow, new life begins. John Cage shows that contradictory processes such as composition and decomposition are in fact entangled parts of the cycle of life. Just like order and its opposite, indeterminacy, sound and silence, music and mushrooms.

Instructions

Step no.1: Listen to Cage's one-minute composition performed by the facilitator accompanied by the sounds present in the environment around you. (You can listen to it more times if you want).

Activity no. 5: Composing and Indeterminacy



Instructions for facilitator

Prepare for presenting John Cage's composition aloud to the group. Take the bag or basket with the notes and ask each participant to take one until there are none left. You might also get your phone or other recording device ready to document (via audio or video) the composition created by the group during this activity. This activity should take about 5 to 10 minutes.

Introduction

We grow in a society ruled by competition and individualism where control and domination are the main ways of relating to each other.

Instructions

We will write down names and descriptions – or even create new ones – for our experiences of relationships with animals, plants, rocks and fungi. Use the notes or sheets of paper that the facilitator gave at the start of this activity. Then add the sheets to the bag or basket in the middle.

Choose one of the options – or do both!

1. Look around you – what do you see, hear, smell or imagine happening around you? Which actions, processes, connection or relations can you notice? Choose one and capture it through a word or a phrase on the sheet.

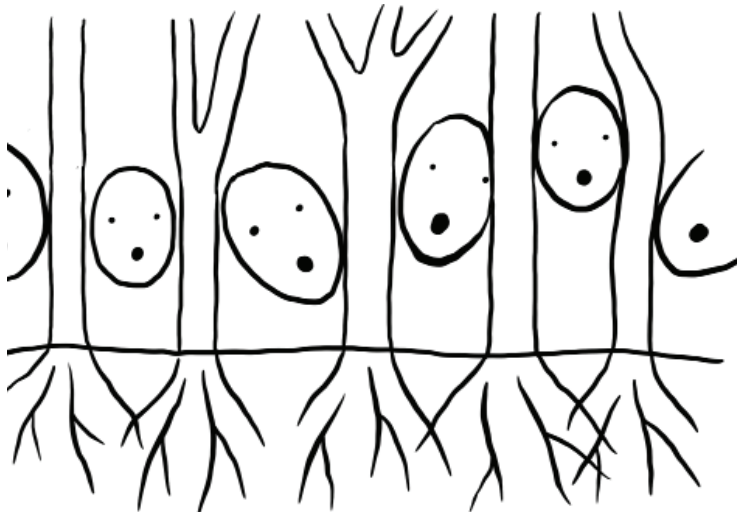
2. Inspired by the word *puhpowee*, make a new phrase to describe what it felt like to move like mycelium hypha. You can choose to make up a brand-new word to describe the feeling. You can use one word or a group of words, in existing language, a mixture of languages, or invent entirely new words.

When you are done naming and writing it down on the sheet(s), place them in the bag or basket placed in the middle of the circle.

Reflections

Can you think of any other experiences, feelings or relationships that have no words to describe them yet? What new words do we still need to invent?

Activity no. 4: Becoming Mycorrhizal



Instructions for facilitator

Choose an area with two or three trees nearby. This activity should take 10 minutes.

Introduction

Look down at the floor. Your feet are the connection to the earth. Close your eyes. What sensations can you feel? A whole world of life exists beneath your feet. If you were to sink into the earth, you would find yourself surrounded by an intricate architecture of webs and filaments. Fungi's mycelium makes those webs as they interact with the roots of trees, forming joint structures of fungus and tree root called mycorrhiza (*note 5*). We will now create such a mycorrhizal connection.

Instructions

With your bodies create a chain standing between one tree and another (don't worry if you can't quite touch the next person, you can move).

The person nearest the biggest tree begins and describes the feel of the bark. Starting from the tree, they pass this description to the next person, who passes it to the next and to the next. This continues until the message (in whatever form it ends up as) is given to another tree. We become mycorrhizal.

Does the message stay the same?

Send it the other way – what does the other tree reply?

Use other descriptions in the message.

You can repeat this more times, with everyone in a different order.

If there are enough of you, try and create a third hyphal strand (the connective link) to another tree. The message can be passed down to both from any point in connection.

Reflections

Part of working together is realising you cannot control all the different parts. What happens when you have to rely on others? Situations that are beyond our control emerge. This has unpredictable and creative potential. Something new can grow, expanding the scope of connections that we can imagine. Going beyond what we can imagine is an essential skill in our time of ecological crisis.

What did the trees and fungi talk about? What did they need to share?

What can mycorrhizal connections be used for?

What does it enable the trees and fungi to do?

What was your experience of being part of mycorrhizal chain? How did it feel?