

W4.5 PLANNING AND DESIGNING

Well-being, manage natural light

Some inspiring solutions:



FOREST BATHING – HARMONY

Forest bathing, or Shinrin-Yoko as originally named in Japan, is the practice of spending time amongst trees. It has been demonstrated to create calming neuro-psychological effects by reducing the stress hormone cortisol and boosting the immune system.

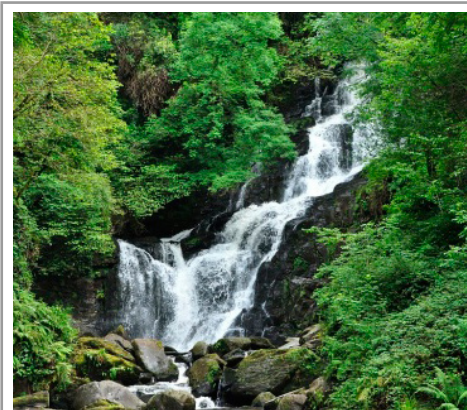
Trees also release an organic compound called phytoncides. The scent released is associated with reduced adrenaline and decreased heart rate.



TREE – HARMONY, FORM

A tree itself can transmit the harmony mentioned in the forest. The shape of the leaves, the angle of the branches, and the form of the crown are characteristic to tree species.

The colours are harmonised, mainly green, but you can see really nice and varied colours in autumn.



WATERFALL

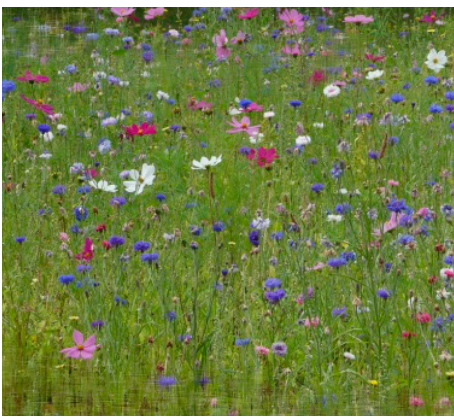
We feel happier and more satisfied close to water. The babbling sound makes us calmer and has a similar effect to meditation. You may know some shopping centres have a waterfall inside to make time spent inside pleasant. Of course it can be used in other buildings as well.





BEE 'TALK'

Honeybees have a very clever way of communicating where flower patches are to the rest of the colony. They communicate this information by doing a dance involving waggle movements. The orientation of the dance conveys the direction of the flower patch. The length of the waggle movements indicates the distance to the flower patch.



COLOURS – FLOWERING MEADOW, AUTUMN LEAVES

There are no two flowers of the same colour in a flowering meadow. In spite of the diversity the view is calming. The aim of the forms, colours and smells is to attract insects and this can also have a positive impact on human well-being.

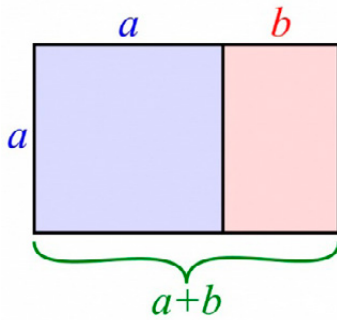
Autumn is often thought of as the most colourful season. You can find brown, yellow and red leaves, and all of them are harmonised.

It seems to be wise to borrow colours from nature for our buildings.



FLOCKING BIRDS

Starlings fly together in large numbers without crashing into each other. Starlings manage this by paying close attention to the speed and direction of the closest birds to them, seven to be exact. Even though there are thousands of birds, monitoring only the closest seven is enough to keep apart and safe. Sometimes too much information leads to worse decisions.



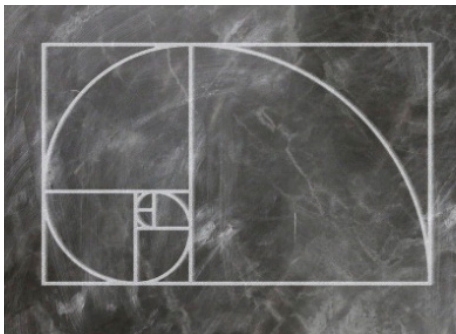
GOLDEN RATIO

In nature and in arts (mimicking nature) we can find the golden ratio frequently and it has again a good effect to our mind, feelings.

The golden ratio means that the ratio of the sides of a rectangle is like:

$$\frac{a}{b} = \frac{(a+b)}{a}$$

This ratio is about 1:1.618



FIBONACCI SEQUENCE

We get Fibonacci sequence by adding the last two numbers, starting with 0 and 1: 0-1-1-2-3-5-8-13-21-34...

In the picture you can see the Fibonacci spiral, where the sides of the square follow these numbers. If we divide a number of the sequence by the previous one, we get closer and closer to golden ratio.

- 3 : 2 = 1.5
- 5 : 3 ~ 1.667
- 8 : 5 = 1.6
- 13 : 8 = 1.625
- 21 : 13 ~ 1.615
- 34 : 21 ~ 1.619
- ...

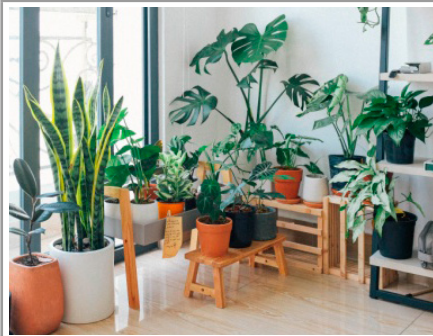
For this reason the spiral is also called golden spiral.

We can find the expansion rate of the golden spiral, e.g. in shells, snail shells, Sempervivum, pineal, *sunflower*.



Biophilic design: Wellbeing

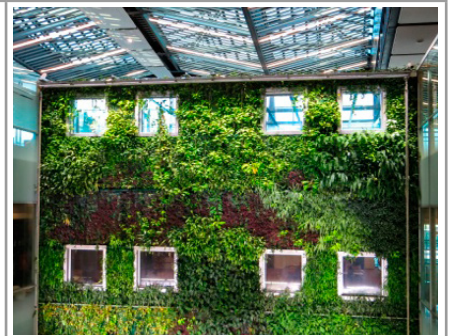
Maintaining regular contact with nature has well researched health benefits. Of course, we are a part of nature, but we often surround ourselves with more concrete than trees. Biophilic design brings nature inside buildings to have a tangible effect on the occupant's well-being. It also mimics the shapes of nature within building design to create a more 'naturally feeling' building.



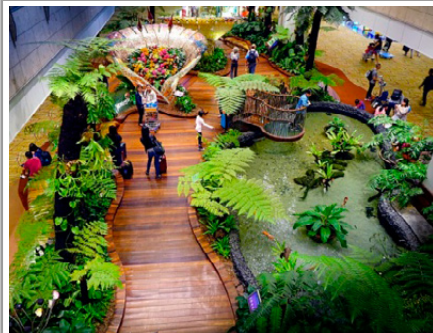
Houseplants



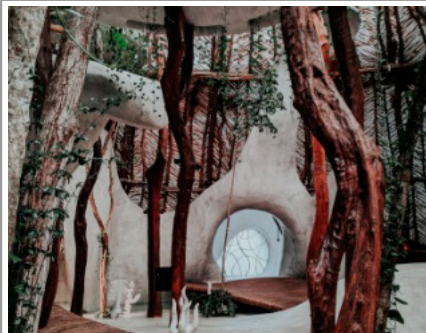
Natural light



Green wall



Water surfaces in building



Natural building inside



Playing with light

Think also about sounds, smells, space, light, air quality – anything what makes you to feel better!