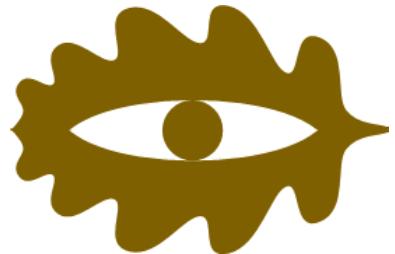


# Bonsai On A Budget

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October 2025



Nemeta Bonsai  
[nemeta.co.uk](http://nemeta.co.uk)



# Learning Outcomes - Day 1

## Theory

- ▶ Be aware of the history and culture of bonsai
- ▶ Understand (at a high level) how a bonsai is produced
- ▶ Understand (at a high level) what distinguishes good and bad bonsai
- ▶ Know how to maintain a bonsai on a day-to-day basis
- ▶ Experience the key activities of re-potting, pruning and wiring
- ▶ Be aware of inexpensive options for further learning and practice

## Practical

- ▶ Watering bonsai
- ▶ Wiring a bonsai pot for re-potting
- ▶ Exposing the nebari
- ▶ Potting the prepared tree
- ▶ Pruning for bulk, congestion and taper
- ▶ Wiring for shape

# Bonsai: What & Why

## Defining bonsai

- ▶ A bonsai is a **living trompe-l'oeil**: a small tree that appears to be a scaled-down large tree.
- ▶ Almost any kind of tree can become a bonsai (plus a few things that aren't trees!)
- ▶ “Bonsai” traditionally referred to Japanese schools, but has become a generic term

## Why 'Sai?

- ▶ Hands-on education in plant science!
- ▶ Learn to see extra layers of beauty in nature
- ▶ Good practical hobby with interesting culture
- ▶ Sense of control and responsibility

*To see a World in a Grain of Sand  
And a Heaven in a Wild Flower  
Hold Infinity in the palm of your hand  
And Eternity in an hour*

- William Blake

# Bonsai: A Potted History

## China

- ▶ Daoist mysticism: recreation of magical sites in miniature
- ▶ Penjing (盆景) / Penzei (盆栽) = the art of miniature landscapes (pre 600AD)
- ▶ Popular amongst Buddhist monks, and - later - aristocracy
- ▶ Heavily impacted by Mao's Cultural Revolution: seen as a bourgeois pastime

## Japan

- ▶ First records c. 1200AD; known as Hachi-no-Ki ("potted trees" - also the name of a famous play!)
- ▶ Heavy Zen / Chan Buddhist influence: beauty through austerity, sophistication in simplicity and perfection from imperfection ("wabi-sabi")
- ▶ Increasingly popular from 1800s onwards; term "bonsai" (盆栽 - "tray planting") adopted
- ▶ Development of distinct styles (dramatic archetypes)
- ▶ Hit hard by World War 2, but revived in the aftermath (partly from enthusiasm of GIs)
- ▶ Exported to West from 1960s onwards, in parallel with Japan's "economic miracle"

# Bonsai: Art & Science

Good bonsai practice is:

- ▶ **Authentic** - makes you think “tree”  
Tree as biological / ecological process
- ▶ **Dramatic** - makes you think “TREE”  
Tree as compositional element
- ▶ **Pragmatic** - doesn’t make you think  
“*dead tree*”...  
Tree as living clay



# Pragmatism 1

How Not To Kill Your Tree

# What Kind Of Tree Is A “Bonsai”, Anyway?

## Trick question alert!

- ▶ Tree: *“a large, tall, woody, perennial plant with a single, unbranched, erect, self-supporting stem holding an elevated and distinct crown of branches with a total height greater than ten feet and a diameter greater than three inches”* - oy vey!
- ▶ Almost any tree species can be trained into a bonsai; many smaller plants can too
- ▶ Requirements for bonsai-ing:
  - ▶ Vascular plant (no mosses!)
  - ▶ Woody growth / “lignification” (no daisies!)
  - ▶ Secondary growth of trunk (no palms!)
  - ▶ Free-standing (no lianas!)
  - ▶ Deep roots (no grasses!)
- ▶ Desirable features
  - ▶ Attractive / interesting species
  - ▶ Small or pinnate leaves
  - ▶ Long-lived
  - ▶ Reasonably fast-growing
  - ▶ Easy to maintain / shape
- ▶ “Honorary” bonsai species
  - ▶ Woody climbers: ivy, wisteria, honeysuckle
  - ▶ Succulent / fleshy: dwarf jade, geranium
  - ▶ Chrysanthemum

# I Had One Once, But It Died

## What a bonsai needs to survive

- ▶ Environment
  - ▶ Indoor vs Outdoor
- ▶ Watering!!!!
  - ▶ Single biggest killer of bonsai
  - ▶ “Root hairs” die easily in drought
  - ▶ Over-watering is also dangerous!
- ▶ Light
- ▶ Heat
  - ▶ Dormancy
- ▶ Airflow
- ▶ Pest Control
  - ▶ Animals: spider mites, scale bugs, aphids, caterpillars, vine weevil, squirrels
  - ▶ Plants etc: pearlwort, liverwort, wood sorrel, pennywort, nostoc
  - ▶ Caution: environmental issues!
- ▶ Fertiliser
  - ▶ “Balanced”: roughly even NPK
  - ▶ Organic => micronutrients
  - ▶ Caution: environmental & ethical issues!
- ▶ Bonsai are far harder to keep alive than most common pot plants!

# Watering Your Bonsai

## No, seriously, this is important

### Why so serious?

1. Trees usually have deep tap-roots to draw water; they don't handle drying out well
  - ▶ ...Especially conifers, for some reason
2. Good-quality bonsai soils / pots have really good drainage... so can dry off quickly
3. Bonsai soil is very compact and often moss-covered... so water tends to run off the surface
4. Traditional bonsai soil is inorganic, so lacks the “capillaries” of plant fibre that let water rise up through the pot
5. Even gardening experts routinely kill their first bonsai!

### Watering methods

- ▶ Put in bucket of water (to just below brim) and wait for water to bubble up
  - ▶ ...Then take out and allow to drain fully.  
*Never leave standing in water for long periods - roots need oxygen too!*
- ▶ Water from above three times, allowing the water to sink in between passes

### Is it watered enough?

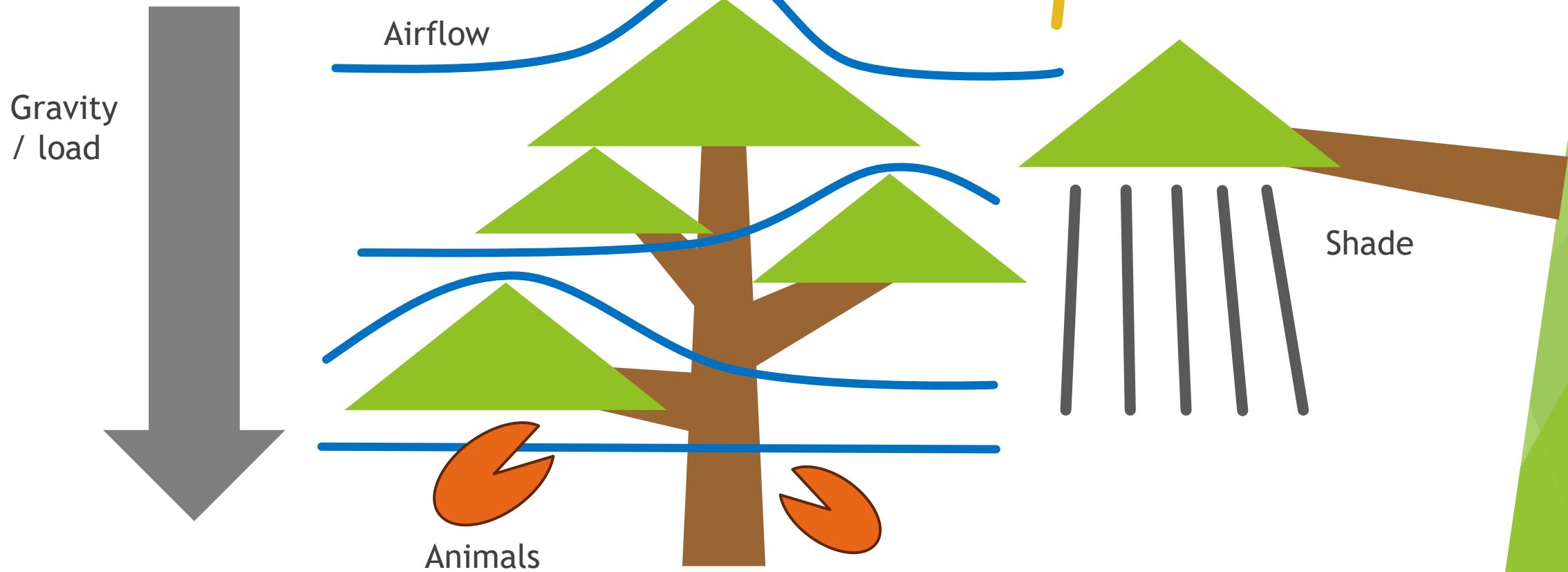
- ▶ Surface feels damp to back of hand
- ▶ Pot significantly heavier
- ▶ Water running out of hole in bottom

# Authenticity & Drama

Thinking Like A Tree (That's Seen Some S\*\*t)

# Arboriculture 101

## What shapes a tree?



# Authenticity & Age

## What makes a tree look mature?



- ▶ Taper
  - ▶ “Nebari” (根張り) = root flare / buttress
  - ▶ Trunk & branch flare: from base to apex / tip
  - ▶ Trunk-to-branch (and branch to sub-branch) ratio
- ▶ Canopy shape
  - ▶ Rounded triangle
  - ▶ Composed of rounded-triangle “pads” (for species that back-bud less readily)
- ▶ Trunk & branch behaviour
  - ▶ Short inter-node distance
  - ▶ “Ramification”: fractal splitting of branches
  - ▶ “Square-cube law”: big tree = proportionally heavier load = more curvature
  - ▶ “Ruptures”: jagged direction changes
- ▶ Texture
  - ▶ Bark
  - ▶ Dead-wood: advanced bonsai topic!

# Art à la Japan

## Catching the eye



*It is self-evident that nothing concerning art is self-evident.*

- Theodore Adorno (1969)

Key elements of visual design:

- ▶ Movement & rhythm
- ▶ Balance: symmetry vs asymmetry
- ▶ Similarity & harmony vs contrast & variety
- ▶ Perspective & proportion
- ▶ Repetition & continuation
- ▶ Unity: wow factor

Japan-specific additions:

- ▶ “Wabisabi” (侘び寂び - literally “forlorn rusticism”): austere, naturalistic, often hard-worn beauty and elegance
- ▶ Top-right to bottom-left traditional reading

# Drama & Perspective

## What makes a tree stand out?



- ▶ Well-defined “front”
  - ▶ Style is firmly established
  - ▶ Sense of strength or movement captured
  - ▶ Clear view of lower trunk
  - ▶ No crossed branches
  - ▶ Tree’s “centre of mass” is in middle of pot
- ▶ Taper (again!)
  - ▶ Taper appears stronger from viewpoint at base of tree
- ▶ Pot: picture-frame for tree
  - ▶ “Heavy” earthenware vs “light” glazed
  - ▶ Depth  $\approx$  trunk thickness; width  $\approx$  2/3 canopy height (tall tree) or width (wide tree)
  - ▶ Style: heavy vs light, plain vs ornate
- ▶ Use of negative space
  - ▶ ...Often in imitation of wind-flow or trunk death in full-scale trees
- ▶ Scaled-down decorations
  - ▶ Moss “grass”, accent plants, rocks (“suiseki”)

# Flaws

## What gives the game away?

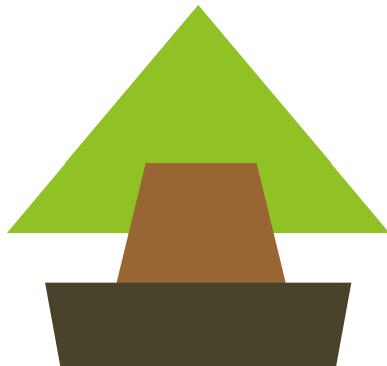


- ▶ Weak / immature-looking branches
  - ▶ Suckers
  - ▶ Congested nodes
  - ▶ Under-slung / elbow branches
  - ▶ Lack of clear “leader” (dominant trunk / branch)
- ▶ Obvious tool marks
  - ▶ ...Including wire scarring
- ▶ Excessive symmetry
  - ▶ ...Especially handlebar branches
  - ▶ Asymmetry is a common theme in Japanese gardening!
- ▶ “Reverse taper”
- ▶ Unusual “habit” for species / genus
  - ▶ Google for pictures of wild tree to get ideas!
  - ▶ This rule is frequently ignored: e.g. small shrubs portrayed as large trees, boringly-shaped species made interesting, unrealistic pads
- ▶ Dead leaves and (unwanted) deadwood

# Bonsai Styles

The most common four archetypes of... *thirty?* Really?!

## Formal Upright



- ▶ Strong, proud, “yang”
- ▶ Pot: unglazed earthenware; simple shape; bulging
- ▶ Can be hard to develop taper, especially on conifers

## Cascade



- ▶ Flowing, falling
- ▶ Pot: deep to make space
- ▶ “Half-cascade” runs to base of pot; “cascade” goes below that

## Informal Upright



- ▶ Relaxed, elegant, “yin”
- ▶ Pot: glazed; fluting; flowery
- ▶ Broad range of possible shapes
- ▶ Basically the default style!

## Literati



- ▶ Solitary, melancholy, bleak
- ▶ Trunk: bare, ruptured, calligraphic
- ▶ Pot: small to emphasise plant’s extravagant loneliness
- ▶ Style derived from woodcuts in classic Chinese drawing guide

# Appendices

Miscellaneous Technical Notes

# How Often To Water

## Some key factors

### Pot

- ▶ Depth: deep → less frequent
- ▶ Shape: bulbous → less, fluting → more
- ▶ Inner surface: glazed → more

### Soil

- ▶ Drainage: well-draining → more
- ▶ Degradation: older → harder to water
- ▶ Dressing: dead sphagnum and/or live moss covering → harder to water but less frequent

### Tree

- ▶ Maturity: older → less (in theory)
- ▶ Fertilisation: heavy → more
- ▶ Re-potting: recent → more

### Environment

- ▶ Wind: windier → more
- ▶ Sun: sunny → more, shady → less
- ▶ Heat: hotter → more, colder → less
- ▶ Season: Winter = least, Summer = most
- ▶ Warning: these factors are “non-linear”! A small increase in e.g. sun can mean a big increase in watering.

...Mostly it's not worth the effort to figure out the “right” watering frequency. Just keep checking the pot every day!

Be especially wary when the temperature is rising.

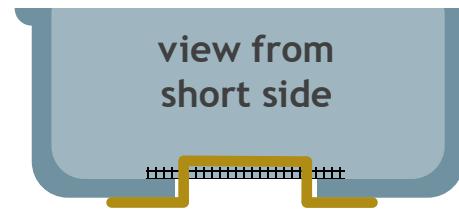
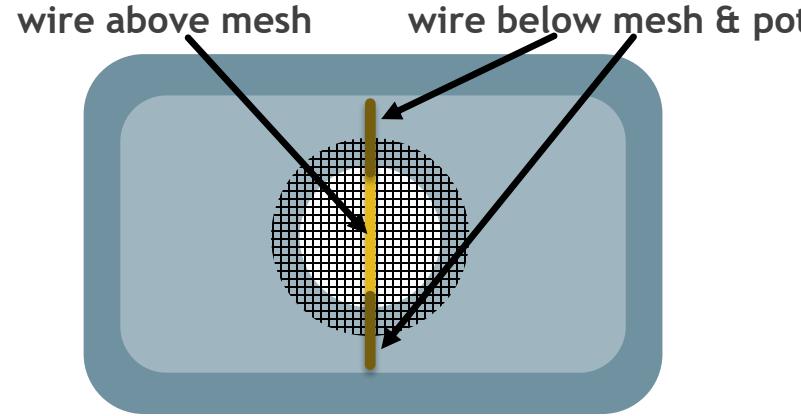
# Wiring a Bonsai Pot

## What could go wrong?

Good enough

### Mesh & Staple

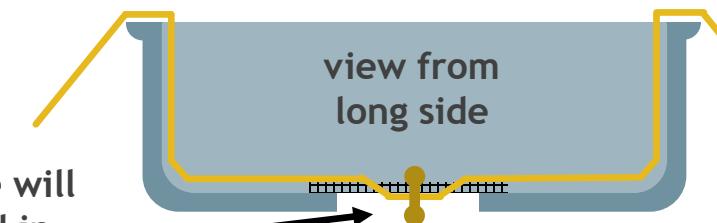
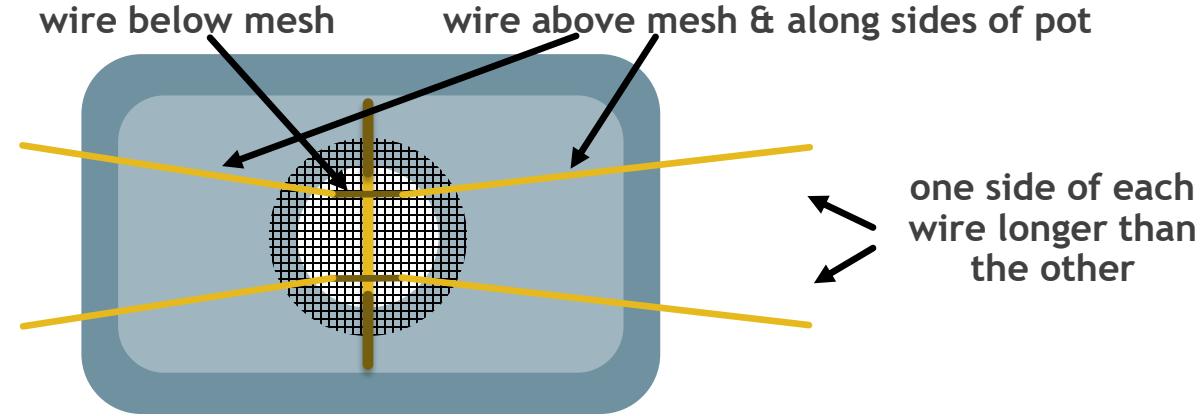
(Plastic mesh, 2mm alum. wire)



guy wire will  
be held in  
place by staple

### Guy wires

(1.5mm alum. wire x 2)



extra bend makes  
it obvious which is  
the longer side

# Repotting step-by-step

Regular repotting - often back into the same pot! - helps limit tree size via “root-to-shoot ratio”

## 1. Prepare pot

- ▶ Pick a (tentative) pot
- ▶ Scrub clean
- ▶ Staple mesh over holes
- ▶ Add guy wires

## 2. Prepare tree

- ▶ Remove from pot
- ▶ Clean off soil surface
- ▶ Dig down to expose nebari
- ▶ Choose “front” if not already clear
- ▶ Dig up / in to define root-ball

- ▶ Untangle lateral roots where poss. (esp. girdling roots)
- ▶ Clear any growth from lower trunk
- ▶ Spray with water if starting to dry!

## 3. Insert tree into pot

- ▶ Add shallow layer of soil to base
- ▶ Place root ball in pot and pack soil around
- ▶ Compress soil to “brownie” hardness
- ▶ Pull guy wires over root ball, twist pairs together tightly, and trim to 3-4 twists
- ▶ Cover with dried, grated, rehydrated sphagnum and compress surface
- ▶ Sprinkle with grated acrocarpous (upward-growing) moss

