

Purposes and Manners of Representation of Plants in the European Art of the 13th-17th Century

Introduction

Figurative works of art usually have a main subject surrounded and accompanied by accessory subjects which complete and embellish the composition. The picture may be framed by friezes, ornaments etc. often consisting of repetitive motives, not distracting the attention of the observer.

The main subject of a work of art is often the human figure ; the accessory subjects completing the composition may be objects, architecture, landscapes, animals and plants. Frames and embellishments usually consist of motives representing animals, plants or highly stylized and elaborate objects.

In this paper the kinds of plant most frequently depicted will first be described, then the type and purpose of representation and the manner of depicting meadows and woods. Finally the way in which artists represent plants will be analysed. Most of the examples given are paintings, because this form of art is the most common and lends itself well to the portrayal of plants.

Types of plant

Mostly higher plants (gymnosperms and angiosperms) are shown, and the latter are by the far more frequent.

Of the gymnosperms, pines, cypresses and firs are depicted realistically by Jan van Eyck in the « *Lamb polyptych* » (Uffizzi Gallery). The reproductive structures of the stone pine, namely the cones, are used as a decorative motive especially by the della Robbias, both alone as in the ceiling of the Crucifixion Chapel (Collegiata, Impruneta, Florence), and in festoons or friezes together with different types of fruit, as in the Merchants Emblem (Or San Michele, Florence).

Ferns sprouting from rocks are sometimes depicted. Mosses can never be identified because of their size, but a mossy colour is frequently represented in suitable places.

Fungi are rarely found as a component of landscapes. They may have been excluded for ideological reasons, especially in the Middle Ages. The «*Sacrifice of Isaac*» by Alessandro Allori in the Uffizzi is an exception; here we observe both *Amanita* and white mushrooms, perhaps *Lactarius*. Mushrooms are depicted in the «*Wilton Diptych*» of the French school (National Gallery, London). Mushrooms, however, are one of the more frequent plant components of still lifes, especially by central European artists.

Lichens are very rarely depicted because they are inconspicuous, small and abundant only in certain parts of Europe. The lichen *Usnea barbata* hangs from firs in the background of «*Rest during the Flight from Egypt*» by Lucas Cranach (Staatliche Museen, Berlin). This picture is a clear example of the household localization of plants and the scene is geographically accurate. For other central European artists like Grünewald, the idea of Palestine or biblical lands is suggested by the fig, a tree which grows only in warmtemperate climates. Here compare the central panel of the «*Altar of Isenheim*» (Unter den Linden Museum, Colmar) and «*Madonna and child in landscape*» (Struppach, Bad Mergentheim, Baden Württemberg).

Algae are used as decorative elements in the style of Manuel in the convent of Tomar (Lisbon, Portugal). Something resembling seaweed is carved in the travertine of the Trevi Fountain (Rome). Angiosperms are the most commonly depicted plants. Their flowers and fruits make them attractive, fascinating and symbolic, and befit them to accompany any subject.

What are the most frequently depicted flowers? Roses take first place, easily surpassing all other flowers. There are many reasons for this. They are beautiful, perfumed and easily cultivated. They are also leading figures on the literary scene, as for example in the song «*Belle rose porporine*» by Chiabrera. Roses are usually depicted in full bloom; examples of roses in bud are surprisingly few. An unusual portrayal of a rose can be seen in a small «*Madonna and child*» of the school of Gerolamo di Benvenuto (Art Gallery, Siena). In the background at midbody level, rose leaves and hips are shown, probably alluding to maternity, and thorns to the passion of Christ.

Purpose and type of representation

Plants appear in works of art for many reasons and these vary according to the artist, period, technique and subject (Figs. 1 and 2). Five main purposes can be identified but these are not mutually exclusive.

As a decorative accessory the plant element is used as a motive for embellishment, frames etc. Sometimes the plant inspiring the motive is recognizable; at other times, for example in illuminated missals, the basic element has been modified beyond recognition. In certain cases, like in the frame of the «*Majesty*» fresco by Simone Martini (Town Hall, Siena), we find realistically portrayed thistles and peas.

The purpose of filling induces the artist to include a tree, bush or herbaceous plant in the composition. The plants have the function of balancing. A good example of this may be found in the frescos of Pinturicchio in the Piccolomini Library (Siena Cathedral), which show scenes from the life of Pope Pius II. The space available to the artist is a rectangle with a vertical major axis. The human figures occupy the lower half of the picture and the artist needed to fill the upper half. Pinturicchio used architecture and landscapes for the open air scenes. In the landscapes, there are always trees in the transition area between the figures and the background, and these are partly superimposed on the sky. To balance the composition, the trees are always very tall with long trunks, double the diameter of the foliage. To give the trunks some variety, there are dead branches and stumps.

The symbolic purpose is realized in different ways according to the subject. If the subject is a single person, a flower or fruit in the hand has a certain meaning: the lily for virginity, the palm for martyrdom, the pomegranate for abundance etc. (For the symbolic value of plants in Renaissance painting see Levi d'Ancona, 1983). Flowers, fruit or even birds in the hand of infant Jesus have the purpose of inducing tenderness in the observer. Festoons of fruit convey sumptuousness as for example in the «*Enthroned Madonna*» by Mantegna (Verona, San Zeno). In the «*Sacred Family*» by Marco di Oggiono (Louvre) the artist depicts many plants and trees in the foreground and background. These all make biblical and hymnological reference to the Virgin Mary (Marubbi, 1985). «*Saint Sebastian*» by Pollaiuolo (National Gallery, London) is an unusual case in that none of the plants shown can be recognized, but all are thorny and well suited to a scene of martyrdom by arrows.

The purpose of describing an environment appears from about the year 1400 when increased geographical and scientific knowledge led artists who were sensitive to these aspects to try to depict the «true environment» in which the episode occurred. Hence palms begin to appear in scenes from the Old and New Testaments. At first they were represented in an awkward way, and gradually became more realistic. For example Leonardo, who was a careful observer of nature, painted a palm right in the middle of the background of his unfinished «*Adoration of the Magi*» (Uffizzi). Perhaps,

as Leonardo often drew from life, he used a real palm as model, *Chamaerops humilis*, the only palm indigenous to Europe. Today this plant in Italy can only be found on certain cliffs overlooking the Tyrrhenian Sea, but in previous times it was common along the Tyrrhenian coast (Mattioli, 1568; Ferri, 1978). It was presumably known in Florentine artistic circles because it also appears in Luca della Robbia's lunette of the «*Resurrection*»

	Purpose					Type of representation		
	Decorative	Symbolic	Reminder	Filling	Descriptive	Stylization	Scientific	Naturalistic
TECHNIQUE								
<i>Sculpture</i>								
wood	x	x				x		
ivory	x	x				x		x
stone	x	x				x		x
metal	x	x				x		x
<i>Painting</i>								
fresco	x	x		x	x	x		x
water colour	x	x	x	x	x	x	x	x
tempera	x	x	x	x	x	x	x	x
oil	x	x	x	x	x	x	x	x
<i>Miniature</i>	x	x				x		
<i>Drawing</i>			x		x		x*	x*
<i>Mosaic</i>	x	x		x		x		
<i>Inlay</i>								
wood	x	x				x		
stone	x	x				x		
<i>Ceramics</i>								
porcellane	x	x				x		
terracotta	x	x				x		
<i>Tapestry</i>	x	x				x		
<i>Carving</i>								
wood	x	x				x		
metal	x	x				x		

* This type of representation of purpose flourished in certain periods.

Fig. 1. Comparison between purpose and type of representation of plants and the main artistic techniques. Decorative and symbolic purposes are realized in nearly all techniques, filling when there is complexity of composition and description with techniques permitting abundant detail. The note or reminder is performed by rapid techniques and later used in greater works. When the artist copies from life, the type of representation is naturalistic or scientific. Stylization is realized in all techniques whereas the naturalistic type is only suited to slow techniques when the subject is close to lifesized. Scientific representation is usually of a single subject, for example a single type of plant or flower.

(Florence Cathedral). Another purpose was that of the note or reminder, usually performed rapidly, for example a sketch (Fig. 1). Some of these drawings, like those of Leonardo depicting briars, various types of trees, oak sprigs with acorns, lilies, ornithogala, potentillas (all in the Royal Collection at Windsor) have been handed down to us. These were probably sketches from life and served as material for future works. Artists like Leonardo made sketches themselves; other belonging to similar schools, like the Umbrians, painted trees according to established models, e.g. Luca Signorelli, Perugino, Pinturicchio, Sodoma and young Raffaello. It is often unclear whether landscapes were painted by the masters or their students.

Mattirolo (1911), one of the first Italian botanists to consider the artistic portrayal of plants, distinguished three types of representation (Figs. 1 and 2). Stylization is the oldest type and has been used in all techniques and all periods (Fig. 2). The plant is not always recognizable.

Naturalistic representation is used with techniques which allow slow working and modification (Fig. 1). Frescos, for example, are not suited to this type of representation. The plant is always easily recognizable. A typical subject is still life.

Scientific representation is concerned more with documentation than art. It is characterized by the preciseness and reality with which the plants are depicted. With artists such as Bartolomeo Bimbi, Jacopo Ligozzi and Gaspare Lopez one suspects that they are botanists having painting as a hobby (Pacini, 1988). They specialized in painting flowers and fruits in the many gardens of the Medici court and lived in the period (1500-1700) in

	1200s	1300s	1400s	1500s	1600s
<i>Purpose</i>					
Decorative	xxx	xxx	xx	xx	x
Filling	xxx	xxx	xx	xx	x
Symbolic	xxx	xxx	xxx	xx	xx
Descriptive		x	xx	xxx	xxx
Reminder	xx	xx	xx	xx	xx
<i>Type of representation</i>					
Stylization	xxx	xxx	xx	xx	xx
Naturalistic			x	xx	xxx
Scientific				xx	xxx

Fig. 2. Comparison of types of representation of plants and purpose of their representation from 13th to 16th centuries. The rating x, xx and xxx is rather arbitrary for it is difficult to quantify such qualities.

which modern science, naturalist collections and museums came into being (Tongiorgi Tomasi, 1988).

Plants are also used to gird the loins of bible characters in devotional works. These plants may have been included by the author or added later by an artist commissioned for the purpose. Usually leaves of unrecognizable plants are used, simple sprigs like the one recently removed from the loins of Adam in the frescos of the «*Flight from the Earthly Paradise*» in the Brancacci Chapel (Chiesa del Carmine, Florence). Sometimes a single vine or fig leaf is used. For Adam, Dürer used a sprig with the fatidic apple, for Eve a sprig with a pear (Prado). A very unusual loincloth of *Clematis vitalba* is worn by Saint Onofrio in «*Madonna Enthroned between Saints Onofrio and Bartholmew*» (Siena Art Gallery) by Pietro di Franscesco degli Orioli. This painting was attributed to Giacomo Pacchiarotti until very recently (Angelini, 1982). *C. vitalba* is a wild climber which is used in the Tuscan countryside to weave baskets and grates. It is depicted very realistically; in this case the artist made a very original choice of a plant which could easily have grown where a hermit such as Saint Onofrio lived.

The portrayal of meadows and woods

Many scenes depicted by artists took place in the open air: some in meadows (Noli me tangere, Annunciation etc.) and others in forests (scenes from the lives of saints such as Saint Benedict, Hubert etc.). The artist was therefore forced to represent them. In the so-called primitive paintings, all the open air scenes are depicted on rocky or barren terrains with very little vegetation. The effort of the artist was all directed towards portraying the divinity. However when the subject was not religious, landscape painting and the desire to describe the environment dominated. See for example «*The Effects of Good Government*» (Siena Town Hall) and «*Castle by a Lake*» and «*Town by a Sea*» by Ambrogio Lorenzetti (Siena Art Gallery).

From the first half of the fourteenth century, herbaceous plants begin to appear among the rocks which form the background to sacred subjects. Trees grouped to represent a forest also begin to be used, for example in «*Scenes from the Life of Saint Benedict*» by Spinello Aretino (Florence, San Miniato a Monte). Techniques for painting plants are described in Chapter LXXXVI of «*The Book of Art*» by Cennino Cennini (1471):

«The way to colour trees and herbs and vegetation ...».

If you want to adorn mountains with forests of trees or herbs first put in the body of the tree in pure tempered black, then make a grade of green leaves, or bluegreen because earthgreen is not good; and work them thickly. Then make a green with (yellow), rather pale; and make some leaves less, starting to form some

tips. Then touch the pallor of the tips even with (yellow), and you will see the outlines of the trees and the vegetation; but first, when you have made the trees stand out with black at the base, and some branches ... and throw on the leaves, and then the fruit; and on top of the green throw some flowers and little birds. (Translated from Italian.)

In some of his paintings, Beato Angelico depicts sporadic plants between the rocks as in the «*Perugia Triptych*» (Vatican Gallery and Umbrian National Gallery, Perugia); in others he paints a fine meadow full of plants as in the «*Deposition*» (Museum of San Marco, Florence). However, there is no hint of the reason for this. The meadow is always rather flat with the plants plastered on a dark green background in the manner described by Cennino Cennini. Not much later Leonardo in his «*Annunciation*» (Uffizzi) and «*Virgin of the Rocks*» (Louvre) paints very realistic meadows which bear no likeness to a patterned carpet.

The forest is difficult to represent. In the 14th and 15th centuries it was often rendered without depth by one or two rows of trees. Certain artists used to paint tree stumps close to intact trees to give an effect of depth without encumbering the scene. Examples of this include «*Saint Girolamo*», and «*Madonna with Saint Anthony the Abbot and Saint George*» by Pisanello (both in the National Gallery, London). This lack of realism in depicting forests is due to unawareness of the rules of perspective. A realistic representation of a forest shows trees in different planes. The difficulty arises because each tree has its own plane. In artificial forests like poplar plantations, there are many trees in a given plane, and these form parallel rows.

By the end of the 1400s, paintings of forests were quite realistic, for example «*A Story of Nastagio degli Onesti*» by Botticelli (Prado) in which a pine forest is well depicted despite the use of tree stumps, and «*The Hunt*» by Paolo Uccello (Ashmolean Museum, Oxford).

Plants and artists

The type of representation and the way in which plants are depicted often reveal the cultural background of the artist, his personality, cultural evolution and approach to nature. For example the Dutch and German schools portrayed many plants and much detail. Perhaps they were helped by the fact that their still lifes had much success, especially those with flowers.

The realistic portrayal of plants is not always a characteristic of great artists. Raffaello and Michelangelo, for example, are unresponsive to the charm of plants. Because of his sculptural origins, Michelangelo is so

absorbed in depicting the human body that he totally neglects plants. He only ever painted a few branches and trees (Sixtine Chapel, Vatican, Rome) and to all appearance in an offhand way, because he could not avoid it. However, he redeems himself with the tree of the knowledge of good and evil in «*Adam and Eve*», depicted as a fig and recognizable by its leaves and fruit. Raffaello too, in the «*Vision of the Cavalier*» (National Gallery, London), the story of which is inspired by a flower, paints an unidentifiable flower from the Umbrian repertory (Guerrini, 1985). We find it again at the bottom left of «*The Beautiful Gardener*» (Louvre) and «*Madonna with Goldfinch*» (Uffizzi). Raffaello's interests lay elsewhere: plants served only to give an idea of the setting, their realism was unimportant.

If asked to list the artists who best depicted and interpreted the plant world, I would put Dürer in first place. In my opinion he is the best, or at least the artist to whom I feel closest. «*The Sod*», a water colour (Albertina, Vienna) is the supreme plant portrait, a true botanical masterpiece. It shows a sod of earth from a central European meadow between May and June. Four or five species of plants are depicted, not the most showy or beautiful but the simplest and least significant. Some botanists consider it an example of phytosociology, the branch of botany dealing with the how and why of plant associations.

I would assign second place to Caravaggio. The ideology behind the manner in which he depicts plants is the same as for human figures. He does not seek out rare beauties but common everyday figures. The same is true of the fruit in his still lifes: it is not ripe and shining as in later still lifes but as it must have appeared on our tables before the advent of fungicides and insecticides. In «*After Lunch*» (National Gallery of Art, Washington D.C.) there is a halved apple in the centre of the picture. It has not been eaten because it is rotten. Other rotten, bruised or worm infested apples are shown in «*Adolescent Bacchus*» (Uffizzi) and in «*Basket of Fruit*» (La Fiscella) by Ambrosiana di Milano. In these three works signs of disease are visible on apple, quince, grape, peach and fig leaves. Emilio Baldacci, an Italian plant pathologist, identified four species of pathogens in Caravaggio's «*Basket of Fruit*» (Baldacci, 1960). The portrayal is so realistic as to enable the identification of disease and pathogen.

In third place I would place Leonardo because of his documented attention to botany and all the sciences generally. His painting «*Leda and the Swan*», with its foreground of a flowerstrewn meadow, was copied and the original lost (see copy in the Galleria Borghese in Rome). In the copy most of the plants are unrecognizable. The artist who made the copy was only interested in the main subject. The same is true of the few other animals in the picture. There is a slug which seems suspended in midair.

Conclusion

Plants are a component of works of art, usually a corollary with different purposes. The function of a botanist in a team studying a work of art, an artist, a school or a historical period should not be to point out inconsistencies in the time and place, but to reveal the name and origin of the plants and supply other naturalistic information. This data can serve to supplement that provided by other specialists.

The presence of a botanist in such multidisciplinary teams is therefore desirable.

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