

A COMPARATIVE ANALYSIS OF DEVELOPMENTS IN ARCHITECTURE
AND LANDSCAPE ARCHITECTURE DURING THE RENAISSANCE
PERIOD IN ITALY

by

LEROY CHARLES JOHNSON

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PREFACE

In the study of history of Architecture and Landscape Architecture, one finds the two professions are usually treated as separate entities, their past being described as having been an evolution more or less independent of each other. To date, there has been no attempt at making a comparative study of the development of these two cognate professions in relation to each other.

It is the contention of the author that in many periods of history, the two professions experienced a simultaneous and dependent development of which members of both professions need be aware. This study shall attempt to show the relationship during one period.

It would be inconceivable to admit that any art form could be expressed without being influenced in some form or other by the society in which it took place. It is true, as Vivas and Krieger point out, that an artist is connected with a cultural tradition which has depth, from which he derives his language, attitude and sense of values; the object which he creates then is the product of his society.¹

Ideally, Architects and Landscape Architects (both creating art forms) are aware of the society of which they are a part, the moral obligations they have to society and the moral obligations society has to them. They should also know the

¹Vivas & Krieger, The Problems of Aesthetics, p. 11.

value of their product and the function it performs in the culture. Therefore, for their contribution to have meaning and integrity, it would be conceived not only in relation to their society, but, since they normally work on the same project, in relation to each other.

What better foundation would these people possess, to work harmoniously together, than to know the evolutionary relationships, principles of design and problems of execution of both professions.

Time does not permit the author to conduct a comparative analysis of this nature from the very beginnings of these professions to the present date. Therefore, a specific period has been singled out in which the social conditions were dynamic, the professions both experiencing a noticeable change in expression and on which period much information has been recorded. Additionally, the fact that the designer at this time was a professional since he worked for a design fee and not as a designer-builder would lend some credence to his integrity as a designer. This period, then, is the Renaissance period and limited to Italy. The period itself, whose date of beginning and expiration varies with as many authors as the reader wishes to consult, shall be approximately 1450 to 1650.

Another limitation on this study is the type of buildings generally referred to in the study. Since there was little or no opportunity for the design of gardens around the churches in that they were situated within the cities, churches will generally not be alluded to, only in specific instances.

Furthermore, since the palaces were in reality very similar to the country houses, except for being in the city and confined to small properties, we find a restricted use of the design of the out-of-doors. The country home or "villa", on the other hand, being a place of display, enjoyment and with ample land combined the talents of both professions into the creation of an expression of both professions. Therefore, it will be the buildings and gardens of the "villas" which will generally be referred to in this study.

Also, the author shall select features, principles and influences for examination which occur in both professions. Certainly there are many areas - for instance, in architecture, that of artificial lighting and heating - which were not commonly faced by the designers of the gardens which shall be omitted in this study.

Definition

The term Landscape Architecture as used in this study is used in its present form, that of: the design of outdoor spaces for human use and enjoyment. However, the term had not come into existence until after the Renaissance period. Through the study of the Renaissance gardens and of their designers, one can readily note that the profession of Landscape Architecture did exist though yet unnamed. Therefore, the author feels justified in using the term, particularly to facilitate and to condense wording when referring to the practice of the design of outdoor spaces.

DEVELOPMENTS LEADING TO THE RENAISSANCE

Though the question of ancestry of Italian Renaissance Architecture and Landscape Architecture is largely settled, for the sake of a fuller comprehension of the developments and ultimately to make a comparative analysis, it will be necessary to first discuss the early stages. Also, inasmuch as these two arts are in part a result of the society of the time, it is necessary to summarize the events and forces which began to shape the ideas, ideals and environment in which these arts were manifested.

The Crusades

Apart from their own intrinsic interest, the crusades are important due to a new awareness of architecture and landscape architecture by a great number of people. Then as now, travel, whether in the form of tourism or as an advancing army, afforded men first-hand knowledge of older civilizations, higher standards of living and hitherto unknown luxuries. The many thousands of crusaders who passed through Constantinople were, no doubt, impressed with the Byzantine gardens and architecture. In a climate somewhat similar to their own, the Italian crusaders surely must have marvelled at the Mongul and Syrian gardens which surrounded the palaces with an abundance of shade, water, fruit and flowers.

Another, but more indirect influence of the crusades, is the creation of a national sentiment due to the perils of the

East. Along with this national sentiment there began a consolidation of modern European nations. This was due in part to the very absence of the more adventurous and lawless nobles who departed with the Christian soldiers.¹

Feudalism

Another social factor which preceded the Renaissance was the breakdown of the feudalistic system. With the establishment of foreign trade, political empires and the emergence of national entities, feudalism began to dissipate. After the defeat of Fredrick I at the battle of Legano (1176) and the treaty of Constance (1183), the Italian towns obtained recognition of their autonomy, the Hohenstaufen empire was virtually dissolved and Italy was separated from Germany.² It would appear that the resultant feeling of nationalism and solidifying of the people of Italy into one common society would not only be a better environment for the arts, but, would also be necessary for a national style or mode of artistic expression to develop.

Growth of the North Italian States

While the earlier periods had been marked with constant battles amongst the North Italian States, early in the 15th

¹Franklin Meine (Ed.), The American Peoples Encyclopedia, Vol. VI, p. 563.

²Ibid. Vol. XI, p. 451

century a more tranquil condition began to prevail. Minor wars were conducted mostly by mercenary soldiers leaving the people to concentrate upon commercial activities.³ Jerrold places great importance upon this political development when he states:

The five great states - Florence, Milan, Venice, the Rome of the Popes, and the Kingdom of Naples are visualizing a policy; the conception of mutual support and federation is beginning to take shape, and the creative genius of Italy, made fruitful by her renewed contact with antiquity, is ready to dominate a world seething with new ideas.⁴

The Church

At a time when classical values and classical authority were gaining ground, it stood to reason that not only the temporal but the spiritual authority of the church would be questioned. The clergy had been the sole source of learning and they were not wont to educate the public; however, with the advent of the printing press (1453), the masses had access to not only the Latin text of the bible (Gutenberg edition of 1455), but, to the vernacular as well. The new readers compared the advocacy by the bible of poverty, humility and renunciation of wealth with the obvious intemperance and corruption of the Roman prelates - charging simony, pluralism and general moral laxity.⁵ This, plus the rising nationalism characteristics of the

³ Ibid. Vol. XI, p. 454.

⁴ M. F. Jerrold, Italy in the Renaissance, p. 4.

⁵ Meine, op. cit., Vol. XVI, p. 634.

Renaissance were the two major factors leading to the reformation, which, for a while at least, diminished the powers of the church. It should not be construed however, that these conditions or the attitude of the church stifled the development of Architecture and Landscape Architecture. Instead, the church, in the persons of the popes and cardinals, was in a position to seek the best designed houses and gardens for their own enjoyment. Previously the church, particularly the monastic orders, should be credited with keeping alive and improving upon horticultural practices during the Middle Ages. The cloister gardens, especially those of the Benedictines, were of simple geometric design, usually symbolic of the numbers four and were enjoyed for their aesthetic qualities as well as their utilitarian produce. These monks, in turn, taught horticultural practices to those who cared for the small walled-in gardens of the fortified castles.⁶

Humanism

The revival of learning, referred to as Humanism, is the term generally given to the rediscovery and interpretations of ancient texts between Petrarch and Erasmus. Since many of the texts being translated and interpreted were not Christian in character, a distinction grew between humane and divine letters. Humanism tends, in its beginning, to reject medieval habits of mind and medieval ideals, especially those found in

⁶Marie Gothein, A History of Garden Art, Vol. I, p. 183.

Scholasticism. It does not accept Protestantism, nor the rationalist view of the universe.⁷ Brinton states:

...humanism, indeed is an attitude toward life that is out of harmony with that side of democracy that is concerned with the common man, with the welfare of the masses.⁸

With such an attitude held by the leaders in learning of the time, a priveleged class of men of learning was born, a priveleged class of talent and intellect. It was primarily these men, their revival of antiquity, obedience to learning and artistic expression which fostered the renaissance style in architecture and landscape architecture.

The Gothic Style - Its perfection

The Gothic style in architecture, which immediately preceded the Renaissance, was given it's name by the Italians in derision of the Goth barbarians.⁹ During the 12th and 13th centuries when human progress was great and religious enthusiasm was strong, the civic ego as well as testaments to the glory of God were manifested in most of Europe through the erection of beautiful and enormous Gothic cathedrals. The size, magnificence and cost of these structures were further evidence of the knowledge and wealth possessed by the church.¹⁰

⁷Crane Brinton, Ideas and Men, p. 262.

⁸Ibid. p. 260.

⁹Meine, op. cit., Vol. VI, p. 420.

¹⁰Ibid. Vol. IX, p. 741.

Although Gothic architecture may be termed an ideal ecclesiastical style, it was never highly developed in Italy. Instead, the tendency was horizontal rather than vertical and was a decorative rather than constructive style in character. Italy still clung to it's classical and Romanesque traditions and accepted only the pointed arch and other details of the Gothic as surface ornaments. It's windows were smaller and with little tracery, certainly never reaching the use of florid tracery and lavish ornament as the flamboyant Gothic of France.¹¹

Another facet of the Gothic style in architecture was it's ultimate perfection as a constructive form. The structural problems differed from the earlier static styles and were not unlike our contemporary steel framework. The solution to these problems was a system of balanced forces. The structural material being stone, it was only natural that the continuous solving of the same problems would lead to the most efficient use of the materials and ultimately to the perfection of the style itself.

Through out the Middle Ages classic forms and classic proportions had been ever present and easily distinguishable. The dome, the semi-circular arch, columns and pilasters and the acanthus leaf carved capitals were almost as popular in the Middle Ages as during the time of Hadrian.¹²

¹¹ Ibid. Vol. IX, p. 744.

¹² F. Simpson, A History of Architectural Development, Vol. III, p. 1-2.

The Medieval Garden and Introduction of Innovations

The Renaissance garden did not come into being overnight, nor did it suddenly make an appearance robed in a new and unrecognizable form. It was, instead, a gradual introduction of innovations, ideas and elements - some from abroad, some from the medieval gardens and from a few of these innovations came a prediction of the coming trend and style. Although the medieval gardens' size was commensurate with the owners social position, it did little to reflect the character of the owner, site, environment and house. The pleasure obtained was chiefly of a sensuous character. The best of nature, the clearest water, the greenest grass, the brightest flowers, the clearest sky and the best time of year were the idyllic visions of nature which they wished to capture. This same goal was reached and is evident in their literary forms such as the ballad, the maysong, paintings and vignettes.

Dami described a hypothetical medieval garden that may have been designed by Crescenzi¹⁴ had he been commissioned to do so. He begins with a level square of about twenty acres enclosed with a high wall whose inner side is covered with espaliered plants. The principal feature being a square lawn in the center surrounded by rows of fruit and ornamental trees. A fountain of

¹³Luigi Dami, The Italian Garden, p. 9.

¹⁴Pietro de Crescentii, a native of Bologna, author of De Ruralium Commodorum libri XII in about 1300.

possibly Gothic style, sheltered by a pergola would occupy the middle of the lawn. An orchard planted in rows of evenly spaced trees is matched by an evergreen forest on the opposite side of the lawn (See Plate I). The medieval gardens then were simple, abstracted forms such as a few straight paths across the lawn, the use of colors was crude and there was little or no relation to architecture and sculpture.¹⁵

One of the various garden elements and innovations found in the Middle Ages is the use of water. Certainly it was not used in the fashion of the Renaissance, but it was there used as a central feature in the form of a fountain, moat around a palace, or in the form of fish ponds such as at Quarrachi.¹⁶ Sculpture is also present, but, in the form of flower vases, fountains and marble seats. In the garden of Pienza is seen an attempt at connecting elements along the same line of vision into a compositional whole through the juxtaposition of entrance, loggia, courtyard and garden. The design of Villa Medici at Fiesole (1450) by Michelozzo probably heralds one of the more important aspects of the Renaissance gardens - that of fitting the garden and house to the site by means of terraces and steps.¹⁷ There were other innovations such as secret gardens, hillocks and islands in ponds, but, they were not determining elements in the Renaissance and consequently had a lesser lasting effect.

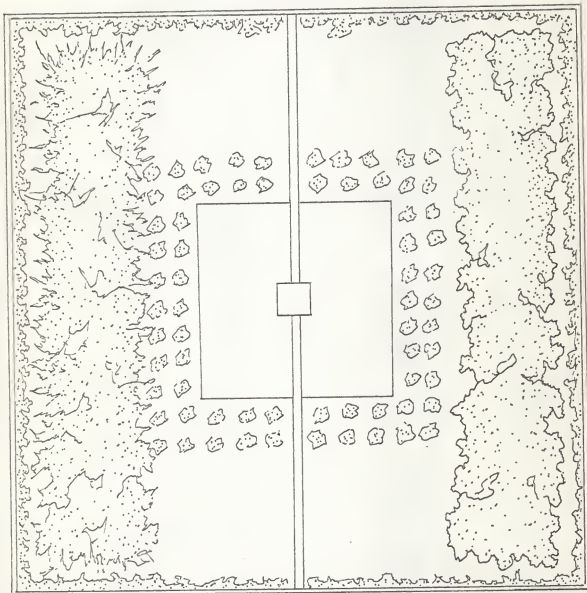
¹⁵Dami, op. cit., p. 8

¹⁶Ibid. p. 11.

¹⁷Harold Eberlein, Villas of Florence and Tuscany, p. 74.

EXPLANATION OF PLATE I
A typical Medieval Garden

PLATE I



From this brief historical background sketch are seen the events which shaped the society of modern Italy, of which the Renaissance was the forerunner. Collectively, these events created a feeling of nationalism, which in itself was to assist in shaping the artistic principles of the time. The country was beginning to be aware of other civilizations, what could be learned from them as well as what materials could be introduced. The men of learning were ever more aware of their inheritance of antiquity available merely through re-discovery.

In both architecture and landscape architecture, the basic elements of design were there, construction methods were considerably advanced posing no great problem, the need then was activity and a modern meaning to the classical forms of artistic expression.

The activity was provided by the wealthy popes, cardinals and business men - each wanting to enjoy this new-found freedom, exuberance and intellectual activity. This desire could be most easily satiated through patronage of the arts, of which architecture and landscape architecture were to occupy a major role.

CLIMATIC AND TOPOGRAPHIC INFLUENCES

Throughout the history of house design, man has advanced different solutions to the continuing problem of creating a controlled environment for habitation and enjoyment. Olgyay states: "The problem of controlling his environment and

creating conditions favorable to his aims and activities is as old as man himself."¹

Climate is not an unvarying condition which covers an entire region with identical quantities of moisture, sun, heat and wind. Instead, there exist side by side, numerous microclimates within the all encompassing macroclimate of the region. One of the factors which cause these variations to exist is topography. Therefore, given a variety of topographical characteristics, one may select a building site which at least offers some potential for the creation of a microclimate.

This chapter shall treat of climate, topography and the influence of these factors upon the design and building of the Italian villas. Because of the extent and variety of topography, there are several climatic provinces in Italy. With this in mind, the author feels it is appropriate to discuss only those major and dramatic influences which produced the most discernable results in the Italian style of gardening and architecture. Certainly to explore and discuss the minute and finer points would be a disproportionate emphasis upon the subject.

The Italian Climate and Native Plants

The two extremes of climate and topography would be the Plains of Rome, or the Campagna (Plate II) and the more

¹Victor Olgyay, Design with Climate, p. v.

mountainous northern areas. The Campagna, which is composed of quaternary igneous rocks and alluvium deposited by the Tiber River has a modified Mediterranean climate, where the January temperature averages 43-46 degrees and the July temperature averages 72-76 degrees. The summer sun is hot and bright, the sky is virtually cloudless.²

The inland and upland areas are cooler with snow covering the higher portions of the Apennines. Increased precipitation is evident in the mountains due to the raising of the winds, which, in turn, results in much more luxurious plant growth. The areas south of Naples have a true subtropical Mediterranean climate with moderate winters and ample rainfall.

Plant materials, if left to support and reproduce themselves are usually a good indication of the climatic conditions. The plants of Italy are characteristically drought resistant trees and shrubs. The mountains support oak, chestnut, fir and pine. South of Naples are found less hardy plants, whereas north of Naples are found the more hardy broad-leaved evergreens, oak, beech and other plants of central European character.³

Effects of Climate on the Garden

The more prominent villas built in Italy during the Renaissance were built upon the hill sides near the major cities. In

²Meine, op. cit., Vol. XI, p. 440.

³Loc. cit.

EXPLANATION OF PLATE II

Climatic and topographic map of Italy

PLATE II



addition to the social and aesthetic precepts for moving from the cities to the hills, are the many advantages of an improved climate.

Compared to the slow moving air currents of the valleys, which currents are difficult to capture on a small city lot, the hillsides provided unlimited opportunity to enjoy the summer breezes. By controlling the air movements, one can either raise or lower the temperature over the desired area. Since cold air is heavier than warm air, it flows down the hillsides and collects in "pools" in the lower areas.⁴ Therefore by designing a villa with this in mind, one can avoid a "dam" which would pocket the cold air of evening as it settles to the lower areas. Villa Lante at Bagnaia, designed by Vignola in 1560 (Plate III)⁵ may have been designed with this in mind. One can easily visualize how one large building across the garden would have trapped the cold air against the uphill side of the building. As it was designed, however, with twin casinos off to the sides, the air currents of evening follow the water course from hilltop to the lower areas.

The desire for shade, precipitated by the hot dry climate, led to one of the major features of the Italian gardens. "The most practical need for enjoyment of the garden was shade, and

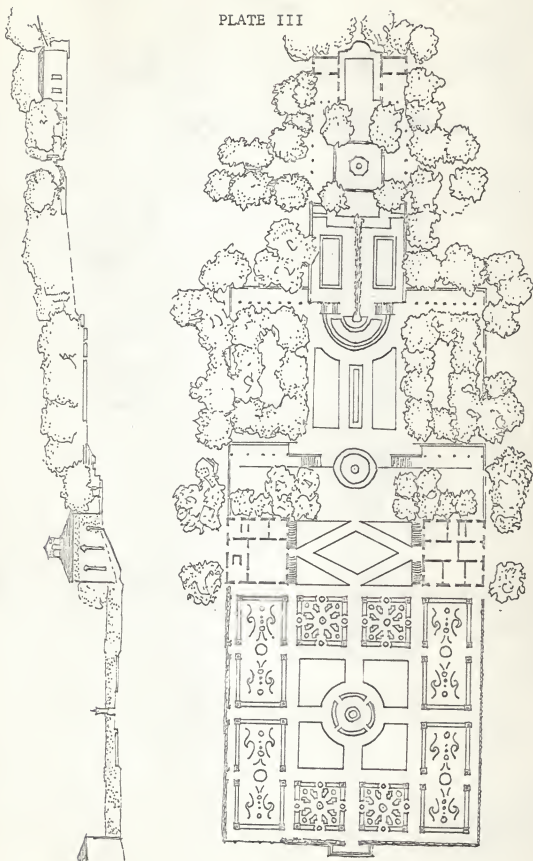
⁴Olgyay, op. cit., p. 44.

⁵John Shepherd and Geoffrey Jellicoe, Gardens and Design, p. 70.

EXPLANATION OF PLATE III

Villa Lante at Bagnaia showing twin casinos

PLATE III



this was the reason for elaborating the treatment of trees and hedges."⁶ The long avenues of cypresses, besides being a formal approach to the house or frame for a view, indeed provided a shaded path or drive.

Shade in itself became a feature of the gardens. At the Villa Lante, Vignola used plant materials in a fashion which played with quantities and qualities of shade to arouse interest. As one moves upward through the garden, past the twin casions, shade becomes ever more present. Gothein describes this as,

for the higher we get, away from the low growing, bright flowers on the lawn, the nearer we get to shade and the darker kind of plantation, while the uppermost terrace is bounded right and left by pine woods.⁷

The "bosco" or oak grove, was another example of the desire for shade. It too, was designed in a formal fashion, less subject to control to be sure, but still a part of the garden and maintaining similar design characteristics. The bosco afforded a new dimension in shade unattainable in the long avenues and tall clipped hedges of the garden. These dimensions being: quantity and a less rigid two-dimensional atmosphere.

In some instances, such as at Villa Gori, at Siena, the desire for shade in the garden resulted in a pleached alley which permitted one to make a complete circuit of the garden and be in shade all the while. The alley itself then, was a

⁶John Shepherd and Geoffrey Jellicoe, Italian Gardens of the Renaissance, p. 18.

⁷Marie Gothein, A History of Garden Art, Vol. I, p. 275.

feature of the garden and to some extent shaped the garden itself.

Since the climate limited plants to a few choice species, they in turn virtually guaranteed a certain restraint characteristic of formal design. Formality itself is more easily attainable through simplicity of expression. This simplicity would be most difficult with an abundance of materials. It would appear then, climate imposed a restriction upon materials and design of garden elements themselves. The result was gardens designed from the environment in which they were to exist.

Effects of Topography on the Gardens

The reasons for taking to the hills are, of course, primarily to get away from the disease and pestilence of the city; to acquaint oneself with the wonders of nature and to a certain extent, the social aspect of being able to look down upon the masses from the hillsides.

It is of no little importance that the villas took form on hillsides, for without an undulating or hilly site, no doubt the gardens would not have varied much from the earlier simple walled squares of the medieval gardens.

As was pointed out earlier, conditions in the 15th century made it no longer necessary to seek continued protection of the city walls. Those who were to build in the country were free to select sites with distance from the city being the limiting factor. Clifford states: "the sites for them were chosen not

for security, (although at first this was not forgotten) but for the prospect."⁸ The "prospect", or view as it is now commonly referred to, previously had been confined within the area enclosed by high walls of the garden. With the advent of an outward feeling characteristic of the Renaissance, it was generally recognized that hill locations afforded the best views. According to one of Alberti's tenets: the house ought to be set on a slight eminence so that fine views are obtained from it.⁹

The designer of an Italian villa would select a site and then define it in very simple and regular lines. He would then establish the main and minor axis of the garden in relation to the best views and dictates of the site.¹⁰ This then was the basic framework of the garden within which the retaining walls, steps and plantings would fall quite naturally. Consequently, from the standpoint of topography, the villa garden was designed not only to fit the site, but, the design was usually conceived from dictates of the site.

Influence of Topography and Climate on Architecture

Because the houses were built in relation to the final shape and profile of the proposed garden surrounding it, the house therefore was not designed to fit the original ground

⁸Derek Clifford, A History of Garden Design, p. 32-33.

⁹Dami, op. cit., p. 13.

¹⁰Ibid., p. 16.

forms, but, rather to fit the garden. However, the garden itself was a reflection of the original land forms as it was usually terraced and formed to conform not only to the desired garden design, but to the topography as well. This aspect of topographic influence upon architecture shall be further amplified under Influence of Gardens on the Buildings.

Despite the contention of many authors, that, Renaissance architecture is not one of materials, constructive form, or is derived from any outside influence, save taste, the author feels there is evidence of some regard to climate discernable in the buildings. The following discussion will be confined to those architectural features which may be directly attributed to control of natural elements of sun, rain and wind.

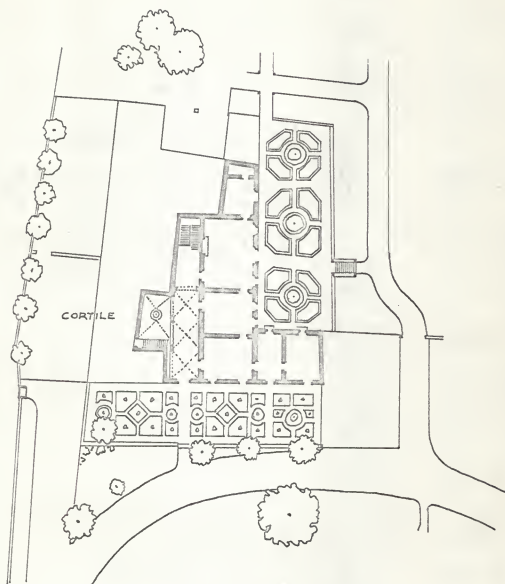
The cortile of the Renaissance villas is basically an outdoor room. Despite it's great variety of shapes, sizes and enclosing media, it performs basically the same function of the earlier Roman peristyle - that of an outdoor space defined and protected from the elements by walls, loggia and buildings. In some instances, the cortile may be open on one or two sides, or, as in the Villetta at Villa Palmieri, near Florence (Plate IV),¹¹ it is completely enclosed, open only to the sky. Probably the most obvious architectural feature of the house for climate control is the loggia. Like its garden counterpart, the pergola, it is designed as a shelter primarily from the sun. It should

¹¹Eberlein, op. cit., p. 181.

EXPLANATION OF PLATE IV

The Villeta, Villa Palmieri, near Florence
showing the enclosed cortile

PLATE IV



not be construed that the loggia was merely a functional feature. It will be shown later that it served a definite aesthetic purpose as well.

The loggia is essentially a roof supported by columns or pillars and is usually attached to the house or may run perpendicular to it. The loggia at Poggio a Cajano (see Plate V)¹² is a typical example of one attached and paralleling the house. From the shade of the loggia, one could pass directly to a pergola, garden or contile or from its shade, view the garden. When it was attached and paralleled the house wall, it would, to a certain degree, keep the house cool by shading its stone walls from the sun.

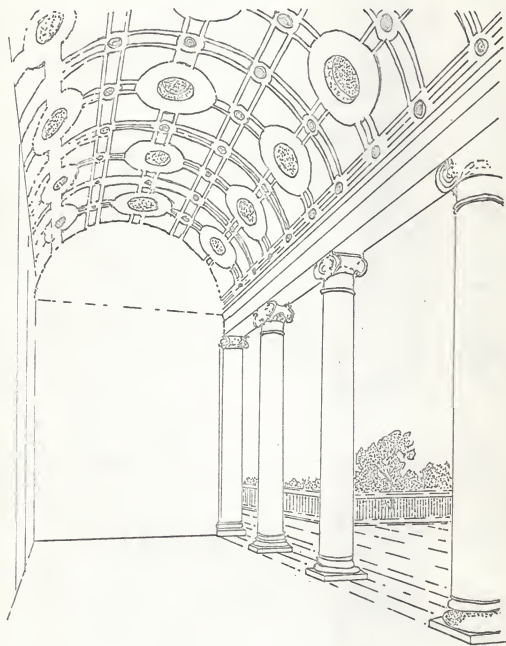
Another architectural feature, that of the windows, shows some thought of sun control. It was not beyond the ability of the Renaissance builders to span larger window openings or to provide window units of greater size. However, to reduce radiant heat from the sun, relatively small windows were used.

Certainly in an age when artificial heating was most crude and mechanical cooling was unheard of, the designers had to devise means of climate control within the limitations of their materials and equipment. Today, however, with devices available to negate the architects general disregard for orientation to the elements, the buildings seldom reflect the climate of their region, let alone the microclimate.

¹²Ibid. p. 231.

EXPLANATION OF PLATE V
Loggia at Poggio A Cajano

PLATE V



THEORIES AND FORMS AND THEIR CLASSICAL DERIVATION

To point to all elements and features of the Renaissance Architecture and Landscape Architecture and to classify them as being classical or Renaissance forms would be impossible. Between the antique and modern forms lies a vast middle-ground, that of ancient forms but, with a new meaning. This chapter will show as inclusively as possible, the classical influences upon both professions.

Pliny - through Alberti

"The first of the moderns to lay down principles of garden design was the architect Leone Baptiste Alberti."¹ "He is the first in any field to try with conscious intention, to knit together the glorious past of his people with the flowering time of the new Roman world."²

Although Alberti is credited with being more learned in the study of antiquity, more scientific in his application of the archaeological knowledge which he acquired than his contemporaries; in the case of garden art he appears to follow unquestionably the examples set by Pliny the Younger. It is Pliny's villa and garden which Alberti adopts as his model and exposes them in all their beauty and gaiety in his De Architectura.

¹Clifford, op. cit., p. 32.

²Gothein, op. cit., Vol. I, p. 207.

From the following passages (the first from Pliny's own account of his villa and the second Alberti's advise in De Architectura), the reader will note the similarity - in fact a nearly verbatim description.

In the front of these agreeable buildings lies a very spacious hippodrome, entirely open in the middle, by which means the eye, upon first entrance, takes in its whole extent at one view. ...encompassed on every side with plane-trees covered with ivy,...bends at the farther end into a semicircle...sometimes into letters expressing the name of the master...is a semicircular bench of white marble, shaded with a vine which is trained upon four small pillars...gushing through several little pipes from under this bench, as if it were pressed out by the weight of the persons who repose themselves upon it...and through the hippodrome small rills conveyed through pipes murmurs along.³

Porticoes and pergolas on the sides give protection from the hot sun...and of writing the masters name on the beds in box...streams of water must run through the garden, and above all must start up unexpectedly...circles and semicircles, considered beautiful in courts, he desires to see in the garden as well.⁴

Despite Alberti's wholehearted acceptance of the Roman villa, in practice either the results were too elusive or he felt uncompelled to follow the ancients' precepts. "The Villa Quarrachi garden although attributed to him seems to have been essentially medieval, elaborated certainly, but, not yet really touched by the Renaissance idea."⁵

The Renaissance idea was not the inclusion of various features, or inherent in any particular feature. Instead, it

³Ibid., p. 103.

⁴Ibid., p. 207-8.

⁵Clifford, op. cit., p. 35.

was the attitude toward life, an outward as opposed to an inward personality which was reflected in the gardens. Certainly many of the basic physical features were present in the European gardens of the Middle Ages. So were the basic geometric lines of the garden present, for gardens of the Middle Ages could only appear on space left over between buildings and therefore were rigidly governed by architectural forms. The much earlier Pompeiian gardens may well furnish a clue to this outward feeling characteristic of the Renaissance. These gardens which appear to be a by-product of space needed for light and air were enclosed by wings of the building, open only to the sky. Flower beds were raised above the floor level, paintings and murals decorated the walls, the total scheme giving an impression of greater space than really existed. This false impression of greater space than existed was a deliberate attempt at satiating the desire for space and for contact with the environment. Therefore, it would appear that in addition to the physical features alluded to by Alberti, the seeds of this outward feeling of the Renaissance were also present at a much earlier time.

Triggs refers to this parallel in Ancient and Renaissance gardens in his comments on Boccaccio's introduction to the Third Day of the Decameron: "He describes a garden breathing the spirits of the Ancients, one which might have been laid out quite as well in the days of Pliny as in the middle of the fourteenth century."⁶

⁶H. Inigo Triggs, Garden Craft in Europe, p. 28.

Art Relics and Museums

With the dawn of a taste for antiquarian research, relics which were everywhere to be found, especially in Rome, were measured, copied and if moveable, were removed to the museums and villas. "...the gleaners were out and the battered remains of statues were being dragged from the ground in scores."⁷ Those retrieving these pieces were, by and large, learned men intent upon owning examples of the ancients' sculpture.⁸

Poggio was probably one of the first humanists to recognize the value of these pieces and to use them in his garden. Although he was criticized for doing so, about 1483 he set a number of marble statues in his villa garden at Terra Nuova.⁹ His reason for using the garden is not clear, but, possibly Gotheins pragmatic statement of limited indoor space is the reason. "Such objects were continually coming to light out of the rubbish heaps, and soon there were so many of them that the houses could no longer contain them."¹⁰ But what was criticized in the late 15th century and had no precedent, soon became a universal custom as more of these treasures were uncovered.

In Rome, which was comparatively late in using sculpture in the garden, Pope Julius II set the example. His collection,

⁷Clifford, op. cit., p. 37.

⁸Gothain, op. cit., p. 222.

⁹Loc. cit.

¹⁰Loc. cit.

which eventually was placed in the Vatican, undoubtedly in the Belvedere, was to become not only the starting point for learned research into the art of the ancients, but, set the example for the clergy to emulate. Needless to say, this emulation of the Pope's taste was soon in evidence in the many Cardinals' villas.

The manner in which the sculpture pieces were disposed within the garden and their relation to the total garden scheme will be discussed in a later chapter.. However, the social influence this innovation had upon gardens bears some mention. The pieces themselves were of sufficient interest to lure visitors to the garden. Individual priceless pieces such as the Marsyas at the door of Cosimo's Florentine palace, or his enormous collection, fortified as it was with that of Poggio and Niccolo Nocoli were indeed worthy to view.¹¹ With such an attraction of antique art, the garden then became the locale for art appreciation, and no doubt, serious thought on the best manner of displaying the pieces.

What better environment could one find for the serious student of art than that offered by a garden museum. Should Lorenzo's casino and garden on the Piazza San Marco be indicative of another function, we should be quite appreciative of the garden museums.

Here we are told, 'in loggia, in private rooms, and in the garden arbours' he set out his antiques, and established a drawing school, wherein Michael

¹¹Loc. cit.

Angelo learned the art of sculpture from the study of these ancient statues.¹²

It should be remembered that the initial impetus for these collections was the result of research and revival of interest into the ancients' manner of art. At this point the author would like to presage if, to again incorporate sculpture in the gardens, it is necessary to have a revival of interest in a by-gone manner of art or will sculpture eventually take a more prominent role in gardens entirely on its own merits. Certainly for every garden designed today with sculpture there are scores in which the designer has not attempted to include little else than plant materials. It may not be the fault of the client, but, of the designer for should he have a thorough knowledge of his design profession, the highlights of the design would no doubt be marked with sculptural forms.

Artistic Theories and Proportions

The gardens as well as the buildings of the Renaissance period were designed after a set of artistic theories evolved during that period. The author feels it necessary to review these theories as professed and practiced by a few of the outstanding architects and artists of the time. This review will best serve its purpose by dwelling primarily upon classical derivation of the theories and to some extent upon proportions.

¹²Loc. cit.

Alberti classifies the aesthetic appearance of a building into the two basic elements of beauty and ornament. Wittkower summarizes Alberti's theories as:

Beauty is thus, according to Alberti, a harmony inherent in the building, a harmony which, as he subsequently explains, does not result from personal fancy, but from objective reasoning. Its chief characteristic is the classical idea of maintaining a uniform system of proportion throughout all parts of a building. And the key to correct proportion is Pythagora's system of musical harmony. Ornament is the embellishment of the building in the widest sense of the word, ranging from the stone used for the walls to the candlesticks in the building.¹³

Andrea Palladio, 1518-80 states his theory in terms of the relation of the parts to each other and to the whole.

Beauty will result from the form and correspondence of the whole, with respect to the several parts, of the parts with regard to each other, and of these again to the whole; that the structure may appear an entire and compleat body, wherein each member agrees with the other, and all necessary to compose what you intend to form.¹⁴

Considering Palladio's studies under Trissino, his high esteem for Alberti and his adoption of Vitruvius as his ideal one would believe he desired to emulate the ancients. Wittkower believes this was Palladio's goal. "Palladio, inheriting a long tradition, conceived his structure as reflections, and echoes of that cosmic order which Pythagoras and Plato had revealed."¹⁵

¹³Rudolf Wittkower, Architectural Principles in the Age of Humanism, p. 29-30.

¹⁴Emil Kaufman, Architecture in the Age of Reason, p. 11.

¹⁵Wittkower, op. cit., p. 86.

Kaufman disagrees with most authors on the theme of Palladio's theory. He disagrees in that Palladio's theory and work is something beyond the mere numerical proportions of the ancients. Instead he claims the basic premise is concatenation of the parts, their integration into the whole and that there shall be one ruling part.¹⁶

None of these three goals of concatenation, integration, and graduation has anything to do with the imitation of the ancients, but each was a contributing factor building up the theory of proportions which was to fill so many pages of Renaissance and Baroque treatises.¹⁷

Kaufman further points out that the Renaissance architects were not content to merely follow the ancient theory of mathematical proportions but added to it. "...Renaissance had already added to the ancient ideal of perfect numerical relations, the concepts of the preeminence of one part, the unification of all, and their integration into the whole."¹⁸ To this he adds the difference between the theory of the ancients and the Renaissance architects lies in the ideal of differential architectural values which in effect applies variety to the design.¹⁹

The author shall not attempt here to present a complete discourse on Michelangelo's theories on art and architecture

¹⁶Kaufman, loc. cit.

¹⁷Kaufman, op. cit., p. 11-12.

¹⁸Ibid., p. 91.

¹⁹Loc. cit.

and the evolution of the various stages of these theories. Instead, it should suffice to mention and compare a few of his ideas in relation to those of Palladio and Alberti. From this the reader should note that all designers of the time were not in accord on the role of the 'ancients' numerical relations or for that matter were in accord on the then prevalent artistic theories.

Michelangelo was heir to the scientific tradition and also affected by the atmosphere of Neoplatonism. He did not believe in the exact imitation of nature, but he did study nature from a scientific standpoint.²⁰ In regard to numerical relations, he departed from the common order and rule followed by other men after Vitruvius and the ancients tenets as professed by Vitruvius.

He was opposed, for instance, to the mathematical methods which formed an important part of Alberti's or Leonardo's theory. Lomazzo records a saying of his that 'all the reasonings of geometry and arithmetic, and all the proofs of perspective were of no use to a man without the eye.'²¹

By this Michelangelo means one needs to and does judge the work with the eyes - the work is something other than a mechanical process. Value judgements ultimately come into play and are the final basis of judgement.

On the problem of concatenation and gradation which so many of the architects of the time either took a one sided

²⁰Anthony Blunt, Artistic Theories in Italy, pp. 61-64.

²¹Ibid., p. 74-75.

approach to or applied both in equal strength and risked monotony, Michelangelo faced head on. Kaufman points out that in his design for the Laurenziana, Michelangelo made a definite architectural statement of the contradictions within the system.²²

Role of Literature

The revival of classical literature played a somewhat different role in its effect upon Architecture than it did upon Landscape Architecture. Simpson cites the difference between Literature and Architecture as being that of different origins.

The Renaissance in literature, however, was an absolutely new birth, for the germ of literary scholarship had been entirely lost. By contrast, the Renaissance in architecture was but a reaction; a reaction against Gothic, and, to some extent, against the corrupt forms of Classic which had passed muster before Gothic was introduced. Herein lies the most important difference between the relation of architecture and that of literature to the movement known as the Renaissance.²³

True the discovery of Vitruvius' treatise on architecture may not have taken place when it did were it not for the revival of interest in classical learning. It is also admissable that those searchers for classical writings led to more attention to ancient monuments, palaces and buildings, but, this revival in literature

²²Kaufman, op. cit., p. 81.

²³J. Hughes and N. Lynton, Simpson's History of Architectural Development, Vol. IV, p. 7.

did not bring about a rebirth in architecture; it did help to popularize it.

On the other hand, literature was the sole source of information on the ancient gardens. Gardens, being less permanent than buildings, are subject to loss through neglect and decay in a relatively short period of time. The only permanent records then would be literary.

Another difference worth noting is that both Architecture and Landscape Architecture retained some features of their art from the immediately preceding era. During the 13th and 14th centuries Basilican and Byzantine tradition, both of which were founded on classical art, had never been entirely abandoned. Similarly, some of the early Renaissance gardens, like Quarrachi, retained many aspects of their medieval predecessors.

THE COLUMN

The column, resurrected from antiquity, studied, admired and used in various fashions since its inception, became a decorative form not only in the buildings of the Renaissance but in the gardens as well.

The Column in Architecture

Despite his later rejection of the column and his contradicting statements on the role of the column in architecture, it is Alberti to whom credit must be given for first using the column as a decorative feature. Even though his only guide was Roman imperial architecture, which may be described as half-way

between Greek and Renaissance, he transformed the Greek functional, basic building element of the orders into a form of decoration.¹ "Alberti emphasized more than once that the principal ornament in all architecture certainly lies in the column."²

One of the central problems of Renaissance architecture was the inconsistencies inherent in any combination of wall and column. With the wall being a flat and angular form as opposed to the curvilinear form of the column it became evident that the two could not be used together, especially as structural forms. Wittkower points out the solution rested in substituting pilasters for columns. "In his last period he solved the theoretical contradictions by substituting pilasters for columns."³ With pilasters as the structural form and the problem of contrasting forms solved, the column was then used freely as a decorative form.

Wittkower further states the conception of the arch and column held by Alberti and which was adopted by Bramante and Palladio. "Alberti's conception of the column is essentially Greek, while his conception of the arch is essentially Roman - in both points he is followed by his great successors Bramante and Palladio."⁴ This is important in regard to the use of

¹Wittkower, op. cit., p. 30.

²Loc. cit.

³Ibid., p. 32.

⁴Loc. cit.

columns in the garden as these two architects were to exert a great influence on future garden design, especially Bramante with his work on the Vatican gardens.

The Column in Gardens

The column was adopted for garden use both as a structural member and as an ornament. Certainly the most conspicuous structural use in the garden is in the many pergolas and loggias. With a form whose size and sequence were easily varied and controlled a sequence of vertical repetition could be established in both the house and garden, thereby developing a desired relationship between the two.

Probably one of the best examples of the decorative form in both the building and the garden is Villa Albani (Plate VI)⁵, outside Porta Salaria, Rome. On the garden side of the lower story of the villa is a colonnade which runs the whole length of the villa, and along which stands statues and vases.⁶ Pillars, augmented by columns on either side support the great stone arches. In front of each pillar stands a double row of statues (one row on either side of a ramp), which repeat and carry the sequence of the columns into the garden.

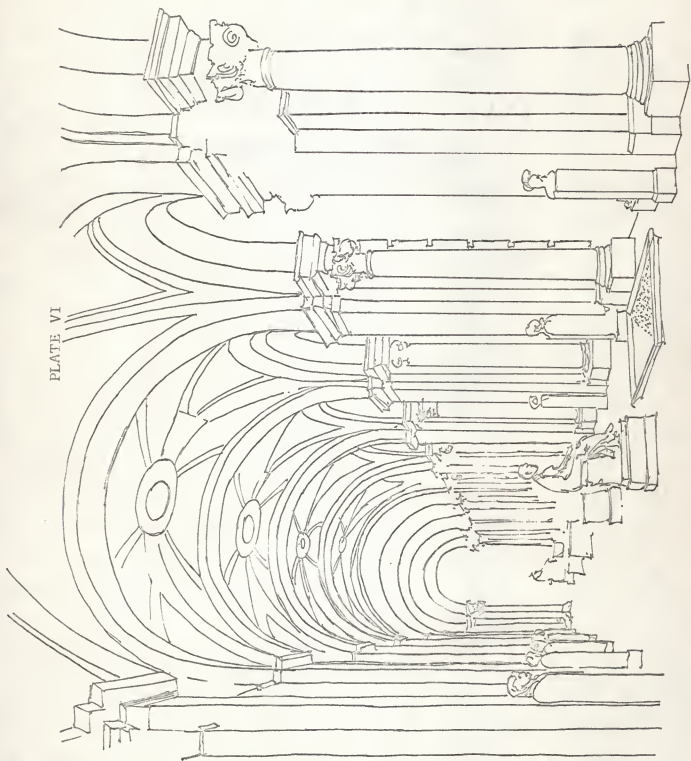
The column played still another role in garden development of the Renaissance which is much less obvious, but, by no means

⁵Arthur Bolton (Ed.), The Gardens of Italy, p. 131.

⁶Ibid., p. 130.

EXPLANATION OF PLATE VI
Loggia of Villa Albani

PLATE VI



less important. That role being a vertical decorative form against a wall similar to its counterpart in architecture. In the garden of Villa Albani (Plate VII)⁷, and some distance from the house itself, is found a cypress hedge with marble statues in the forefront. A variety of statues, some full size human figures on stone blocks 2 - 3' high, others are busts mounted on 8 - 10' high columns all of which are set against the hedge which itself is 12 - 14' high. As can be seen in the illustration, the sculpture pieces are in their overall effect not unlike columns in the half-round and applied to the face of a building wall. This is precisely the same effect of columns as decorative forms in some of the Renaissance buildings.

Although Villa Albani was built in the Baroque period (1746), the use of columns in both the house and garden are representative of the Renaissance.

MATERIALS AND THEIR USE

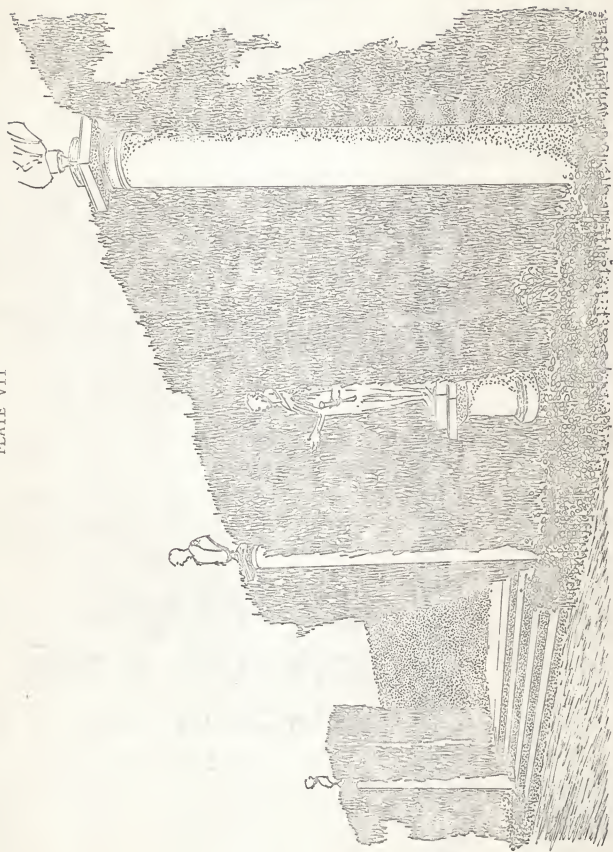
As with all tangible art forms, materials employed in their execution play an important part in the total aesthetic expression. In this chapter the author will examine the role of materials in both Architecture and Landscape Architecture and to what extent the materials affected the Renaissance design.

⁷Ibid., p. 141.

EXPLANATION OF PLATE VII

Cypress hedge and statues at Villa Albani

PLATE VII



Architectural Materials

Renaissance architecture was not a constructive style. It did not depend as did the medieval Gothic upon a structural system as the basic concept of its style. Instead, it was a style in which the imagination came first and materials were selected for its expression. The engineering skill displayed by Brunelleschi in his great dome for the Florence Cathedral was no more than what was already used in the dome of the Baptistery of Florence.¹

The construction practices of the Renaissance were often vast in extent but still simpler and less demanding structurally than in the immediately preceding centuries. For the most part it was based upon the simplest traditional Roman forms. When unit sizes did not conform to the texture desired they felt no remorse at using false joints to either enlarge or reduce the apparent size of the building stone.²

The prevalent use of stucco on the exteriors was in itself a contributing factor to the indifference they had for building construction.

The forms they used were then not based upon any constructive style, nor did they evolve from or relate too strongly with the mechanical means by which they were produced or from the

¹Jeffrey Scott, The Architecture of Humanism, p. 28.

²In the Strozzi Palace large blocks of stone were made to appear smaller by use of false joints. Examples of the converse can also be found.

materials employed in their construction. Instead, it was a style which depended solely upon taste.³

Plant Materials

In overemphasizing their point, Shepherd and Jellicoe state that the Italian climate precluded flowers and lawns and further, that plant materials used were entirely evergreens.⁴ This is certainly not the case. The point they no doubt wish to make is that the majority of plants used in these gardens were evergreens and that flowering plants and color was seldom used.

Gothain by way of quoting from an early German handbook points out that there was a variety of plant materials used in the Renaissance gardens. "...and a cupola covered with greenery, all sorts of trees, and a medley of flowers."⁵ With two divergent opinions on the use of plant materials it will be well then to find the truth of the matter and the reasons for the variance of opinions.

As was mentioned earlier, the Italian climate, primarily the bright sunlight, made the use of flowers difficult. Herein may lie the basic reason for the use of many evergreens and the monochromatic effect of the gardens by the very lack of much

³Scott, op. cit., p. 32.

⁴Shepherd and Jellicoe, Italian Gardens of the Renaissance, op. cit., p. 17.

⁵Gothain, op. cit., Vol. I, p. 292.

color. This problem of an overabundance of sunlight posed a very real problem. In addition to being a place to stroll and live in, the gardens were intended to be looked upon from above. The various levels created by retaining walls were divided into plots with geometric patterns etched with small evergreens, flowers and shrubs. Should the architect have used only flowers, and bright flowers at that, the overall effect of pattern which they were seeking would have been lost in the glare of sunlight and the blaze of color.

The many alleys, avenues and paths were designed with a continuum of elements, each leading to the next and ultimately to the terminus. Should they have used flowering plants along these narrow linear paths the effect would have been less dramatic. Less focal interest could have been concentrated upon the terminus due to a continual interruption of the eye by the color of flowers. In essence, the terminus may never be viewed, the climax never attained, due to the overpowering brilliance of the foreground of flowers.

Lawns were not extensively used in the Italian gardens, certainly not in the fashion of an all-encompassing element as is common in this country. Wharton describes the role of turf in the Italian garden as an element used with moderation.

They used it, but sparingly, knowing that it required great care and was not a characteristic of the soil. The bowling-green of the Gamberaia shows how well the beauty of a long stretch of greensward was understood; and at the Villa Capponi, at Arcetri, on the other side of Florence, there is a fine oblong

of old turf adjoining the house, said to be the only surviving fragment of the original garden.⁶

Not only was turf used with moderation, but, the manner in which it was used conformed with the Italian regard for all plant materials. It was cut into geometric patterns, was not to be walked upon, only to be viewed as a part of the total scheme. For this reason, low growing Acanthus or any other ground cover could be used as a substitute for grass and still retain the same effect. To enhance the beauty of lawns, they would as Berrall points out include flowers in the lawn. "One of the most charming features of the Italian garden was the lawn of fine grass in which various kinds of small flowers were allowed to grow."⁷

The evergreens referred to by Shepherd and Jellicoe were primarily Stone pines and Italian cypresses. With these and the many broad-leaved evergreens, they endeavored to create an effect most desirable in their climate - that of shade and coolness. Shade was obtained not by canopy type trees, but, instead by rows of tall evergreens shading the paths which they bordered. Gradation of shade was accomplished by spacing and diligent selection of plant species.

A greater area of shade could have been achieved through the use of deciduous trees, however, being deciduous meant a seasonal change would occur due to fall colors and dropping of the leaves.

⁶Edith Wharton, Italian Villas and Their Gardens, p. 47-8.

⁷J. Berrall, A History of Flower Arrangement, p. 23.

This of course would upset the serenity and monochromatic effect desired.

The upright columnar shape of the Italian cypress was ideal for the purpose to which it was put - primarily as an avenue planting. Used in this manner, (Plate VIII) its shape, which denotes excitement and movement, was also a reflection of the converging lines of the avenue it bordered. The Stone pine, on the other hand, being a somewhat umbrella shaped tree, was a contrasting form in that it encloses space, is more static and restful, (Plate IX).

During the Renaissance, flowers were grown for the sake of their beauty instead of for utilitarian purposes as taught in the herbals and as was the custom of the Middle Ages.⁸ For this reason the demand for new plant species gave rise to the discovery and propagation of an impressive list of ornamentals.

Plant materials like architectural materials did not determine the style, they conformed to it. The following list will show, even though it is only a partial list of all plants available at that time, the variety of ornamentals at their disposal.

⁸Ibid., p. 20.

EXPLANATION OF PLATE VIII

Typical Italian cypresses

PLATE VIII

*ill.*

EXPLANATION OF PLATE IX

Stone pine

PLATE IX



Botanical Name

Common Name

Shrubs, creepers and ornamental trees

Acacia vera
 Arbutus unedo
 Euxus sempervirens
 Cornus mas
 Cupressus sempervirens
 Cydonia oblonga
 Hedera helix
 Laurus nobilis
 Myrtus communis
 Nerium oleander
 Phoenix dactylifera
 Platanus orientalis
 Punica granatum
 Prunus amygdalus
 Prunus cerasus
 Prunus persica
 Pyrus communis
 Pyrus malus
 Smilax aspera

Mimosa
 Arbutus
 Box
 Cornelian Cherry
 Cypress
 Quince Tree
 Ivy
 Laurel
 Myrtle
 Oleander
 Date Palm
 Plane Tree
 Pomegranate
 Almond Tree
 Cherry Tree
 Peach Tree
 Pear Tree
 Apple Tree
 Prickly Ivy

Flowers

Althaea rosea
 Aquilegia alpina
 Caltha palustris
 Convallaria majalis
 Cyclamen europaeum
 Cytisus scoparius
 Dianthus caryophyllus
 Dianthus plumosus
 Gladiolus segetum
 Hyacinthus orientalis
 Lavandula officinalis
 Lilium candidum
 Myosotis palustris
 Primula vulgaris
 Rosa centifolia
 Thymus vulgaris
 Viola sylvestris
 Viola tricolor

Hollyhock
 Columbine
 Marsh Marigold
 Lilly of the Valley
 Cyclamen
 Broom
 Carnation
 Pink
 Gladiolus
 Hyacinth
 Lavender
 Madonna Lily
 Forget-me-not
 Primrose
 Cabbage Rose
 Common Thyme
 Purple Violet
 Pansy

⁹Georgina Masson, Italian Garden, p. 281-2.

AESTHETIC RELATION OF HOUSE AND GARDEN

One of the problems facing the designers of the Renaissance was to find a means by which the house and garden could be aesthetically linked together. As will be seen later in this study the physical means of connecting the two erstwhile discordant entities rested in the use of the loggias. However, the more basic problem, that of an aesthetic relation between the two, had to be solved first. It is that aesthetic problem and its solution which will be discussed in this chapter.

This was a new problem, brought about by the desire for country living which was not feasible previously because of the social unrest and the need for protection. Certainly the town house did not pose this same problem, that is, the need for harmony with its surroundings.

The town building, even though ending abruptly, with straight lines, finds next and round it, no aesthetic discordance, but more houses; at its base is the same pavement, as in old days there was a brick-paved street. Our eyes go from stone to stone, from wall to wall, and between the houses, across the square or the street. Those architectural harmonies easily grow which often form our delight when strolling about our old towns.¹

Artistic Expression

Dami refers to this problem of connecting the Renaissance house and garden as, "an artistic more than a practical attempt

¹Dami, op. cit., p. 17.

at linking closer together the house and the garden, absolutely lacking in the middle ages."² The problem did not exist previously, at least not in the same context, for the fashion of the middle ages completely severed the two from nature and in many cases from each other as well. Connection between the two was considered more from a standpoint of convenience and utility than of aesthetics. The walls excluded not only unwanted guests but nature as well, for nature itself was something not fully understood and hence not to be trusted.

The house and garden may be looked upon separately as two entirely different entities. A house represents space definitely defined, closed and defying natural elements, admitting light and air only at designated points, in limited quantities and at predetermined times. The garden, on the other hand, denotes freedom in all directions, is subject to beauties and ravages alike of nature.

A garden is composed of an incredible variety of elements. Nature alone introduces intricacies that happen in no other art, and flowers and plants and trees, and the subtleties of introduction, easily lead to confusion.³

The problem, however, was not simply a matter of relating house and garden, for there was a change in expression in both architecture and landscape architecture taking place which also had to be considered. Not only did the garden walls give way,

²Ibid, p. 11.

³Shepherd and Jellicoe, Gardens and Design, op. cit., p. 67.

except for the necessary retaining walls, but the house itself ceased to be a protective bastion for its owners. In both house and garden, was desired an expression of social position, pomp and display. Also desired was a qualified welcoming of nature.

Free-flowing lines such as those found in the later Romantic style probably never occurred to them, as, if it had, it would have been unacceptable. The undulating lines of the topography, freely growing plants and trees were of interest - but not to be fully and freely accepted. Then too, when setting a house upon a hillside in a natural environment would not only be an intrusion upon nature but a relinquishing to the will of nature. The result then, was a house designed to admit a bit of nature, reflect the social station of its owner and like the town house, made to conform to its environment. The environment however was not the natural unchanged hillside. The site was terraced, smoothed and made to conform to the prevalent architectural principles, thereby becoming an architectural expression.

The garden then was completely humanized and the bulk of the problem shifted from the immediate area around the house to one of gradation or in some instances shifted to the perimeter of the garden. Even a quick perusal of Italian Renaissance villas and gardens will show a plateau (with a few exceptions) has been carved from the hillside upon which the house is then situated, around which parterres with their geometric designs are etched upon sand and gravel with low growing plants. How completely this principle was followed is pointed out by Dami, who

states, "...the house projects its outline and makes room for itself all around as if its shade made the soil barren wherever it fell."⁴

Hegeman and Peets give the following conception of the basic principles to be followed in relating house and garden:

The beauty of the garden will depend on the manner in which it expresses and continues the ideas controlling the plan of the building or of the group. ...The small Italian villa built on a square plan and set in the center of a square garden is a suitable combination.⁵

What is essential then, according to Hegeman and Peets, is a harmony of design of both the house and garden, which in itself is admirable. While their statement adequately illustrates the point to be made, their inference that architecture needs to be the main feature of a garden needs to be challenged. Couldn't a garden exist in its own right, couldn't a garden be the major and determining factor of which the buildings are a part and shouldn't something more than merely "suitable" be the ultimate goal? The first and last portions of this trifold question could be refuted with contemporary examples and logic, but the second item should best be refuted by referring to Villa Lante at Bagnaia, built during the period to which Hegeman and Peets refer. It will immediately be seen that the two casinos are but a part of the total scheme and are dominated by the central feature.

⁴Dami, op. cit., p.17.

⁵W. Hegeman and E. Peets, Civic Design, p. 200.

The twin pavilions seem plain and insignificant after the brilliant elevations of the great Roman villas, but regarded as part of the garden-scheme, and not as dominating it, they fall into their proper place, and are seen to be good examples of the severe but pure style of the early cinque-cento.⁶

Use of Vistas, Views and Avenues

Another means by which a connection of house and surrounding landscape was achieved was the use of vistas and avenues. These innovations usually looked upon for their intrinsic value in reality fixed the house in relation to distant hills, towns or well-known and admired man-made features. With this visual relationship established, it was then a problem of a surface relationship between the house and the terminus of the view or vista. It may be beneficial for a person today who wishes to find a means of establishing a continual relation between himself in the home and the community to look to the use of vistas and views. In addition to whatever picturesqueness, light and air values may be obtained from such views, one could establish a sort of communion with the community. This of course can readily be done with the more elevated building sites with very little difficulty - the problem being that of the architect recognizing the value of such a feature and designing the house to take advantage of it. In the lower areas (elevation wise) and the more densely populated areas, this would only be successful by designing the entire neighborhood and by rigid

⁶Wharton, op. cit., p. 136.

control of the design of all features including the houses. In essence, political boundaries need not be made visual boundaries as well by the erection of fences along all permissible property lines.

Gradation of Surface Connection

The problem of relating the house to the garden surface and along the vistas to their terminus as was mentioned earlier was a problem of gradation. The parterre, its materials and design reflect the floor plan or shape of the building - in some instances a nearly exact imitation of its outline. As one moves away from the house along these axes, materials become less formal, topiary work diminishes and, where there are no retaining walls to terminate the garden, the design eventually merges into the hillside itself. The reverse of this method (that of approaching the house) is probably more difficult to achieve.

On the other hand, it is possible to consider a house and garden emerging from rather than into their surroundings. Nature is the direct source of inspiration, and from its depths the garden comes bubbling forth, takes itself more seriously as it approaches, grows dignified, and at last merges into the full stateliness of architecture. Only on rare occasions is such a conception possible."⁷

Dominance

Man usually judges a work of art in light of his own experiences, society (in terms of his built-in reaction) and the

⁷J. Shepherd and G. Jellicoe, Gardens and Design, p. 39-43.

accepted requisites of beauty. St. Thomas Aquinas states the classical requisites as: integrity, proportion and brightness.⁸ As was noted earlier, the Renaissance designers had their principles of design which they believed were in accord with those of the ancients and which they consciously applied in the design of their buildings. Since the same architects designed the gardens as well, it would appear that they used the same principles in the design of the gardens. The following comparisons shall serve to illustrate this point.

Palladio states that there shall be one ruling part:

I have made the frontispiece in the fore-front in all the fabricks for villas and also in some for the city, in which are the principal gates; because such frontispieces shew the entrance of the house, of the work...the fore-part being thus made more eminent than the rest.⁹

That he used this principle of dominant and subordinate parts is seen by his use of the classical temple front which he almost invariably used for his villas such as Villa Rotunda, Villa Malcontenta and Villa Emo.

The gardens also usually had a dominant feature to which the rest were subordinate. It could in some instances be the house itself, a vista, a terrace, or a central theme centered about the use of and enjoyment of water. Villa de' Este at Tivoli has a dominant feature which is a combination of the

s and Krieger, op. cit., p. 63.

⁹Kaufman, op. cit., p. 11.

house and a main garden axis. Each is dependent upon the other for a complete statement, each would be incomplete without the other. "The great cypresses of the main axis form a supporting base to the facade, counteracting by their verticality the long, horizontal lines of its architecture."¹⁰ On a smaller compositional scale is found the same principle as is seen in Plate X¹¹ of a planting at Villa Gori at Siena.

Scale

Certainly one lesson to be learned from the villas of the Renaissance, is their manner of relating house and garden and their numerous details to the human being. "Perhaps the strongest thread that links the elements together is scale. Scale, related as it is to humanity, brings everything to a common standard of size, that presented by a man."¹² It would appear that the standard of scale accepted for the Renaissance villas is closely related to the inherent qualities and texture of their native stone. Stone coupled with the construction practices of the time, tended to give a sameness of not only detail, but, scale as well to the entire project. Balustrades were limited to a size range; for to go larger or smaller with the same material, the texture would be out of context to the

¹⁰Bolton, op. cit., p. 190.

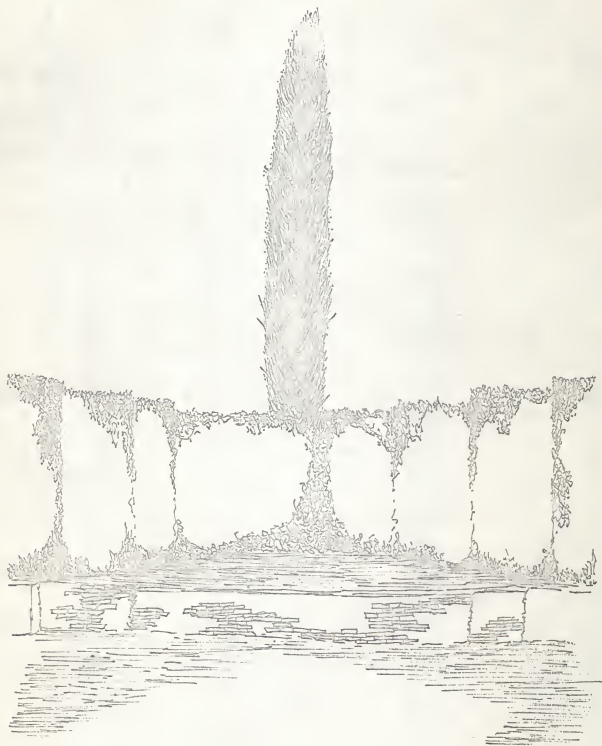
¹¹Shepherd and Jellicoe, Gardens and Design, p. 18.

¹²Ibid., p. 91.

EXPLANATION OF PLATE X

Dominance Displayed in a planting
at Villa Gori, Siena

PLATE X



size of the object. Plant materials like the yew, pines and box were selected on the basis of their texture being close to that of the stone. Paving materials such as flagstone, sand and fine gravel fall within the same general texture range, hence help to further the effect of scale through detail.

Again using Villa de' Este and Villa Lante as examples, one can discern a use of the buildings in a different fashion, simply on the basis of their ability to command. In de' Este the villa is set at the uppermost part of the hill from where it commands a view along the main axis of the garden. In this position and viewed from the garden it is perfectly in scale with the surroundings. Viewed close up without its relationship to the garden being apparent it would probably appear too large for its immediate surroundings.

HORIZONTAL EXPRESSION

As has been indicated in the past chapters, the designers of the Italian villas and gardens applied the same principles of design to both the garden and house. To what extent this is evident in the horizontal expression of space, which came about during this period, will be seen in this chapter.

Horizontality in Architecture

As was stated previously, Gothic architecture was never highly developed in Italy. Instead the architectural form was

more horizontal than vertical. On this point and in reference to the palaces Simpson states:

Throughout the centuries it was the rule rather than the exception to find symmetrical facade and carefully balanced proportions in Italian palaces, northern Gothic influence being confined to detail and ornament.¹

In architecture, horizontality had a difficult time. To place an emphasis upon the entry - primarily a vertical emphasis and still maintain an over-all feeling of horizontality was one of the problems. Coupled to this was the problem of having to accentuate the framework of the building to obtain the horizontal effect, but in so doing, the wall cannot demonstrate its quality as a confining element.

Alberti's Santa Maria Novella was one of the first to eliminate this problem of contradicting forces by using volutes which also served to tie the upper story to the lower. The problem was also partially solved by doing away with the compact, solid early type of design and using instead an elongated form of house. Kaufman refers to this also in terms of unity with the surroundings.

In striving for the higher unity of house and surroundings, architects were forced to give up the compactness of the building itself. Or, to put it in a more general way, one cannot reach 'perfect' unity within each part and, at the same time, within the whole.²

¹Hughes and Lynton, op. cit., Vol. IV, p. 32.

²Kaufman, op. cit., p. 86.

Getting back to the fenestration of the building. In striving for this horizontal effect they did not achieve a style which appeared inert, unmoving or unable to carry its own weight. Instead and despite the stone building material, they achieved a lightweight quality - primarily through emphasis of the structural pattern. This structural pattern of bones and members was particularly evident in Brunneleschi's work.³ Simpson rather aptly describes this quality when he states:

There is not the impression of Roman mass, nor the great uplifting effect which we feel in the first Gothic cathedrals; instead there is the lightly poised balance restrained by tight narrow bands. This charged line vibrates also in Florentine painting and sculpture.⁴

Horizontality in the Gardens

In Landscape Architecture as well as in Architecture, the period brought forth a new expression - that of horizontality. One could assume that once the problems had been tackled and solved in architecture, the solutions could then be applied to the design of the gardens as well. This does not appear to be an ambiguous statement particularly when one realizes that they regarded the garden as an extension of the house embodying the same design principles as the house itself. Then too, since most gardens were built upon a hillside they would, in a sense, have a facade like a house when viewed from the lower elevations.

³Hughes and Lynton, op. cit., Vol. IV, p. 26.

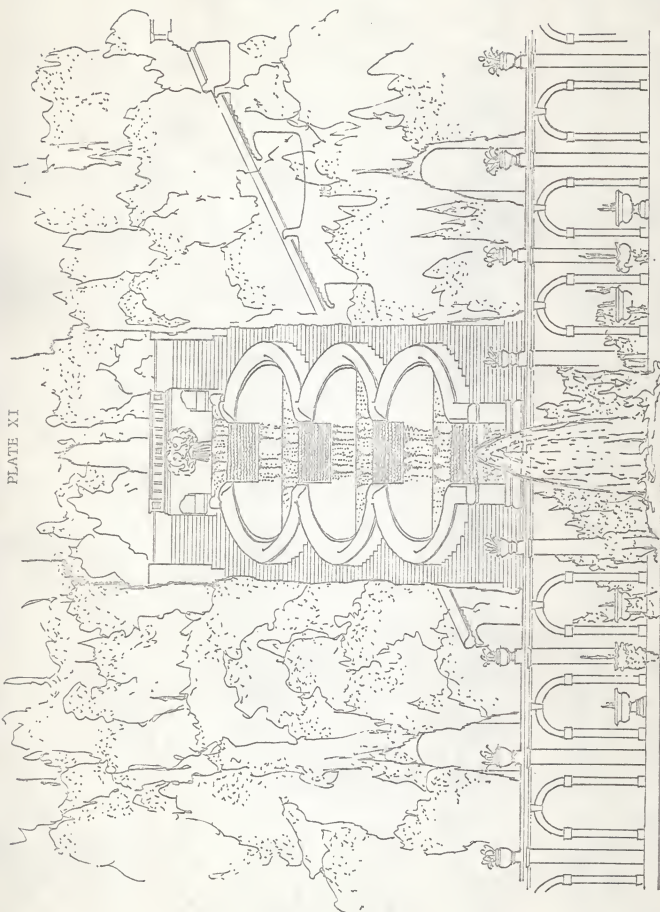
⁴Ibid., p. 27.

This facade could not very well take place on a level site; therefore, for it to come about, the garden had to be situated on a hillside. To use the hillside effectively, from a utilitarian standpoint, one would need to construct level areas by means of terraces and gain access between them with stairways. Since the architects of the time were not prone to let a little earthwork deter them and since they looked upon the ground as something to be moulded like clay into the desired shape and forms to compliment their buildings and since they looked upon the gardens as something between an extension of architecture and nature humanized it was inevitable that the land should take on architectural forms and proportions.

The conflict of verticality and horizontality are present here also. The most popular view of Villa de' Este, that from the garden looking up at the house, is just such an example of this conflict. The long flight of steps ascending to the villa bordered on each side by tall cypresses is further enhanced in its verticality by several jets of water shooting upwards. All of this is in contrast to the long horizontal facade of the house at the top. The facade of the garden at Villa Torlonia at Frascati is composed entirely of garden elements. As is seen in Plate XI⁵ the horizontal lines of the low wall and the mass of trees is in contrast with a central cascade of water.

⁵J. Shepherd and G. Jellicoe, Italian Gardens of the Renaissance, Plate 48.

EXPLANATION OF PLATE XI
Facade of Villa Torlonia at Frascati



How prominent is the horizontal effect of terraces and how well these terraces reflect the same effect of the buildings - reflect the stone bands, floor levels and generally assist in tying the house to the site and environment - shall be seen in the following illustrations. In Villa Madama (Plate XII)⁶ one can see the house itself is partially stepped down to meet the level of the lower terrace. Villa Medici at Friesole (Plate XIII)⁷, on the other hand, has the house placed in its entirety on a level created for it. In contrast to the usual open facade view available from a lower level, but which still embodies the same principle of stepped terraces to obtain a relationship of garden and house, is the small garden of Palazzo Podesta at Genoa (Plate XIV).⁸

In addition to creating this horizontal effect, they have created a feeling of stability by their simple manner in which the terraces have been cut into the slopes, stepping down quite naturally with the slope and preserving a balance between height and width so that the entire structure blends into its scenic and topographic setting, thereby being an integral part of the ground from which it was modelled.⁹

⁶Ibid., Plate 10.

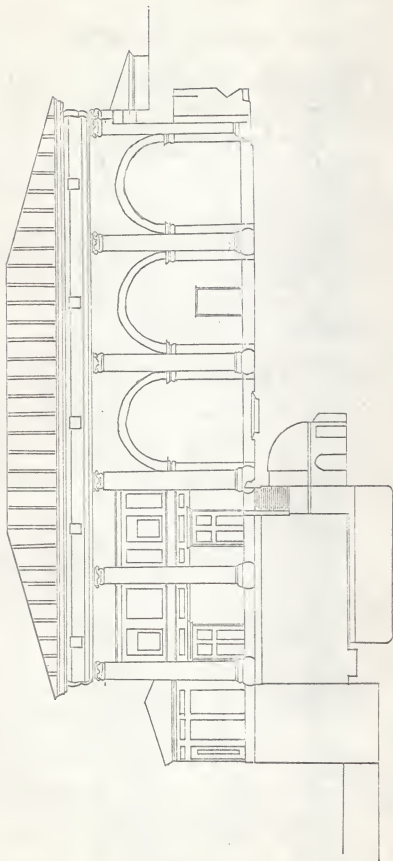
⁷Ibid., Plate 6.

⁸Ibid., Plate 40.

⁹Norman Newton, "Villa Medici at Fiesole", Landscape Architecture, Vol. 17, 1927, p. 196.

EXPLANATION OF PLATE XII
Elevation of Villa Madama

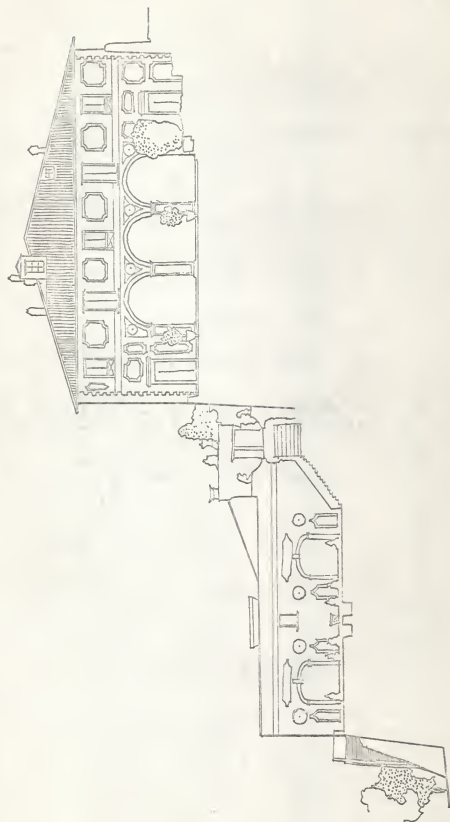
PLATE XII



EXPLANATION OF PLATE XIII

Elevation of Villa Medici at Friesole

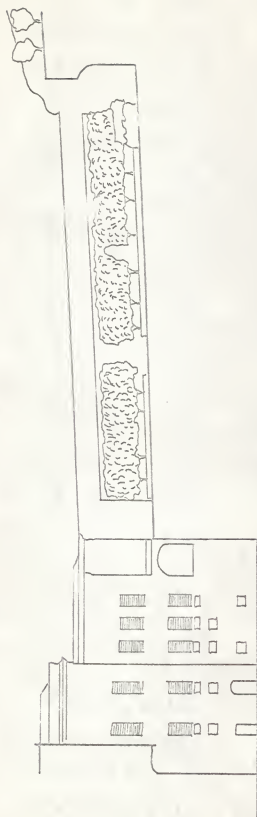
PLATE XIII



EXPLANATION OF PLATE XIV

Garden of Palazzo Podesta at Genoa

PLATE XIV



It would appear that the lesson to be learned in respect to the horizontal effect of the Italian Renaissance houses and gardens is that of deriving inspiration from the site itself. True, the Italian site was sometimes quite heavily moulded, but usually to bring out and emphasize its inherent qualities - that of a definite slope and a need to turn the slope into a series of levels to accomodate the house, garden and the users. Since the hills were just that, hills and not angular or precipitous peaks, and are in themselves broad and rather horizontal, the terraces and horizontal effect of the houses spring naturally from this quality.

Certainly if man is to construct houses and gardens, or any construction for that matter, upon a site with some aesthetic requisites, he first must understand the natural land forms. After he is armed with this knowledge he can begin to design his project whose aesthetic expression would complement the locale, and whose forms would be meaningful and familiar to the people. Should his premise be one of contrast to nature, then this is even more valid, for to contrast to a form, shape or feeling, one must first know to what he is contrasting and to what extent. In this case the difference between horizontality and verticality has an infinite number of gradations between.

THE INFLUENCE OF ARCHITECTURE AND LANDSCAPE ARCHITECTURE UPON EACH OTHER

In this chapter, it is the author's intent to show the influence gardens had upon the architectural design and some of its representations of the time and conversely, the influence of architectural design on the gardens.

Architectural Influence on the Garden

With a simultaneous development of both professions and the architect being designer of both house and garden, it would stand to reason that the garden and its component parts would take on architectural forms. Dami sees a similarity of rules and procedure for the designing of both house and garden. "...transfers to the garden the same rules he followed in building the palace, and draws for the garden a plan similar to the one he drew for the house."¹

In regard to the over-all design concept, the leading principle of garden art was that the objects enclosed by walls must be the guide for all plantings. These objects enclosed are the terraces, steps, dividing walls, alcoves, grottoes and water fountains and cascades. The use of architectural materials, elements and features became the chief criterion of Italian gardens by the middle of the sixteenth century. "The plans which Serlio of Bologna expounds in his book on architecture

¹Dami, op. cit., p. 22.

have almost always a highly elaborated scheme of terraces and steps."²

Parterres were designed similar to the geometric patterns of the stone floors found in the villas. The reason for this is most logical. Both the parterre and floor designs are viewed in much the same manner - from above. Should there be any secrets to the success of the Italian garden designs, surely one of them must be their idea of garden shapes being not unlike room shapes. Whereas a well proportioned room can give a sense of pleasure, so can a similarly designed garden.³ When one moves from place to place in their gardens, it is not unlike going from room to room of the house itself. Access is direct, not abrupt. There is a logical sequence of design forms giving a hint of the form to be encountered next.

The above are the principal representations to be found in most of the Italian gardens. There are also representations of architectural and plastic works, some of very small size, but, quite abundant which tend to complete and complement the larger features. Dami tells us these features are not only exquisite but in harmony with the larger forms.

The most remote corner may have in store for us an unexpected and exquisite sensation. Simple bits of masonry or of sculpture in our gardens are so natural, so obvious, in such perfect harmony with the spirit pervading the whole, that a bare low wall with its imply moulded ogee, stained

²Gothein, op. cit., p. 249.

³Geoffrey Jellicoe, Gardens of Europe, p. 96.

by moss and water till its surface resembles the rough bark of the ancient ilexes at whose feet it stands, may appear to our eyes as something which we are undecided whether to look upon as setting off or merging into the green mass surrounding us. Our architects know how to avail themselves of the simplest opportunities and how to draw from them ever fresh effects.⁴

In the Renaissance gardens plants were considered primarily as vegetative material and so considered was used in an architectural structure, in the same way as marble or stone. Furthermore what was built of stone acted as guide and master to what was planted.⁵ Most plant materials left to grow naturally have inherent in them a quality of movement apparent to the observer. By this is not meant the actual movement of branches and leaves by wind, but, a sense of movement by the ascending or descending fashion of branches, petioles and leaves. This quality was stifled by the Italian designers and in its place was imposed a static quality. No plant was admitted to the garden simply because it was available, but, was admitted on the basis of its being amenable to the total design. It must be such that its foliage and branches would interlace with its neighbor and be conducive to topiary work. Individual character was not its contribution to the scheme, instead it had to be a part to the geometric-architectural forms imposed on all the plant materials (See Plate XV).

The reason for all but the more exuberant topiary work was to give the plant materials a quality and importance similar to

⁴Dami, op. cit., p. 20

⁵Ibid., p. 13.

EXPLANATION OF PLATE XV
Geometric - architectural plant forms

PLATE XV



that of the major walls and features of the buildings. Shepherd and Jellicoe reveal the similarity of hedges and walls as being striking. The clean cut and vertical hedge forming regular angles is most related to the solidity of the house.⁶ The twin rows of cypress found so frequently represent outdoor halls along which one travels or views.

Water too was subjected to the design principles of the architects. As contrasted to the medieval idea of a clear idyllic brook and its natural movement, the Renaissance ideal was to impose man-made shapes to the water. Water now means foundations, cascades and basins and is used to tie together - to give unity to the total scheme. The water movement is one of ascending, falling, its spouts and jets playing a definite part of the total scheme. Jellicoe refers to the architectural influence on the use of water as being of architecture of movement.

The age finds its greatest exponent in Bernini, who in his Roman fountain seized upon the movement of water and held it in the shapes and forms of his design. It is the architecture of movement, and yet so real and thoughtful is it that the co-ordination of all the parts retains the static quality of buildings.⁷

Influence of Gardens on the Buildings

There was no doubt less reciprocal influence from gardens on the architectural design than was the case of architecture

⁶J. Shepherd and G. Jellicoe, Gardens and Design, p. 49.

⁷Jellicoe, op. cit., p. 102.

on gardens. Of the discernable influences, there are two which affect the tangible side of the architectural design - that of loggias and a general softening of the facade on the garden side. The loggias - as were mentioned earlier, were necessary to affect an artistic connection between house and garden. The arched loggia was already present on the ground floor of the town houses, but, transferred to the villa, it took on an added meaning. That meaning was a transition from house to garden. Not only was the loggia the solution on the ground floor, but, when used on the upper story it further softened the garden facade so that it could effectively blend into the garden.

As the loggia served to soften the harsh lines of the facade, they in turn needed a finishing touch in their relation to the garden. That touch was a stairway from house to garden. In some instances, such as at Poggio a Cajano, the steps are an elegant round shape leading down, actually from a narrow terrace round the house, but, appear to emanate from the house itself. An example of stairs directly from the house itself is Villa d'Este. Whereas the idea was sound, in this case the scale of the steps was too small in relation to the rest of the house to be most effective. The Italian designers then recognized the softness of nature somehow had to be incorporated into the garden facade and accomplished it primarily through loggia and stairways.

The less tangible aspects are: the role of the house in relation to the garden and the possibility of emphasis on the building itself. As opposed to the town house, the villa house became, because of the surrounding garden, part of a total scheme

devised for living, entertainment and enjoyment - the house itself was not the complete aesthetic statement, but, a part of it. Raphaels' concern for the house at Villa Madama to be absolute queen of the whole composition with the gardens filling a secondary role is an early indication of the trend. The value of the garden lay not entirely in itself, but, in the manner in which it placed emphasis upon the house. Indeed, in some instances, through the use of complementing gardens, the house became an object much similar to a jewel in a setting.

The Italian Renaissance villas demonstrate how well exterior space can be designed to complement a building. Naturally space itself is a necessary requisite for the garden designer to perform his function, but, this space must be designed after the same set of principles as for the building.

SUMMARY AND CONCLUSIONS

The design of the Italian Renaissance houses and gardens were an outgrowth of both social and intellectual progress. As the Renaissance in Architecture proceeded, villas came into being on the hillsides, the result of a period of comparative peace and security. The desire for these villas was, in some instances, promulgated by the desire to emulate the popes and in other instances, by the desire to flaunt one's wealth and social station.

In both the house and garden were found instances of the design being influenced by climatic and topographic factors.

These factors not only determined the location and orientation of the house, but, to some extent the location and design of the major rooms of the houses. The major garden axes were laid out first, then the house and its facade and resultant rooms related to the garden axes. Due to the climate, shade and coolness were major attributes of the Italian garden, which prompted a liberal use of water, loggias, pergolas and shaded walks and avenues.

Although some features of both Renaissance buildings and gardens were already present in the earlier Medieval period, the designers sought their principles of design through the study of antiquity. During their study of antiquity numerous sculpture pieces were uncovered which then were used in the house and gardens, in some cases causing the gardens to be virtual museums. It was found that Literature helped to promote, but did not foster, architecture. It did however, play a more important role in the development of the gardens.

The revival of the column in Renaissance architecture is found to be, in its later stages, more of a decorative form than of a structural form. The same is found to be true of the column in the garden.

The materials used in the buildings were relatively unimportant in that the style was not a constructive form, but, one of taste. Materials used in the gardens were similarly selected to fit the needs of the designers, consequently they frequently substituted building materials, statues, sand and gravel in place of plant materials.

It was found that for the first time, the house and garden needed more than a utilitarian connection; an artistic connection was necessary for the two to be harmonious. The solution was found in the loggia as the connecting element. Also, an architectural treatment of the area adjacent to the house and changes to the house itself made it more amenable to the freedom and elusiveness of nature. The characteristic horizontal expression of Renaissance architecture was also reflected in the garden facade through the use of terraces and steps.

Signally, the design principles developed first for architecture were ultimately applied to the design of the gardens. Architectural elements, materials and the use of perspective were adopted for the garden because their meaning remained unchanged. Not to be overlooked is the emphasis obtained for the buildings by the design of the encompassing gardens.

The results of this study demonstrate that because the designers of the Italian Renaissance villas were architects, the gardens were an architectural expression. The design principles used were the same for both house and garden. The attitude of the people (client and designer) toward life and nature resulted in a humanizing of the garden. Materials in both house and garden construction had to conform to the total scheme, there being no desire for individual plant character to exert itself, for it was an age in which man dominated nature.

It was also found in this study that materials and even forms, such as the column previously associated primarily with architecture, were used in the gardens as a unifying element.

Landscape Architecture attained the same status as Architecture and the other arts during this period. There was a conscious quest and application of principles to the design of the gardens, the result being an aesthetic expression.

Finally, the period studied demonstrates how well a house and garden can be in accord and be a total expression. But to do so, the designer needs to view the house and garden as complementary elements. The building then can benefit in having a setting commensurate with its ability to dominate an area and the garden has meaning other than picturesqueness or utilitarianism.

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A COMPARATIVE ANALYSIS OF DEVELOPMENTS IN ARCHITECTURE
AND LANDSCAPE ARCHITECTURE DURING THE RENAISSANCE
PERIOD IN ITALY

by

LeRoy Charles Johnson
B.S., Michigan State University, 1951

AN ABSTRACT OF A MASTER'S THESIS

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It has been previously shown that both Architectural and Landscape Architectural developments during the Renaissance period in Italy were the result of the society and of a conscious quest for principles of design. Since there are a number of indications of dependent development between the two professions, the study described herein was designed to expand upon the data on this point; to determine in what respect this dependency affected the total design concept and ultimately; the contemporary value of this information.

Throughout the study, cognizance has been made of the dynamic social conditions - the changes taking place in both professions as compared to the immediately preceding centuries and of the contributions of the allied arts.

In the first portion of the study, the social and political forces changing the social structure are reviewed. The position of Architecture and Landscape Architecture at the beginning of the Renaissance is referred to by way of the Gothic architectural style and the contributions and style of the Medieval gardens.

The evolution of artistic theories and their relationship to classical thought and practice is explored through the theories of several architects and artists. It is this evolution of theories and their application in both professions to achieve the same desired effect, is found to be the underlying current of the entire period.

When the house and garden came together in the famous "villas" of the time, the designers were faced for the first

time, with a new problem - that of welding together the previously neglected qualities of nature and the surroundings with the sharp, angular features of the house. The Renaissance solution has contemporary implications of which we could well be aware.

The use of construction materials is found to be identical in both professions. Similarly, such elements as the column were used both decoratively and structurally in both professions. Although climate and topography played a more pronounced role in the design of the gardens, the house design too was affected by both climate and topography.

The influence each profession had upon the other is explored and found to be predominately in favor of architectural decisions governing the total scheme.

The results of this study demonstrate: 1) that because the designers of the villas were architects, the garden was an architectural expression, the design principles being those governing the design of the houses; 2) that the attitude of the people toward life and nature had a direct influence upon the manner in which plant materials and construction materials were used; 3) that materials and forms can be borrowed quite freely from the cognate profession and have meaning in its new locale; 4) that Landscape Architecture became an art; 5) that for a house and garden to be a total aesthetic expression the designer of the house and the designer of the garden need to be in accord.