



## Forms, Textures, and Colours

# The Art of Planting

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What is it about plants—are we not fascinated by them? Do we not love them, grow them, eat them, and drool over their flowers and artistic leaf patterns? Nowadays, we want our cities to be full of them, surrounding us with green diversity, with a constantly new look to keep us charmed and refreshed.

Yet many of us know little about plants. We struggle to grow even a pot plant in our kitchen. We search endlessly to unlock the mysterious secrets of the Plant Kingdom: How can we get this plant to flower? How can we hybridise that plant to get more vibrant leaf colours? How big can a tree be and still allow us to transplant it? How can we make a crop-plant provide us with more food?

The long history of the human relationship with plants goes on as we, the species destined to dominate the planet, have studied their growth, experimented with them, been poisoned by some, discovered which among them feed us and which do not, which cure us, and which look beautiful.

Thus we have learnt how to grow them in huge quantities. Our teacher was Nature herself, and it was her bounty, once we unlocked her secrets over the centuries, that allowed us to eventually dominate the world.

That was mostly for food, medicine, and building materials. We also plant for pleasure. To soothe our troubled minds, we use the treasures of the Plant Kingdom to create wonderful, long-lasting landscapes with an amazing variety of beautiful plants.

### The Art of Planting

We are inextricably connected to the Plant Kingdom and utterly dependent on it. Meat, milk, nappies, noodles, cots, clothes, and coffins all come from plants.

If we want to use them for aesthetic rather than commercial purposes, then we must get to know them well. We need an extensive knowledge and understanding of the vast range of plants available to create works of landscape art, not just a mundane green fringe around concrete and asphalt.

Like an artist who understands all things about his or her paint and canvas, we must know which are the plants that are good for each location, the conditions they like to grow in, and how best to look after them.

Designing with plants is thus an art and a science at the same time. We should think of the creative uses of plants in aesthetic designs as “painting with plants”. As with a canvas and the paint the artist places on it, we must first understand the nature of the base material, the soil, in planting.

If our planting is to last its full span of years, our “canvas” (the soil) needs to be a superior-quality mixture of properly prepared materials.

With the “paint” (plants) we apply to our “picture” (the landscape), we must understand the properties and performance of the materials. For example, we should know which colours and textures go well with others; which are dense or open branched, have dark or light green leaves, are tall or small, rounded or spiky; which flower well; and how our plants change over time.

Like the great painters, we must choose our preferred medium and become experts in its application. Only when we have achieved this level will we be able to create beautiful works of landscape art with plants.



### Understanding the Medium: Planting for Success

The design concept for the landscape's aesthetic beauty is only a small part of the task ahead. It begins with the careful choice of the forms, textures, and colours of plants and the complete provision of an environment in which the plants will grow.

There is no single body of knowledge about plants and plant culture. Plants, as living beings, are completely organic. At best we can identify them and have a crude knowledge of their life cycle. Plants, like humans and animals, are born, grow up, become mature, and then after setting seed will decline until death.

We must learn each plant's characteristics if we wish to use it with confidence. Then we can choose plants that will make the best design and will not fail.

Our failures may well exceed our successes until we develop an expertise. Some plants will work better than others. Then, one day, after months or years of experiment, our fingers will turn green, and all of our plants will grow beautifully.

This is the trial and error of "plantsmanship", and long may it continue. Most plantsmen agree that learning about plants is a lifelong occupation, and cannot be short-circuited by book learning alone. (Book learning is good incidentally, and should not be skipped.)

Ultimately, we plant for success. This means only planting with materials that we are sure are going to work and that have been tested in the conditions that the plants are being asked to grow in. A beautiful plant that grows badly or dies is a sad loss indeed.

Our study of planting for success to achieve maximum aesthetic results will cover the following technical aspects.

#### Plant properties

The properties of each plant tell us about its size, appearance, and shape, from the mightiest tree to the smallest ground cover. We will grade plants from the strong to the weak, the large to the small, the easy to the difficult, the dense to the sparse, the interesting to the boring, and the colourful to the dull.

#### Plant associations

Plant associations happen when we position different species to complement each other in an overall composition of texture and colour. We need to know the size, density, and volume of each species, and its vigour or lack of vigour in competition with its neighbours. Texture, colour, rate of growth, size of leaf, and potential to flower will all influence how we position plants with one another.

#### Durability and longevity

The durability and longevity of each plant species will determine the lifespan of the landscape we are planting, which ranges from 100 years for large trees, to at least 10 to 20 years for smaller, ornamental shrub massing. Constant replacement of short-lived plants is expensive and troublesome.

#### Light and shade tolerance

A plant's tolerance to light and shade will determine where we position it. Rarely is the entire exterior of any one site fully exposed to sun or under shade all day. We do not want to find plants that need sun withering in dark, damp corners or plants that need constant shade burning up in the morning sun.

#### Soil preferences

The soil preferences of each plant vary. Some plants grow well in heavy, wet soils while others prefer light, free-draining soils. Good soil needs to be open-textured and crumbly, and have plenty of air-space within its structure. Thus it will drain well and allow roots to travel freely in it without ever becoming waterlogged.

#### Maintenance requirements

Maintenance requirements should be thought about very early in the design process, to minimise the cost and manpower time of maintenance. Good short-term and long-term maintenance planning is financially and environmentally efficient.

Now that we have appreciated the technical aspects of planting for success, we need to look at how we will select the right plants to create that gorgeous design we have in mind. Thus we need to short-list plants to see if they are able to do the job that we are asking of them. We are, in short, going to employ plants to do a job.



1. Shaded paths and seating under a grove of *Cratoxylum cochinchinense* with *Neomarica* below, working hard to keep the visitors cool and oxygenated.

2. Palawan Beach washroom: This seaside washroom conveys a beach atmosphere. *Phoenix sylvestris* palms, flowering shrubs, and grey-leaf *Calathea lutea* fulfil their task of providing an appropriate seaside look.

3. Singapore Armed Forces Training Institute streetscape: Formal planting acting in a highly organised manner using the superbly regular form of *Hopea odorata*, working in combination with the well-disciplined clipped *Ixora* hedges.

4. Resorts World seating: Advance-grown *Lagerstroemia* trees planted in connected soil bodies on the roof structure have an important role in shading for visitors only three years after planting.

5. Resorts World pathside planting: This rich planting perfects the romantic style of colour and texture mixing. Arching grey-green palms complemented by dark-green rounded trees, spiky textures against rounded leaves, and a scattering of flower colour act in concert to make a satisfying composition.

6. View down from Sentosa escalators: An exotic floral setting to an outdoor escalator, with planters built as terraces up the steep hill, shady trees scattered across the hillside, and flowering shrubs and herbaceous plants providing colour.

7. Singapore Flyer Forest Garden: Exotic manmade water gardens with a collection of plants in layers, from trees to palms to understory plants and water plants, that do an excellent job of looking like a real forest.

### The Employment of Plants

We expect a lot from plants. We expect them to grow beautifully and flower for years, and in return, we offer only boarding and lodging.

Hence, we must respect our plants and not ask them to do the impossible. We must promise to care for them and ensure that the task we have set for them is backed by proper maintenance and nurture them.

Within the landscape, as we are expecting plants to do a job, each plant will need a job description. The plant that gets the job will have to work hard to achieve the effect that we are demanding.

For example, we may require a tree to provide shade, a trailing plant to hang gracefully over a parapet, or a flowering shrub to brighten up a footpath. Are we sure that we have chosen the right plant? If a plant fails, are we going to reject it, cast it aside, and never use it again? Perhaps it was not the plant's fault, but ours, for asking it to do the impossible.

There are many thousands of beautiful plants with a host of forms and colours available to us. How can we know which one should get the job?

As with so many tasks of organisation, we must categorise!

### Job Descriptions of Plants



Trees

The largest plants are trees, though not all trees are large; some are no taller than a man. There are tall trees, narrow trees, wide-spreading trees, shady and non-shady trees, and flowering and non-flowering trees. Generally, trees do the biggest jobs.

Trees are usually long-lived and can last for many human generations. While other parts of projects, even buildings, are decaying and falling apart, the trees will be getting better all the time, and will still be there when we are gone.

Jobs for trees:

- Massing to provide large volumes along roads and boundaries and in parks
- Screening to separate spaces and conceal unsightly elements
- Shelter to protect against the elements, especially as wind-breaks
- To provide shade, reduce temperature, induce breezes, and influence the micro-climate
- To create visual effects with diverse foliage and flowering
- To be grown for timber and to be wildlife havens



Bamboos

The largest bamboos are as tall as trees and the smallest tiny. For landscape work, we use dense and fast-growing mid-size or small bamboos. Bamboos are beautiful but must be used with care, since they drop abundant leaves.

Jobs for bamboos:

- As screens and hedges to define boundaries
- As feature plants in lawns and textural features in shrubberies
- Within naturalised woodland mixes and colonising steep slopes
- For courtyard designs, especially in a Japanese or Chinese context



Palms and pandans

Next in size to the trees are the palms. For landscape use, mostly, we use large single trunk palms for their stately, exotic forms, while the smaller cluster palms, and pandans with their spiky foliage and aerial roots, make good screens and visual accents.

Jobs for palms and pandans:

- As elegant, formal accents to civic spaces and roads
- As accents to tree masses, where palms will grow taller than the trees
- As dramatic feature plants in lawns, waterfronts, terraces, and planters
- As hedges, since dense cluster palms are excellent for screening
- As indoor plants, since some palms tolerate low light



Shrubs and herbaceous plants

This huge category of woody plants ("shrubs") and non-woody plants ("herbaceous") has an extraordinary range of sizes and appearances. They are among the prime tools of the landscape designer. There are so many to choose from that a sound knowledge of available materials is vital to know which shrub or herbaceous plant is best for which job.

For design purposes we categorise these plants by their heights, to relate plants to the human scale:

- Large shrubs that will grow higher than a human, who cannot see over the foliage
- Medium-size shrubs whose mature height is below adult eye-level, so a person can still see over them
- Small or low shrubs that are below waist-height and will not obscure the taller shrubs behind, also often called ground cover plants

Jobs for shrubs and herbaceous plants:

- To create masses that define and separate spaces
- To form large areas of green in areas that might otherwise be hard surface
- To screen unsightly objects and services and define boundaries
- To act as an under-storey to trees and palms
- To provide exotic texture and colour in urban spaces and roof gardens
- To become clipped hedges
- As foliage and flower decorations in borders and containers
- For use selectively in low-light conditions
- As self-regenerating ground cover on roofs, steep slopes, and difficult locations



Climbing plants and trailing plants

Some of the most beautiful flowers grow on plants whose habit it is to climb up things. Climbers are hardy but only grow and flower well when planted in deep, moist soil. They grow rapidly upwards by twining, clinging, and scrambling, depending on species.

Jobs for climbers:

- To grow up trellises and lattices and over Pergolas
- To grow up the faces and emerge over the tops of walls and fences
- To grow up the face of buildings on wires and meshes, acting as green walls
- To trail over the edge of parapets, planters, and bridges
- To grow over steep embankments and inaccessible slopes



Aquatic plants

Plants that grow in water or water margins can create sensational effects with their exotic leaves and glorious flowers.

Jobs for aquatics:

- To colonise the shallow edges of ponds and water bodies
- To enhance pools, lakes, canals, and courtyard pools
- To help in the cleansing of water and provide habitats for pond life
- To create exotic, romantic water gardens



Feature plants

In landscape design we use a wide variety of plants for their spectacular looks; their striking forms, distinctive colours, and textures; and their ability to evoke atmosphere.

Feature plants that add accent to a design are:

- Trees with unique, evocative forms, dramatic branching, or unique shapes
- Palms with spectacular leaves or trunks, as specimens or in groups
- Pandans with dramatic foliage and aerial roots

- Cycads with primitive forms and dynamic leaf structures
- Tree ferns with unique tracery of fronds
- Bamboos with spectacular forms, striking leaves, and stem colours
- Shrubs with unique shapes and extraordinary flowers or leaves
- Spiky plants, whose dynamic textures add drama

### Spatial Composition

Plants are three-dimensional and occupy space. Plants can "model" space in any way we choose, both horizontally and vertically. The planting designer needs to think of spatial composition all the time.

The landscape is so amazingly three-dimensional that a person is utterly surrounded by it, physically influenced by it, emotionally affected by it, and ultimately responds well, indifferently, or badly to it.

### The Right Plant in the Right Place: Know Your Plants

When you walk into a bookshop, you will be overwhelmed by choice. However, if you buy a book and don't like it, it won't die on you.

When we are selecting plants, we will be choosing from several thousands of real living organisms, all of which have their own preferences and will, if not handled properly, die before our embarrassed eyes.

If a plant's appearance is what makes you choose it, these considerations are important. Then you will be confident, through your plant knowledge, that a plant is suitable for the job, and looks right itself and in its context.

As with creating great art, we want our planting designs to look fabulous and last a very long time.

### Plantsman's Tips

There are books and there is the Internet, where an astonishing number of plants are described and photographed. You should invest in some books and use the internet often.

However, there is nothing like your own practical knowledge. Botanical gardens, nurseries, and well-planted projects are good study grounds, where you will find plants you really like.

Build up your own photograph database and research those plants that you like. Not all will be suitable, however pretty they may be. You are looking for signs of "job suitability".

Observe them in different locations and get to know their habits. Then you can feel confident of planting for success. This knowledge is not quickly gained. Be prepared for a long haul.