

Arbor, Trellis, or Pergola—What’s in Your Garden?

A Mini-Dictionary of Garden Structures and Plant Forms¹

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MANY OF THE garden features and planting forms in use today come from the long and rich horticultural histories of countries around the world. The use of garden structures and intentional plant forms originated in the gardens of ancient Mesopotamia, Egypt, Persia, and China (ca. 2000–500 BC). The earliest gardens were a utilitarian mix of flowering and fruiting trees and shrubs with some herbaceous medicinal plants. *Arbors* and *pergolas* were used for vining plants, and Persian gardens often included reflecting pools and water features. Ancient Romans (ca. 100) were perhaps the first to plant primarily for ornamentation, with courtyard gardens that included *trompe l’oeil*, *topiary*, and small reflecting pools.

The early medieval gardens of twelfth-century Europe returned to a more utilitarian role, with culinary and medicinal plants in simple *knot gardens* defined by pathways and *wattle*. They also included *piscinas* and *espalier* to grow fruits. In fifteenth-century Spain, the Moorish gardens were idealized expressions of paradise, with trees for shade and clever water features—such as *chadars*, *rills*, and *runnels*—to cool the desert air.

The Renaissance was a period of fascination with the classical arts. The formal sixteenth- and seventeenth-century Renaissance and Baroque gardens of Italy and France introduced elaborate ornate details with complex *parterres* and *allées* of *pleached* trees, *belvederes*, and *boscas*, and terraces with *balustrades* and *perrons*.

In the modern world, formal gardens gave way to a new planting design inspired by romantic landscape paintings popular in eighteenth-century England. Picturesque planting design was known for the use of *follies*, arbors, *arboretums*, and *ha-has*. More advanced structures, such as *conservatories* and *crinkle-crinkle walls*, provided year-round gardening opportunities. The English gardens of the

Victorian era (mid-nineteenth century) included *herbaceous borders*, *carpet bedding*, *greenswards*, and *strombrellas*.

Although many early garden structures and plant forms have changed little over time and are still popular today, they are not always easy to identify. Structures have been misidentified and names have varied over time and by region. Read below to find out more about what might be in your garden.

Garden Structures for People

Arbor: A recessed or somewhat enclosed area shaded by trees or shrubs that serves as a resting place in a wooded area. In a more formal garden, an arbor is a small structure with vines trained over latticework on a frame, providing a shady place. A true arbor includes a bench sheltered underneath for seating, which distinguishes it from a trellis. The earliest use of arbors was in Egyptian gardens. Arbors were also used by the Romans, and by the late sixteenth century, they were used throughout Europe. The term *arbor*, an English word, is believed to be derived from the Old French *herbere* or Anglo-French *herbe*, meaning herb or grass.

Balustrade: A row of small, repeating pillars (also called *balusters*) that support a rail or handrail on stairs and porches. Balustrades were common in classical English and Italian estates in the seventeenth century. Estate gardens often used several levels with grand stairways to connect them, all defined by carved stone balustrades.

Belvedere: A summerhouse in a garden where one can sit and admire a distant view. The term comes for the Italian term *bel*, which means “beautiful,” and *vedere*, which means “to see.” A belvedere is different from a gazebo because it can be any architectural structure specifically sited for a view and may be built on the upper story of a building.

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Belvederes were common in seventeenth-century Italian and English gardens.

Conservatory: A glass and metal structure traditionally found in estate gardens. Conservatories were built as indoor garden rooms to display plants, unlike a greenhouse, which is used primarily to cultivate plants. The word *conservatory* is derived from the Italian term *conservato*, meaning “to store or preserve,” and the Latin term *ory*, meaning “a place for.” A conservatory was originally a structure for storing food. Descriptions of garden conservatories are seen in writings as early as 1650. However, the term *conservatory* began to be used in Britain in the mid-seventeenth century to refer to buildings with large south-facing windows. Modern conservatory design began in the mid-eighteenth century when advances in glass and steel production allowed larger spans of glass for more light.

Crinkle-Crankle Wall: Sometimes known as *ribbon walls* or *serpentine walls*, the term originated from a Suffolk dialect term to describe a serpentine-shaped brick or stone garden wall designed to enhance the growing of fruit. Fruit trees were espaliered on the sun-facing surfaces to catch more sun. Serpentine walls were used in early colonial gardens because, in their traditional form, they are a single line of brick in a serpentine shape that does not require support columns or buttressing for stability. Thomas Jefferson is widely credited with bringing the serpentine wall to the United States, where he used it on the University of Virginia campus.

Folly: A small structure constructed for decoration but often built to suggest usefulness. Follies were used as focal points in large English and French landscape gardens in the eighteenth century. The origin is believed to be from the Old French *folie*, meaning “madness.” They are distinguished from garden ornaments because they are true buildings, although they’re deliberately built as ornaments. They often have an unusual design and false elements; for example, some mimic old ruins.

Gazebo: A small structure or garden pavilion usually sited for a view. The origin of the term is unknown; however, they were often used in England so homeowners could stand in a protected area, gaze upon their land, and supervise a construction or landscaping project. Thus, the term is believed to have originated from the English word *gaze* and Latin suffix *ebo*, together meaning “I shall gaze.” They were used in Egyptian and Roman gardens, and British architects used the term in 1750 to describe rural Chinese architecture. In Chinese gardens, small, colorful gazebo-type structures are referred to as *T’ing*. Gazebos can be freestanding or attached to a garden wall, and they are characterized by a roof and partially open sides. The most

popular shape is octagonal or round. Today, most serve as ornamental features.

Greenhouse: A structure of glass or plastic for plant cultivation that allows incoming solar radiation to be absorbed by plants and soil in the building. Heat from re-radiation by the plants and soil keeps the plants warm. The earliest greenhouses in sixteenth-century Italy (see “Orangeries”) used open windows and plank and cloth covers. Glass greenhouses came into use in seventeenth-century Europe, and modern greenhouse and conservatory design evolved with advancements in glass technology and construction techniques in mid-eighteenth-century Europe.

Lattice: An open network of laths (thin strips of wood) in a crisscross pattern at right angles, with small square openings to let in light and air circulation. The lattice is often built in flat panels and attached to a frame to create a trellis or enclose a structure, such as a gazebo.

Lath House: A structure used to create shade for cultivating plants. The structure can be open sided or enclosed with thin, narrow, parallel strips of wood spaced to provide about 50% shade. The structure allows air and light in through the roof while screening the sun and wind.

Moon Gate: A circular, oval, or octagonal shape cut in a walled garden or courtyard wall. The opening acts as a pedestrian passageway. Of Chinese origin, the moon gate is a traditional element in Chinese gardens, but it was originally only found in the gardens of wealthy nobles. The gates have different spiritual meanings for the different shapes and for each tile used in the gate. The curve of the gate represents the half moon, hence the name.

Orangerie: An area in a garden where orange and lemon trees were planted in moveable tubs in formal arrangements outside in the summer, then moved into an adjacent hothouse in winter. The hothouse had large open windows and a heater to overwinter the citrus trees. Orangeries were first introduced into Spain by Arabs in the twelfth century and used in Italian Renaissance gardens in the sixteenth century. They reached the height of popularity in sixteenth-century English and German gardens, and they evolved into the glass greenhouse in the seventeenth century. A modern greenhouse is sometimes referred to as an orangerie.

Pavilion: An ornate tent or a light building with an ornamental roof, typically built for relaxation in pleasure gardens. The term *pavilion* is derived from the Latin word *papilio*, meaning “butterfly” and “tent.” Pavilions were first used in the Far East, where they were small, colorful tents in Asian gardens. Modern pavilions can be small garden structures or large public park structures, typically used for group activities, parties, and community events.

Pergola: A long and narrow structure (linear) with pillars to support flat crossbeams and an open latticework that is often covered in vines to shade a walkway. Although sometimes called an arbor, a pergola is a trellis structure over a walkway and may extend from a building, connect buildings, or protect an open terrace. Pergolas can also extend from a door to a garden feature, such as a pool. Pergolas were first used in ancient Egyptian gardens and then introduced to Italy during the Renaissance, where *pergola* means “a close walk of boughs.” Pergola comes from *pergula*—a Latin term for a projecting eave.

Perron: *Perron* is a French word (from the Old French *perre*) for steps up a sloped terrace or an outdoor stairway leading to a building entrance with a platform at the top. It is also a term used for ramped steps. Perrons were common in seventeenth- and eighteenth-century Italian and English Renaissance gardens, where they connected terraces.

Strombrella: A small covered structure that holds a two-seater swing. The small gable roof is supported by columns or posts on the side, and the structure is often embellished with gingerbread scrollwork. Strombrellas were popular in early nineteenth-century Victorian gardens.

Terrace: A terrace has two definitions in a garden. One is a flat paved or gravel section for walking that overlooks a garden and provides a transition between the house and the garden. The second definition is a narrow, flat tract of land (usually a series of levels) on a hillside faced with stone masonry or turf and often planted. Planted terraces were first used in ancient Mesopotamian gardens. A terrace can also be a flat roof or raised viewing platform next to a building (often found in Persian gardens) that is used for leisure and recreation, or it can be an outdoor promenade or balcony bordered by colonnades.

Trellis: A small free-standing structure usually made from wood or metal, with a framework of crossbars that is used to support, train, and display climbing plants. A trellis can also be a flat structure that is attached to a wall, or a panel attached to beams over columns. Trellises were first used in seventeenth-century Dutch gardens and were popular in nineteenth-century American and German gardens. Arched trellises are often used in the garden as a gateway feature.

Wattle: A framework of poles intertwined with twigs, reeds, or small branches used for walls, garden edging, fences, or roofs. Saplings are often used, woven into a pattern similar to the weave of a fabric. A wattle and daub wall is made from twigs and mud. Wattle was once a common structure in many gardens, including ancient Egyptian gardens and twelfth-century medieval knot gardens in monasteries.

Garden Ornaments

Jardinière: An ornamental, highly decorative container for growing and displaying plants and flowers in the garden, particularly culinary and herb gardens. A jardinière is often in the shape of an urn and usually made from a colorful ceramic. The term is a French word, meaning “gardener.”

Obelisk: A tall vertical monument, four sided and square at the bottom and tapering to a pyramid at the apex. The obelisk is Egyptian in origin, used in temples rather than gardens, but the word *obelisk* is Greek (*obelisko*) in origin. Herodotus, a Greek traveler, was one of the first to describe the structure. In the sixteenth century, excavated obelisks were used in Roman gardens. Obelisks are often used as a focal feature in the garden or to mark the center of an open space or intersection of pathways.

Statuary: A sculpture (a three-dimensional form) representing a human or animal. The term *statuary* originated from the Old French *statuere*, via Latin *statua*, meaning “to set up.” Historically, statues also represented figures of mythological deities. Garden statuary was first used on a large scale in ancient Egypt, where temple gardens incorporated statues of deities and sphinxes. The ancient Greeks created statues of their gods and idols, many of which were copied by the Romans, who were the first to position statuary to enhance the overall garden design. Early Egyptian sculptures were of cast bronze; the Greeks and Romans used stone and lead. Modern garden statuary tends to involve more abstract figures or copies of classical statues. Cast stone, concrete, copper, ceramic, and glass are popular materials for today’s gardens.

Trompe l’oeil: A French term that means “trick of the eye,” *trompe l’oeil* is an illusionistic painting that depicts objects in three dimensions for a realistic look. It was often used in murals and has been found on ancient Greek and Roman architecture. Paintings are often used on garden walls to suggest depth and expand the garden by depicting a scene that appears to be in the distance.

Structures for Animals

Apiary: A man-made structure where a collection of beehives is kept for honey. Most apiaries used today are white wooden boxes stacked on a low platform. Although Egyptians (4000 BC) were known to culture bees, German beemasters were the first to use apiaries of twisted straw in a cone or dome shape called a *bee skep*, and gardeners in seventeenth-century Italy were the first to use boxes similar to modern apiaries.

Aviary: A large enclosure in which small birds are kept. Aviaries are sometimes known as flight cages because they are often big enough to allow small birds to fly. Many larger aviaries include plants to mimic the natural environment. The first recorded use of aviaries was by the Romans, who called them *ornithones*. European explorers of the fifteenth century also noted aviaries in the Aztec empire and Chinese gardens.

Ha-Ha: A deep trench with one steep side (often a wall) and one gently sloping side or a fence at the bottom. When gazing across an open field, the fence is hidden from view because the top is lower than the horizon. The trench serves as a barrier for grazing and wild animals. Ha-has are French in origin, first appearing in the gardens of Versailles in the seventeenth century. They were popular in eighteenth-century English picturesque gardens to allow clear views off-site to be incorporated into the garden landscape without blocking the view. The name is surmised to come from the response of surprise from people who came upon them unexpectedly.

Piscina: An Italian word for a small pool or fish pond. The piscina was first used in Roman gardens as a small artificial reservoir for a fish pond. During the Middle Ages, the piscina was a tank or pool where fish were stored in monastic communities for eating. In modern gardens, it is a fish pond that is incorporated into a decorative scheme. The original piscina at Monticello, the home of Thomas Jefferson, has been restored. Jefferson stocked his pond so that he could have fresh fish on demand, before the time of refrigeration.

Water Structures

Berm: A mound of earth, usually in a long horizontal form that is landscaped and used to add variation to a landscape. Berms are typically created to stop or divert the flow of stormwater runoff to prevent erosion. The term *berm* originated from the Dutch term *berm*, meaning “a strip of ground along a dike.” Berms are also used to elevate plants and rocks for aesthetic effect or to create sound or visual barriers.

Chadar: A water feature with a sloped surface over which water flows. The surface is rough with carved patterns that make the water dance and bounce into the air for a cooling effect and pleasant noise in the garden. Chadars were first used in seventeenth-century Mughal gardens (present-day Afghanistan and northern India). Today they are used as small water features in courtyard gardens, and rough slabs of stone are often used for the sloped surface.

Dry Well: An excavated hole or small well filled with broken stone or gravel used to collect stormwater from piping

above. The large air spaces between the broken stone or gravel hold a large volume of water, which then percolates into the ground over time.

French Drain: A trench covered with gravel or rock used to redirect surface water to another location. The trench often includes a buried drain pipe used to collect and drain the excess stormwater along the entire length of the pipe. The drain pipes are perforated with holes and covered with a porous fabric sleeve to keep out the silt when buried in the trench with gravel.

Jub: A ditch or swale in which trees are planted to allow tree roots quick access to water. The jub is used to help prevent water evaporation and maximize tree access to a small amount of water in arid countries. Jubs were commonly used in ancient Persian gardens (500 BC) to conserve water.

Rill: A narrow channel or small rivulet with running water inset in the concrete or stone pavement of a garden. A rill can be used to transport water to plant beds, but it is also used as a decorative water feature. Historically, rills were found in Persian and Moorish Spanish gardens as far back as 4000 BC. Rills are also formed in nature by overland water flow that cuts a very narrow and shallow stream.

Runnel: Slightly larger than a rill, a runnel is a narrow channel, small course of water, or small stream (streamlet) flowing on the surface or underground. Runnels were used for irrigating trees in ancient Persian and Mesopotamian gardens. The term is derived from the Old English *rynel* or *rinelle*, which means “to run.”

Swale: A low, linear tract of land or shallow depression usually used to carry water to a desired location during rainstorms. The low area is often moist or marshy if it holds water. Swales are often landscaped to filter pollutants from the water and increase infiltration.

Water Wall: A wall with small narrow openings (sometimes called a *weeping wall*) that allows water to seep through. Water walls are often used as water features or decorative fountains. They can also be used as retention walls that allow groundwater to drain from buried pipes, such as French drains.

Plant Forms

Allée: A straight gravel or grass pathway with a double, symmetrical row of trees or shrubs on either side. Allées are the hallmark of a very formal design and are commonly found in French and Italian estate gardens. Italian Renaissance gardens were the first to use long allées of trees to connect garden spaces. Allées often end in a terminal feature, such as a sculpture or structure, and are

used as promenades and to extend the view. An allée with tree branches trained to meet overhead is called an *allée couverte*.

Arboretum: A collection of trees, or a park where trees are cultivated for scientific or educational purposes for groups or individuals (trees are typically labeled for identification). Egyptian pharaohs were the first to collect and transplant exotic trees in gardens, but the collection of trees for study to illustrate the diversity of species and forms did not become popular until the late eighteenth century. The term *arboretum* was first used in an English publication, *The Gardener's Magazine*, in 1833. A *pinetum* is an arboretum with only conifers. A *fruticetum* is a collection of shrubs, sometimes located within an arboretum, for scientific or educational purposes. The term is derived from the Latin *frutex*, meaning “shrub.” A *viticetum* (sometimes called a *vinery*) is a collection of vines for study or education. The term is also sometimes used in reference to a vineyard or a plantation of vines.

Bower: A shelter in a garden or wood made with tree boughs or vines that are bent and twisted to grow together. Bowers are also known as natural arbors, as they typically include benches for seating. The term *bower* originated from *bour*, which is Middle English for “dwelling.”

Bosk: A very densely packed small wood or grove composed of shrubs and small trees. Historically, bosks were found in gardens of many cultures for different purposes. Italian Renaissance gardens often had a central axis water channel that began in a *bosco* or a *boschetto*—a small grove. *Bosquets* were found in sixteenth-century French Renaissance gardens, where they were often pierced by walks or pathways in a star shape. In England, a *bosket* is a grove of trees that provides a shaded place away from the formal geometric garden.

Carpet Bedding: From Victorian England (mid-nineteenth century), carpet bedding refers to massed low-growing bedding plants, usually annuals, arranged in geometric patterns (to resemble rugs), usually within a grassed lawn. The concept was derived from knot gardens and parterres and is sometimes used to describe annual displays of plants. Often called *pictorial gardening*, the technique is sometimes used to create patterns, such as clocks, logos, and names, in the gardens of theme parks and resorts.

Copse: Also called a *coppice*, a copse is a small wood or thicket of small trees that is usually grown for the purpose of periodic cutting. The term is derived from the Old French *copeiz*, meaning “a thicket for cutting.” Late Renaissance French and English estate gardens often had several copses throughout the garden. Small shoots were harvested for a variety of uses, such as firewood or wattle fencing. A *spinney* is a copse that shelters wildlife.

Espalier: A pruning or grafting technique to train trees to grow in a pattern—either single plane or two dimensional on a trellis. Although the term *espalier* originated in the French Renaissance period, the technique was used in the Middle Ages to grow fruit inside the castle walls without taking up too much room. The word describes the horticultural technique; although it originally meant the trellis on which the tree is trained to grow. When planted in a horizontal espalier on a wall (sometimes called *fruit walls*) the wall reflects sunlight and retains heat, which helps the plant to grow and fruit more quickly. The wall itself is sometimes called an espalier. Most espaliers use formal patterns, including candelabra, tiered, basket weave, fan, or diamond.

Herbaceous Borders: A collection of mixed plants, typically herbaceous perennials, planted close together for a dramatic effect along a path border or edge of the garden. The borders use color, shape, and arrangement of plants to create the visual appeal. In North America, the term *perennial border* is more common. Borders were first used in Victorian gardens and later revived in British cottage gardens by Gertrude Jekyll, a nineteenth-century British garden designer. Today most borders are mixed herbaceous borders, with perennials, shrubs, and sometimes edible plants that can be viewed in all seasons.

Knot Garden: A formal, often symmetrical garden laid out in a geometric pattern in a square frame. Knot gardens include a variety of aromatic plants and culinary herbs, with gravel paths in between. Although simple knot gardens were used in the Middle Ages, more elaborate knot gardens were used in England during the reign of Queen Elizabeth I in the sixteenth century. Original knot gardens did not have the low box hedges. A knot garden with hedges of neatly clipped boxwood, which originated in Italy, is more accurately called a *parterre*. A large garden may have several squares of knots and is usually patterned after a rug or tapestry or copied from the designs and knots used in embroidery. In intricate geometric patterns, closed knots (areas enclosed with plants) are sometimes filled with colored sand or gravel.

Lawn Panel: A small area of neatly trimmed grass that is bordered by hardscape, such as pavers or stones, or by mixed plants. Lawn panels are often used in small spaces to provide smooth surfaces as foregrounds to stage plant beds. Today, lawn panels are often used on green roofs. Lawn panels were used in the formal estate gardens of seventeenth- and eighteenth-century Renaissance Italy and France to create a pattern and divide large spaces.

Greensward: An open area of neatly trimmed green grass, sometimes called a *grassy sward*, *sward*, or *meadow*. The term *sward* originated from the Old English *sweard*, meaning “skin.” Greenswards were popular in Victorian

gardens in the nineteenth century. A well-known greensward in the United States is the capital mall in Washington, DC, that extends from the capitol to the Lincoln Memorial.

Grove: A small wood or group of trees without undergrowth planted for shade or special purposes. The term *grove* originated in eighth-century Saxon Germany, where they were commonly planted by heathen people to honor deities or serve as places of worship.

Orchard: Orchards were originally enclosed gardens for herbs and fruit trees. Orchards may have originated in classic Greek hortus gardens (450 BC) or possibly old Gothic German compounds (thirteenth century). Today, an orchard is an intentional planting of rows of trees (and sometimes shrubs) for food production. Most orchards are fruit- or nut-producing trees planted for commercial purposes. A *meadow orchard* is a meadow or field with scattered fruit trees. Most orchards in the United States are apple and orange orchards; citrus orchards are more commonly called groves.

Parterre: A formal garden, usually on a level surface, with an intricate pattern of plant material. Parterres typically consist of plant beds edged with clipped hedging or stone and gravel paths. Parterres originated in the fifteenth-century gardens of the Italian Renaissance. The word *parterre* derives from Old French *par terre* and Latin *per terre*, meaning “on the ground.” The seventeenth-century French parterres used more intricate, free-flowing designs rather than geometric. Parterres with flowing designs are called *broderie par terre*, which is a French expression that means “embroidery on the ground.”

Pleached: To braid or interlace. Pleached trees are planted in rows (palissades) or a quincunx (five trees in a square with one in the middle), and the branches are woven together, pruned, tied, and trained to form an archway or raised rectangular hedge with smooth contours. Pleached trees were found in medieval gardens and through the early eighteenth century in European gardens. Pleached refers to the more architectural form of clipped plants, while topiary is the more decorative form.

Pollard Tree: A common practice in European cities since medieval times, pollarding is a pruning system for trees

where the main branches are cut back and smaller branches grow from a knuckle or ball of tissue (pollard heads) to form a crown of many small upright branches. Traditionally, trees were pollarded either for wood or branches to feed livestock. Today, pollarding is used to restrict height and canopy spread to create smaller trees with dense foliage near the main trunk, primarily for aesthetics. The term *pollard* comes from the Middle English *polle*, meaning “the top of the head,” and *to poll*, meaning “to crop the hair.” A pollard is something that has been polled.

Potager: An ornamental kitchen garden. From the French term *jardin potager*, a potager is a vegetable garden or a kitchen garden separate from the rest of the residential garden. Flowers, herbs, fruits, and vegetables are often included in the garden, and the goal is to make growing food aesthetically pleasing. Plants are chosen for their color and form, and the garden is typically laid out in the informal cottage style or as a formal knot garden.

Rockery: A feature in a garden that is made up of a natural rock outcropping, or an artificial pile of rocks, or a combination of both. Rockeries usually include alpine plants or similar plants that grow well in dry areas. Rock features are used widely in Chinese and Japanese gardens. The use of rocks reached a peak in twelfth-century China during the Song dynasty, where Buddhists believed rocks represented the creative forces of nature. The Japanese rock garden is often referred to as a *Zen garden*—a type of rock garden with few plants, popularized by Zen monks in the fifteenth and sixteenth centuries.

Topiary: The art of sculpting or clipping trees or shrubs into geometric shapes or sculptural forms. The word *topiary* is derived from the Latin word for an ornamental landscape gardener, *topiarius*, meaning “a creator of *topia*” (places). Topiary was first introduced in Roman gardens in the first century AD and later revived in the twelfth century in monastic gardens. In the sixteenth century, topiary was used in parterres and terraces of Italian and French estates and in cottage gardens. Japanese *bonsai* and Chinese *penjing* are types of topiary that reinforce the character given to aged trees by wind and weather. Modern topiary was introduced in Disneyland in the 1960s, with the use of a metal frame to guide the growth of the plant.

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