‘‘FORM’’ AND ‘‘SPACE’’ IN ROMAN DOMESTIC ARCHITECTURE: THE ARCHITECTURAL LANGUAGE OF THE ATRIUM HOUSE

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ABSTRACT

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THE ARCHITECTURAL LANGUAGE OF THE ATRIUM HOUSE

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This study investigates two significant components of architectural design, ‘‘form’’ and ‘‘space’’ and the basic design elements and principles used in their creation in the context of Roman domestic architecture. It more specifically examines how, by which means and for which purposes certain form and space defining tools such as the column, wall, floor, ceiling and opening with their architectural equivalents as the point, line, plane and volume were used in the atrium houses exemplified in Pompeii in Italy. The study discusses how Romans organized their daily life in reference to certain domestic spaces and how the form and spatial qualities of these spaces contributed to the architectural articulation of the private sphere. By concentrating on a group of recurring domestic spaces including the atrium, garden, and banqueting room and by illustrating the form and spatial composition of these, the study presents an architectural reading of the Roman atrium house.

Keywords: ‘‘Form’’, ‘‘Space’’, Roman Atrium House, Pompeii

ÖZ

ROMA KONUT MİMARİSİNDE ‘‘FORM’’ VE ‘‘MEKAN’’:
ATRİUM EVİNİN MİMARİ DİLİ

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Bu araştırma, mimari tasarımın iki önemli öğesi olan ‘‘form’’ ve ‘‘mekan’’ ile Roma konut mimarisi bağlamında, form ve mekanın meydana getirilmesinde kullanılan temel tasarım öğeleri ve prensiplerini araştırmaktadır. Daha özele inerek, kolon, duvar, taban, tavan ve açıklık gibi form ve mekanı tanımlayan elemanların nokta, çizgi, yüzey ve hacim gibi mimari karşılıkları ile birlikte İtalya’nın antik Pompeii kentinde örnekleri bulunan atrium evlerinde nasıl, hangi anlamda ve hangi amaçlarla kullanıldığını incelemektedir. Araştırma, Romalıların günlük yaşantılarını, belirli konut mekanlarına referanslar vererek nasıl organize ettiklerini ve form ve söz konusu mekanların niteliklerinin konutun mimari artikülasyonuna nasıl katkıda bulunduğunu tartışmaktadır. Araştırma, Roma atrium evinin mimari okunuşunu, atrium, bahçe ve ziyafet odaları gibi konutlarda tekrar eden bir grup mekana odaklanarak ve bu mekanların form ve mekansal kompozisyonlarını açıklayarak sunmaktadır.

Anahtar Kelimeler: ‘‘Form’’, ‘‘Mekan’’, Roma Atrium Evi, Pompeii

To My Family

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INTRODUCTION

Studies on Roman domestic architecture have looked at the social, cultural, archeological and architectural contexts of the Roman house from various perspectives. The aim of this study is to look at the Roman house from an architectural point of view and to examine and discuss the articulation of the two basic components of architecture, ‘‘form’’ and ‘‘space’’ by focusing on the design elements and principles used in their creation. It will more specifically examine how, by which means and for which purposes form and space were created and manipulated in the atrium houses exemplified in Pompeii in Italy. (Figs. 1.1 and 1.2) Pompeii is chosen for its unique and well preserved atrium houses. Many houses here display their original architectural features due to the fact that the city was covered and sealed by the ashes and volcanic lava of the Vesuvius which erupted in 79 A.D. The site offers a rich sample to examine the form-giving and space-articulating elements used in the design of the Roman domestic setting.

‘‘Form’’ and ‘‘space’’ can be discussed as the two basic design components used in architectural compositions in all periods. Form which is the external appearance of a clearly defined space and the point, line, plane and volume which are form-giving elements are the main design elements used in architecture. Space, on the other hand, is the unlimited three dimensional expanses in which all material objects are located and all events occur. It refers to the three dimensional organizations which have a form and composed of the form-giving elements as well as other design themes such as pattern and sequence which are also composed by points, lines, planes and volumes. As such form and space have always been the two undeniably significant design aspects of architecture. The Roman architects as well used the potentials of form-giving and space-defining elements in planning the Roman domestic architecture in Pompeii.

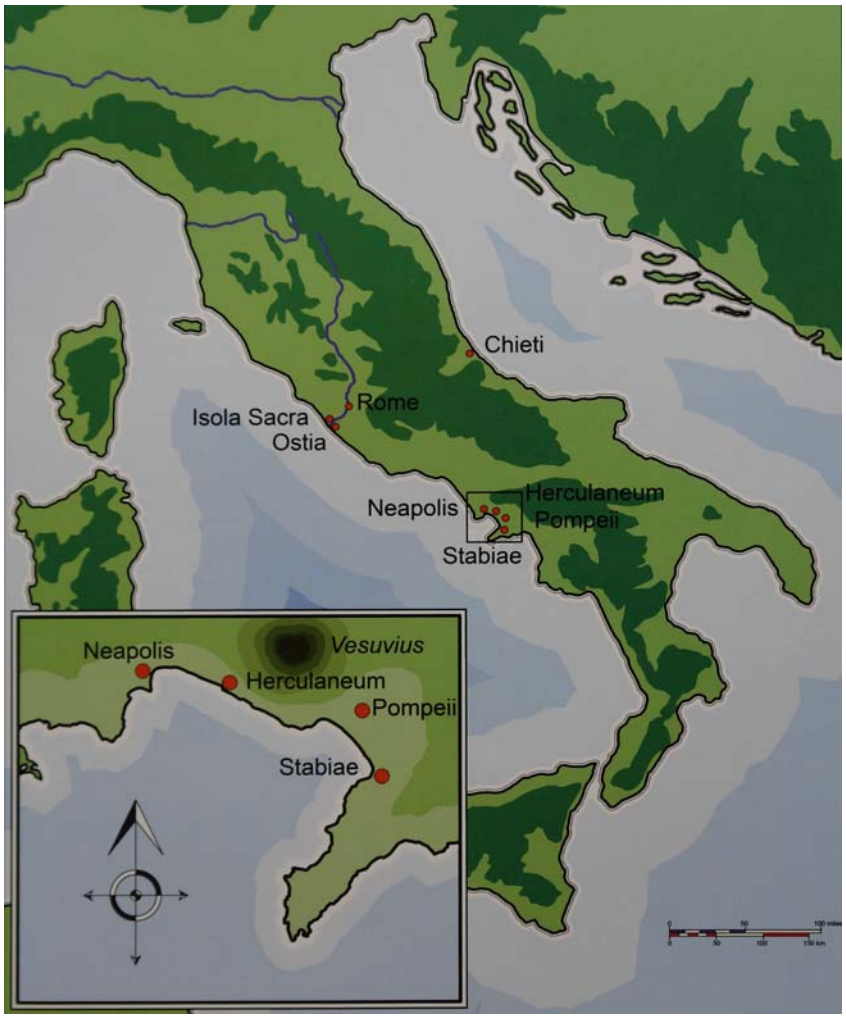

Figure 1.1 The Map of Campanian Towns in Italy (Clarke, 2007, 7)

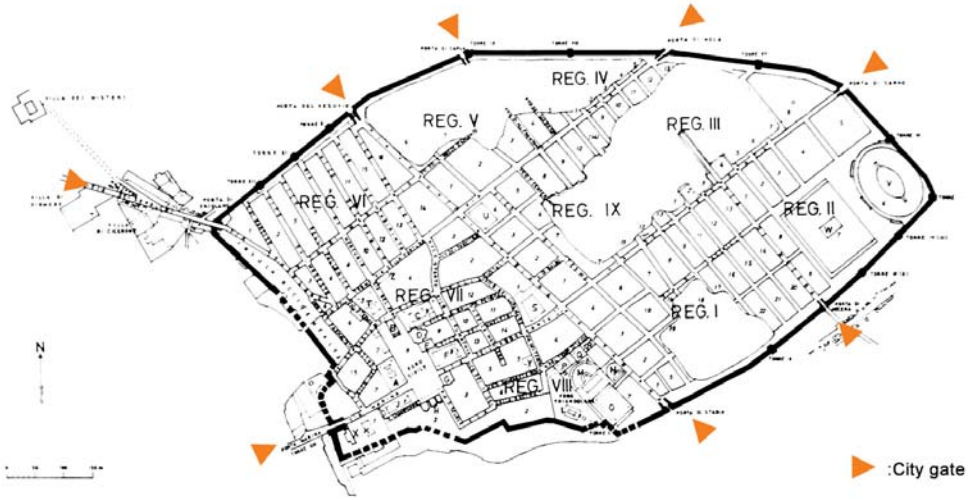

Figure 1.2 The City Plan of Pompeii (adopted from Jashemski, 1993, 2)

To understand form and space and the basic design elements and principles used in their creation in the context of the Roman atrium house, the study first introduces briefly what ‘‘form’’ and ‘‘space’’ imply and what kind of design elements can be used to identify and comprehend them in an architectural composition. Basic definitions in this section help to understand the essence and significance of form and space and also their design elements which later are discussed in terms of the architectural language of the Roman atrium house.

Form finds its place in the discussion foremost as an architectural design component, operating in relation with many other design creating elements, and in conceptualizing the initial idea of an architectural project and producing the desired message of a building. It also gains significance in the discussion in terms of the symbolic associations which can be made manifest by articulating form in architectural terms.

Space is taken as the basic component of design in architecture and hence is related to all the form-giving and design-creating elements that define spatiality in architecture. The spatial hierarchy composed by an architectural pattern and sequence gain significance while determining the spatiality in architectural design. Being designed and put into order by the help of patterns and sequences, the space as being ‘‘inside’’, ‘‘outside’’ or ‘‘transitional’’ also finds a matching a equivalence in the Roman domestic setting which is composed of a number of architecturally distinct spaces such as banqueting rooms, inner halls and garden courtyards. The space in addition also gains further meanings and definitions in terms of embodying ‘‘conceptual’’, ‘‘physical’’ and ‘‘behavioral’’ insights in the discussion of an architectural context.

The basic form-giving and space-defining design elements used in architectural compositions are ‘‘point’’, ‘‘line’’, ‘‘plane’’ and ‘‘volume’’ and thus constitute the references in the main discussion framework in order to provide a basis for the architectural definition of form and space. The ‘‘point’’, ‘‘line’’, ‘‘plane’’ and ‘‘volume’’ in this respect find their equivalents in the architectural language as

‘‘column’’, ‘‘wall’’, ‘‘floor’’, ‘‘ceiling’’, and ‘‘opening’’. These elements and the hierarchy among them are fundamental in examining the architectural design principles applied in articulating the domestic spaces in reference to the traditional and culturally defined household activities that occurred within the boundaries of the Roman private setting.

Form and space are also evaluated as the design components that stress and identify the significance of functions and localities in the domestic setting. The care on the disposition, design and organization of domestic spaces and their form-giving and space-articulating applications are thus examined also in reference to the social status, power and wealth of the home owner as well as how these spaces accommodated the assigned activity efficiently. The Roman atrium house therefore is discussed with reference to its architectural and household organizations in order to analyze its form-giving and space-articulating design elements.

The study in this respect includes a brief survey on how Romans organized their daily life in distinguished domestic spaces and how form and space contributed to the organization and function of these spaces. It also dwells on the function and the architectural language of a group of spaces from a conceptual point of view. The symbolic associations implied by the architecture and use of spaces like atrium, garden and banqueting room are discussed in this context. Thus by concentrating on the ‘‘architecture’’ of a number of recurring domestic spaces, the study illustrates and discusses the formal and spatial variety employed in the planning and elaboration of the atrium house.

The symmetrical, axial and the sequential arrangement of the Roman atrium houses running from the *fauces* through the atrium to the *peristyle* helps to understand the common language of the form, the space and the architectural arrangement. (Figs. 1.3 and 1.4) The architectural arrangement of the houses is examined in relation with the *fauces*, the atrium, the *tablinum* and the *peristyle* as the characteristic domestic spaces of the atrium type of Roman house. The architectural configuration of these spaces in the house is stressed in order to present an overview on the general design

approach towards form and space in the houses exemplified at Pompeii. These domestic spaces also find their functional equivalents in the discussion in terms of being the characteristic recurring spaces in that display the social and cultural dynamics of the Roman society.

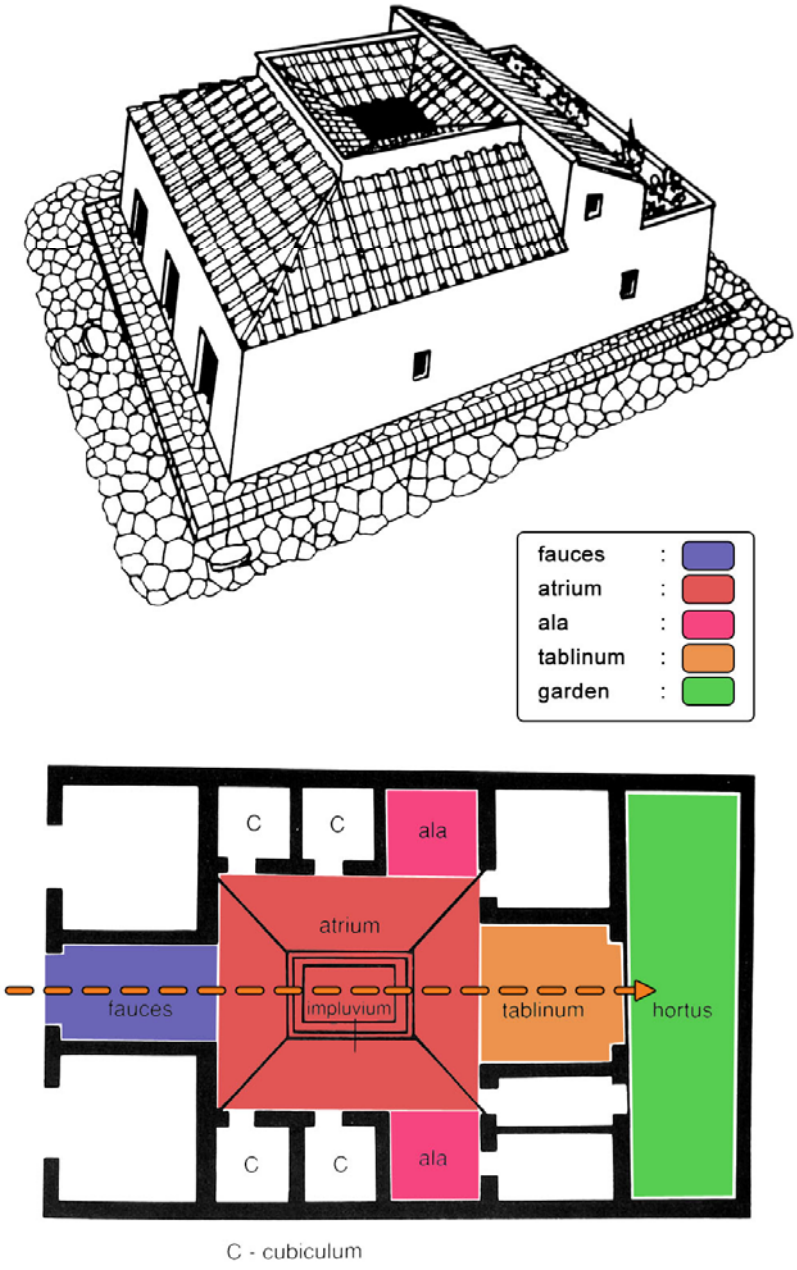

Figure 1.3 The Typical Roman Atrium House with a *Hortus*
(adopted from Clarke, 1991, 3)

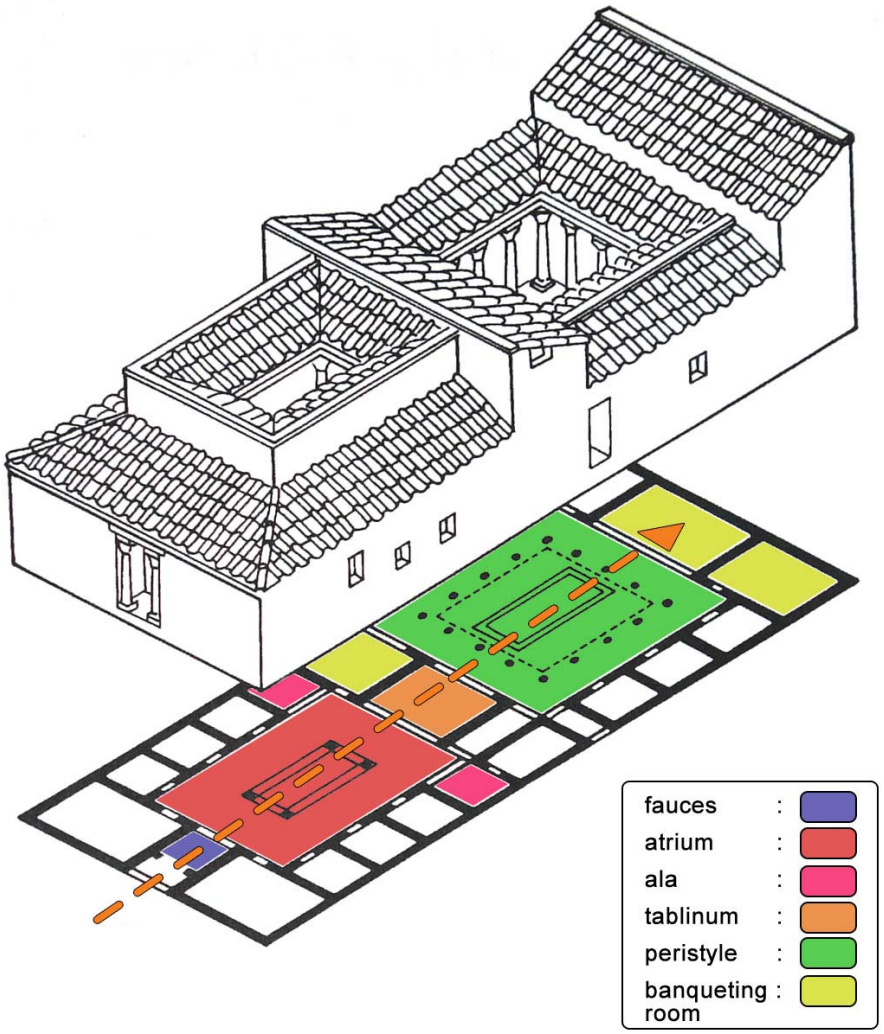

Figure 1.4 The Typical Roman Atrium House with a *Peristyle*
(adopted from Allison, 2004, 12)

In the concluding chapter, a group of atrium houses are examined in detail as case studies to illustrate the formal and spatial variety found in the Roman domestic architecture. All the outlined form-giving and space-defining applications and interpretations used in the architectural composition of the Roman houses are exemplified and illustrated by these examples. Their formal and spatial similarities and differences are presented in order to comprehend the essence of Roman domestic architecture and to understand the architectural variety and innovations seen among the spatial composition of different atrium houses in Pompeii.

CHAPTER 2

‘‘FORM’’ AND ‘‘SPACE’’

‘‘Form’’ and ‘‘space’’ constitute the basic design components used in architectural compositions. The language of architectural form and space includes both the simplest versions of form and space and also more complex versions created by several other design tools like ‘‘point’’, ‘‘line’’, ‘‘plane’’, ‘‘volume’’, and themes like ‘‘sequence’’ and ‘‘pattern’’ which altogether constitute the design elements. Indeed both form and space encompass several design elements which help to identify and comprehend them.

Architectural design is actually about searching for form. A simple definition is that form is the external appearance of a clearly defined space, as distinguished from color and material; configuration, the shape of a thing or a person. It is also the organization, placement, or relationships of basic design elements as points, lines, planes or surfaces, volumes or voids in a painting, sculpture or architecture, so as to produce a coherent image; the formal structure of a work of art.[1]

Space, on the other hand, can be simply defined as the unlimited three dimensional expanses in which all material objects are located and all events occur.[2] According to Arnheim (1977, 9-10), space is a self contained entity, infinite or finite, an empty vehicle, ready and having the capacity to be filled with things, and space perception occurs only in the presence of perceivable things.

[1]The Random House Dictionary of the English Language (Stein 1967).

[2]The Random House Dictionary of the English Language (Stein 1967).

2.1 ‘‘Form’’

‘‘Form’’ is an important design component in conceptualizing the initial idea of a project for an architect and is composed by a number of complimentary design themes such as proportion, rhythm, repetition, consistency, and formal cohesion. Upon deciding on the substance of expression or communication, the architect selects and manipulates the form of his/her building by using various design elements, some of which are mentioned above, in order to convey the designed image. James Gibson’s opinion[3] is illustrative in understanding the importance of form in the total image and message of architecture. According to him, form is only one of the variable visual design components such as location, color, and texture which are used by the architects to produce the desired message of a building.

As Jules (1974) has suggested, it is necessary to identify the basic design elements of architectural form and space, and propose some classifications by which they can be ordered. According to him, architectural form (and also space) can be composed with three design elements: line, plane and volume which are the visual components of architectural form. Respectively, these elements are used to create an architectural design; in the form of walls, ceilings, floors, openings and columns that result in a meaningful and perceptible architectural composition.

In order to comprehend the role of form in the design process, it is also relevant to gain an insight into the relationships between the elements of architectural form. The architectural form which can be examined in reference to points, lines, planes and volumes can be classified under a hierarchy. (Fig. 2.1) Three dimensional volumes are defined by edges and these edges can become long and flat so that it is also convenient to consider these edges as lines and planes. For instance, a volume such as a room contains an activity, but the planes, walls, ceilings, and floors, separate activities and the lines, that are the axes, denote direction. Other tools that identify and compose form, besides these four ones and the visual qualities already

[3] cited from Jules (1974, 35).

mentioned, can be briefly introduced to clarify more the essence of design process and to analyze the design message, in this respect, in relation to form.

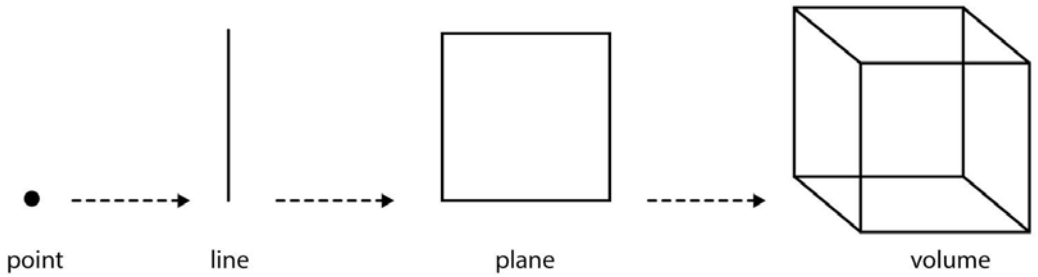

Figure 2.1 The Relationships Between the Elements of Architectural Form (Şeker Ilgın)

Form has architectural and visual characteristics and elements. One of the influential studies on elements of form is done by Bruno Zevi. According to him (1957), form as an architectural design concept can be examined in reference to a series of compositional rules, qualities and principles, such as unity, symmetry, balance, proportion, contrast, scale, and accentuation, employed in various combinations in an architectural design.[4] Zevi claims that these are the chief qualities or principles of architecture as they are enumerated in traditional and visual aesthetics, and were used to create various forms in different cultural and historical contexts.

[4] unity: the quality that the presence of every element of a work of art is necessary and nothing can be added or subtracted from this work, symmetry: the balance of form and axial building; asymmetrical buildings on the other hand need to be designed according to the law of equilibrium or balance, the symmetry of informal or non-axial buildings, in order to obey the rules of the unity, balance: the steady position of every element of a work of art in a total composition, proportion: the relation of the parts to each other and to the whole of the building, contrast: the significant element in the design process for a building, contrast between vertical and horizontal lines, between volumes and masses, and for full expression, the dominance of one element or the other, or of a third is needed, scale: the dimension with respect to man's visual apprehension, dimension with respect to man's physical size, and accentuation: to have a center of visual interest, a focal point of the eye in every composition (Zevi 1957).

Keeping the significance of the elements that create form in mind, the relationships between the parts of a visual composition including architecture are also important for creating specific form organizations. The human mind perceives the environment in a way that organizes our visual field into distinct and related parts. In order to understand and discuss this phenomenon in more detail, *Gestalt* psychology has been developed. According to the *Gestalt* psychology, different pattern organizations perceived by the human eye are defined as *gestalts*[5] which can be used also to express the relationships between the parts of design and architecture as well. Jules (1974) claims that the form of architecture is usually a composition whose parts are related and perceived according to a hierarchy of order; the parts are held together by linking the *gestalts* while hierarchies are achieved through the contrasts in *gestalts*. As such *gestalts* can be used to understand, define and describe architectural form.

These *gestalts* actually represent the design themes which allow the architects and designers to group parts of a design so that these parts seem related in conveying a total and complete image. *Gestalt* principles can be applied to other qualities in architecture, such as ‘‘location in three dimensional space’’, ‘‘texture’’, ‘‘color’’, ‘‘mass’’ and ‘‘culture content’’ which are closely related to form.

Besides such visual and architectural characteristics, form incorporates a symbolic meaning as well. Snyder and Catanese (1979) discussed that symbolism has always

[5] figure/ground: figures are perceived on the backgrounds, and they are the organizations in the visual field that look like things. However; ground is unbounded and diffuse and figures are seen as being on grounds. The figure and ground relationship is a basic design principle in architecture; center of gravity: it is necessary to have centers to attract attention in individual forms and entire compositions. It is used as a visual ordering technique by placing the most significant thing in the center of a composition, such as placing the atrium at the center of the plan in Roman domestic architecture, configuration: it means the simplification of the visual environment in order to understand it clearly. By using simpler geometric forms, the visual compositions are made more clear by designers and architects, similarity: in this *gestalt* principle, objects similar in terms of their color, texture, form, and cultural significance tend to group together in order to create the visual image desired by the architect; proximity: it is the way of relating two dissimilar objects by placing them near each other to have a visual and formal composition; symmetry: it is a relationship to an axis, and symmetrically placed objects are perceived to be more related. Moreover; it lends importance to the axis generating it as centers of composition attract attention. For instance, the *fauces-atrium* and *tablinum* symmetry is used in order to create a visual axis for the outsiders in the design of the Roman Atrium house; closure and good continuation: Closure means the visual completion of incomplete objects, and good continuation is the concept of alignment; form reproduction: is the concept of the completion of a part of the form which is seen before from the memory **(**Snyder and Catanese 1979).

been a major form-giving design theme and one that can be applied over functional and programmatic concerns with little conflict. Form therefore is used to bring all the parts of a program together and it reinforces a meaning by giving wholeness to the total composition. Prak (1968) claims that architects use both form and materials as symbols. The same forms are used over and over again, in ever different combinations. They provide meanings which apparently are same for everybody. The same formal configurations however can be used with different meanings due to the context in which they are applied. For instance, the classical orders symbolized the culture of Antiquity for the Renaissance theoretician Andrea Palladio, and the power of the state for the architects of the Third Reich. Some parts of the meanings of the context can stick to a form when they have been used frequently enough even when they are apart from their original context. Thus, giant columns in front of buildings have become associated with the fascist regimes and the columns in the Roman house made an allusion to the public world within the domestic setting.[6]

Form in terms of both visual characteristics and symbolic references is indeed the essence of design in architecture. It can be considered as the creation of a building's tangible and visual shape in relation with the building's practical, social and symbolic functions; and together with its design components, form is an omni-present feature of architectural creation.

2.2 ''Space''

''Space'' is the basic component of design in architecture. The distinguishing characteristic of architecture from other forms of art is that it works and deals with a three-dimensional organization, a space, which includes man.[7] According to Zevi (1957, 22), architecture can be defined as a great hollowed-out sculpture, a space, which is entered and apprehended by moving within it. He claims that the words like

[6] Wallace-Hadrill (1994, 20-21).

[7] The ordering of space in buildings is really about the ordering of relations between people (Hillier 1984).

rhythm, scale, balance, and mass will be vague until they have meanings specific to the reality defining the architecture which is space.

In order to give the sense of space and create spatiality, architecture needs not only the form-giving elements but also other design themes and concepts. ‘‘Pattern’’ and ‘‘sequence’’ in this sense are two significant components in constituting a spatial composition. Pattern is composed of combinations of repetitive elements, and sequence is composed of a linear perception of elements having characteristics that relate them and also amplify their differences.

‘‘Pattern’’ and ‘‘sequence’’ are used in architecture to create a hierarchy that can be defined as the priority given to some spaces over others within a building. Architecture makes use of a spatial hierarchy to form spatial patterns and sequences that orient the user in the space. Palladio[8] relates the hierarchy of space to the human visual taste and body. According to him, some parts, such as the main living and entertaining rooms are ‘‘beautiful’’ and should be ‘‘exposed’’; others such as kitchens and cellars on the other hand are not suitable for view and should be hidden.

In 1920’s, Le Corbusier also employed a similar approach based on hierarchy in his villa designs. The main living rooms with their huge floor-to-ceiling windows and where people relaxed or entertained received the largest space. These were usually designed as a room with double height and opened out onto a terrace that offered an elegant, light and airy contrast to the kitchens, bedrooms and bathrooms.

In Roman antiquity as well spatial hierarchy was utilized as a means for organizing the use of house. The Roman architect Vitruvius likewise indicates that the striking feel of noble houses lay in the amplitude of the scales of their public spaces, and the volume of the largest reception room in a house was a possible index of the standing of the house as a whole and status representing the social identity of house owners. [9]

[8] cited from Conway and Roenisch (2005, 63).

[9] Vitruvius, VI.5.1

Scale is a crude indicator, but not so dissimilar from what Palladio and Le Corbusier stated. It was utilized as a space-defining element in the design of the Roman atrium house in which some spaces like the atrium had a double-height. In the Roman domestic architecture, there was also a ‘‘clear spatial statement of precedence, the clear shape of before, behind, beside, and of great and small’’[10] in the ordering of the household space with respect to a social and spatial hierarchy. ‘‘Sequence’’ and ‘‘progression’’ are conveyed and made manifest by a spatial ordering based on a linear sequence which indeed provided a clear and precise orientation within the house.

Being designed and ordered by the help of patterns and sequences, space is generally imagined as a sheltered volume which contains activities and objects enclosed by walls, ceilings and floors. The space may be a dining room, a bedroom or an open-plan office but the general tendency to imagine the space is being inside. However, the space may also be an outside one and designed as a courtyard or a walled garden. For instance, in the ancient Roman houses, the rooms are arranged around an inner courtyard or an atrium partially open to the sky, or around a colonnaded courtyard fully open to the sky. These were open spaces in their own right. There may also be ‘‘transitional spaces’’ such as a verandah, a covered terrace or an open area in a building that are neither inside nor outside but flows in between the two. The popular open-air dining loggias (Fig. 2.2) covered by pergolas and the colonnades in the gardens can well be exemplified as ‘‘transitional spaces’’ in the Roman domestic architecture.

Every architectural volume, thus, constitutes a boundary and a pause in the continuity of space and helps to create two kinds of space: the internal space, completely inside, outside or transitional, created by the building itself, and the external or urban space created by that building and the others around it. It is clear that the experience of space has its extensions in the city, in the streets, squares, alleys, and parks, and even in the playgrounds.

[10] Sennett (1994).

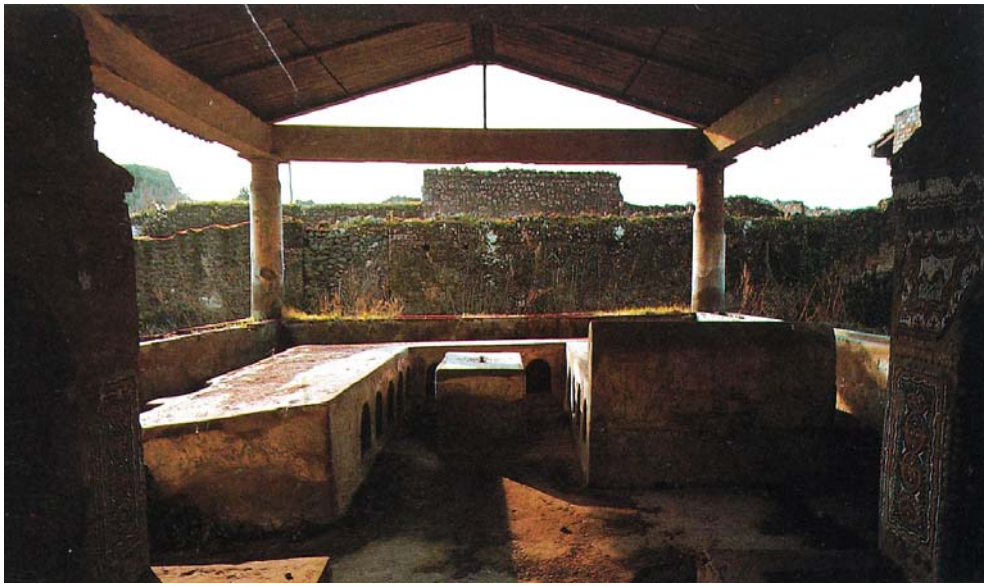

Figure 2.2 The Open-Air Dining Logia of the House of the Summer *Triclinium* (Carpiceci, 1977, 89)

Physical elements such as walls, ceilings and floors that define or subdivide an entity also affect the way humans experience space. The elements separate the external space from the internal one. Every building breaks the continuity of space, sharply divides it in such a way that a man inside a space enclosed by walls can not see what is outside. Thus, every space-designing approach limits the freedom of the observer.

Links in between the interior space and the exterior one or the surrounding environment can be created by making holes on surfaces from which the neighboring environment can be viewed. The position, size and the number of these holes or openings have an influence on the character of the space. For instance, if the openings are above man's horizon line, the sense of enclosure delimited by walls increases; if corners have openings, the sense of the closure decreases and the opportunity for connection to the exterior increases. The continuation of form from inside to outside provides the strongest connection between the two spaces. The spaces become related and their center of gravity tends to move towards a common center by multiplying these connections.

Besides its internal and external quality, space, like form, can also be studied and categorized in different ways as well. Prak (1968) for example categorized space as ‘‘conceptual’’ and ‘‘physical’’. According to him, conceptual space is the result of human imagination, the product of the *Gestalt* laws of perception and the space that men see. However, physical space is independent from psychology and is described and measured in terms of Euclidean, hyperbolic or elliptical geometry. Besides conceptual and physical space, there also is the ‘‘behavioral space’’ which is determined by the physical behavior of people such as walking and running, and as such it can be defined as a sub-category of the conceptual one. Which one constitutes the real space can not be determined as this depends on how man defines the reality.

Some spaces can be entered such as living rooms and bedrooms; and some can not such as the pyramids. In this example, the pyramids have no behavioral space inside; they are only physical and conceptual. Thus, although the three types of space are relatively independent, the physical and conceptual spaces have strong links. For instance, the conceptual space can be constructed from plans, sections and elevations, but to sense the architecture to the full extent and to get the intended perception created by size, materials, play of light and shadow, or relation to a site, we need the building itself. Thus, the physical space is the mainspring of the conceptual one.

As mentioned so far, space can be discussed under a series of categories in different approaches and ideas. Yet, in all these classifications of space one implicit idea prevails: spatial quality relies on pleasing ‘‘proportions’’. Hence, space can also be approached in terms of proportion and in order to create a space with pleasing proportions, it is necessary to work with dimensions.

Proportion and spatial quality are always linked in theory and application to create a pleasing sense of experience of space. According to the Roman architect Vitruvius[11], proportion and symmetry can be found foremost in the human body. The human

[11] Vitruvius, III.1.2

body with hands and feet outstretched can be inscribed in both a circle and a square if the navel is determined as center. Vitruvius also identified the perfect numbers as six, ten and sixteen, and used a module based on the length of a man's foot, one-sixth of a man's height. This module is used in the Doric, Ionic and Corinthian orders and also in the dimensional organization of temple designs. [12]

Unlike ancient architectural practice, Renaissance architects were influenced more by the harmony and beauty of the universe. Leon Battista Alberti[13] linked the musical harmonic ratios to dimensions in architecture in his treatises on architecture, *De Re Aedificatoria*. Andrea Palladio[14] used three different sets of ratios such as arithmetic, geometric and harmonic proportions in his projects in Italy. These proportions determined the relations between the height, width and the length of different spaces.

In Renaissance architecture, the golden section received more importance in addition to arithmetic, geometric and harmonic proportions. Different from the previous ones, the golden section was based not on the relationships between the numbers, but was generated from a square dividing it and hence generating a spiral known as the Fibonacci series. Among the modern architects Le Corbusier derived a series of Golden sections also from the dimensions of the human body as a basis for architectural proportions.

In short, space is a three dimensional expanse of architectural design to fit or accommodate something or somebody. Space with its different classifications as physical, conceptual, behavioral, external, and internal and with its boundaries and proportions is an outcome of architectural design that made use of form and form-giving elements.

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[12] The modular system of Vitruvius however was not rigidly used in ancient Roman domestic architecture in general.

[13] cited from Conway and Roenisch (2005, 65); see *De Re Aedificatoria* by Alberti for more information.

[14] cited from Conway and Roenisch (2005, 65).

Architecture is about ‘‘form’’ and ‘‘space’’, about quality of architectural volume in both monumental and domestic contexts. Form and space as the basic design components have remained in constant challenge in creating an architectural composition. Hence form has always been significant in conceptualizing the initial idea of an architectural design process and space has always been an outcome of architectural design that made use of form and form-giving elements. A volume by its form and space embraces man, object and activity in various ways which can be culturally specific or universal. This was also the case in the ancient Roman domestic architecture as well.

2.3 Elements of ‘‘Form’’ and ‘‘Space’’

Architectural language includes the primary tools that make ‘‘form’’ and ‘‘space’’ such as the point as the prime generator of form that indicates a position in the space; the line as the point extended and constituted with properties of length, direction and position; the plane as the line extended and constituted with properties of length, width, surface, orientation and position; the volume as the plane extended and constituted with properties of length, width, depth, form, space, surface, orientation and position. [15] (Fig. 2.3)

The basic form-giving and space-defining components of architectural design, the column, wall, floor, ceiling and opening[16] find their equivalents in the architectural language as points, lines, planes, surfaces and volumes. These are the design tools which give the essence and shape of form and space and had a primary role in constructing the architectural vocabulary of Roman domestic architecture as well.

[15] See Gargus (1994) for more information about the primary elements of the architectural form and space such as the point, line, plane and volume.

[16] See Meiss (1989) for more information about the from-giving and space-defining elements such as the column, wall, floor, ceiling and opening.

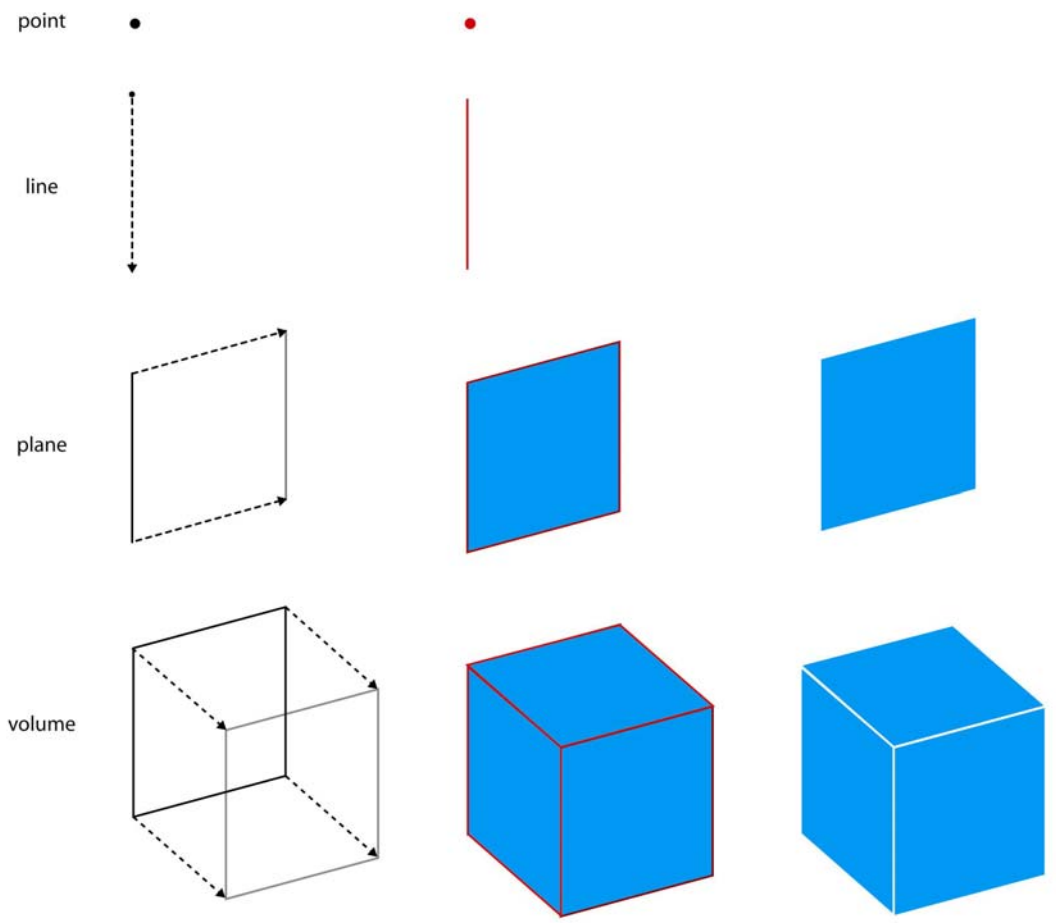


Figure 2.3 The Relationship Between Point, Line, Plane and Volume (Şeker Ilgın)

2.3.1 Planes/Surfaces: Wall, Ceiling, Floor and Opening

Planes and surfaces constitute the outer boundary of an artifact or a material layer constituting or resembling such a boundary, and they can be identified as the form-giving design elements that create the sense of enclosure, the space, and separate the physical activities and spaces from each other. In fact, the space to be left between the planes or surfaces is the reason for an architect to create an enclosure in order to ‘‘contain’’. Thus, architecture can be defined as the art of space-forming which is created by using form-giving design tools such as planes and surfaces.

The plane or a surface can be obtained by the extension of a line in a direction other than its intrinsic direction. (Fig. 2.4) Conceptually, it has length and width, but no depth. In terms of visual perception, it serves to define the limits or boundaries of the volume encompassed by the space. It can be considered as a key element in architectural design, because architecture, as a visual art, deals specifically with the creation of three dimensional volumes delimited by planes. The properties of each plane or surface (size, shape, color, texture) as well as their spatial relationship with each other ultimately determine the visual properties of the form they define and the qualities of the space they enclose.

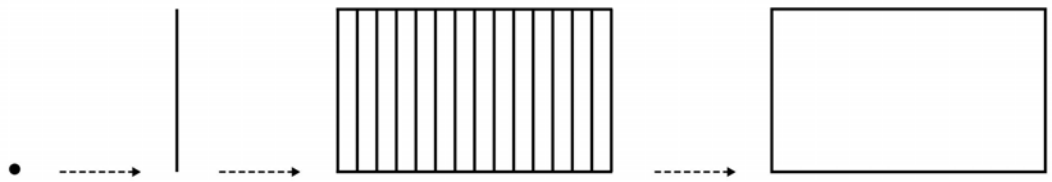


Figure 2.4 The Plane Obtained from Point and Line (Şeker Ilgın)

The two types of planes in architectural design are the ‘‘horizontal’’ and ‘‘vertical’’ ones. (Fig. 2.5) The vertical plane which goes straight up at an angle of 90° from the ground and the horizontal plane that stretches from side to side, not up and down, have their equivalents in the architectural space in the form of walls, ceilings and floors.

Within the wrapped boundary, the planes that make up the interior spaces, in the form of walls, floors, or ceilings also function to enclose or to give a sense of enclosure and hence to define individual rooms. These surfaces depending on where they are and what they enclose are used to create varying types of private, extraverted and introverted spaces. The wall as a vertical plane defines and encloses the activity areas as spaces. The horizontal plane, the ceiling on the other hand is the primary protection of a building against the climate, and is often described as the sheltering element over the space. The floor which is another horizontal plane

provides the physical support and the base for the house. It is actually the plane that articulates and distributes activities in the domestic setting. Floor is also the plane which is bodily experienced and like wall is touchable.

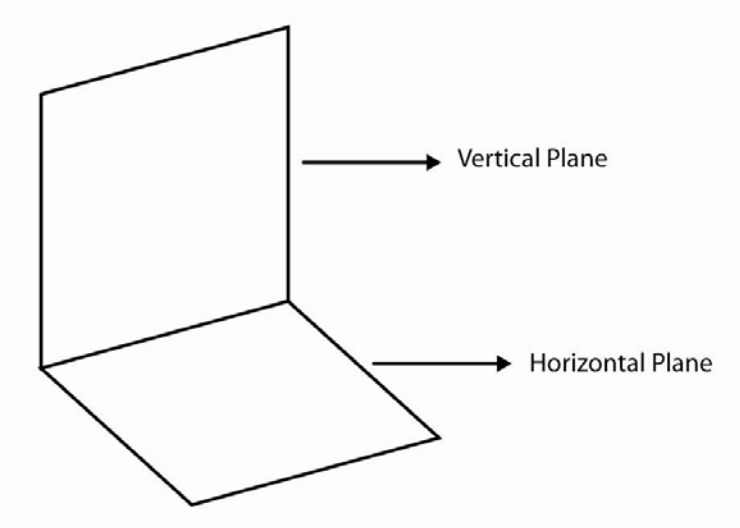


Figure 2.5 The Schematic View of Vertical and Horizontal Planes (Şeker Ilgın)

The wall as the vertical surface or plane is generally more active in our visual field than the horizontal ones and is, therefore, instrumental in defining a volume of space and providing a strong sense of enclosure for those within it. The visual properties, the relationship to one another, and the size and distribution of openings within the walls determine the degree to which a space will relate to the spaces around it. As a design tool the wall plane can merge with the floor or ceiling plane, or be articulated as an isolated plane. Walls as vertical elements also serve as supports for a house's floor and ceiling planes. They control the visual and spatial continuity in between the house and also in between a house's interior and the exterior. They aid in filtering the flow of air, light and noise and organize circulation in the interior.

In domestic architecture, the surfaces are used foremost as physical and visual boundaries that separate the house from the wild nature and the public outside in order to conceal the private enclosure, the home. The home is protected from the

natural forces such as wind, rain, snow and sun by the help of vertical and horizontal planes. The exterior wall planes of a house control the penetration of climatic elements into the house's interior spaces. More specifically, surfaces are used to construct boundaries between the ‘‘outside’’, the public and natural world and the ‘‘inside’’, the private enclosure as in the case of the Roman houses.

There are thus three major planar elements in architectural design: wall (a vertical plane), ceiling and floor (horizontal planes). The configuration of the wall planes can tell about the preferences employed in designing the space. For instance, a U-shaped configuration done by vertical wall planes, similar to the configuration of the banqueting rooms in the Roman domestic architecture, defines a field of space that has an inward focus as well as an outward orientation. At the rear end of the configuration, the field is enclosed and well defined. Toward the open end of the configuration however, the field becomes extroverted in nature. (Fig. 2.6)

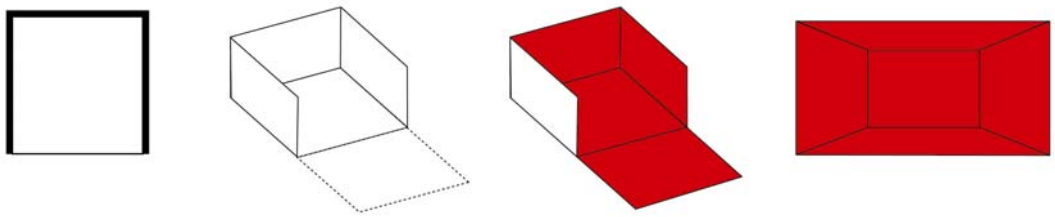


Figure 2.6 The U-Shaped Configuration of Wall Planes (Şeker Ilgın)

The open end is the primary aspect of the configuration by virtue of its uniqueness relative to the other three planes. It allows the field to have a visual and spatial continuity with the adjoining space. The extension of the spatial field into the adjoining space can be visually reinforced by continuing the base plane beyond the open end of the configuration.

The wall plane can also create different spatial qualities. A field of space can be articulated by depressing a portion of the wall plane. The depressed field can be an

interruption of the plane. However, it can remain as an integral part of the surrounding space. The niches are examples of such depressed horizontal planes in the Roman domestic setting. (Fig. 2.7)

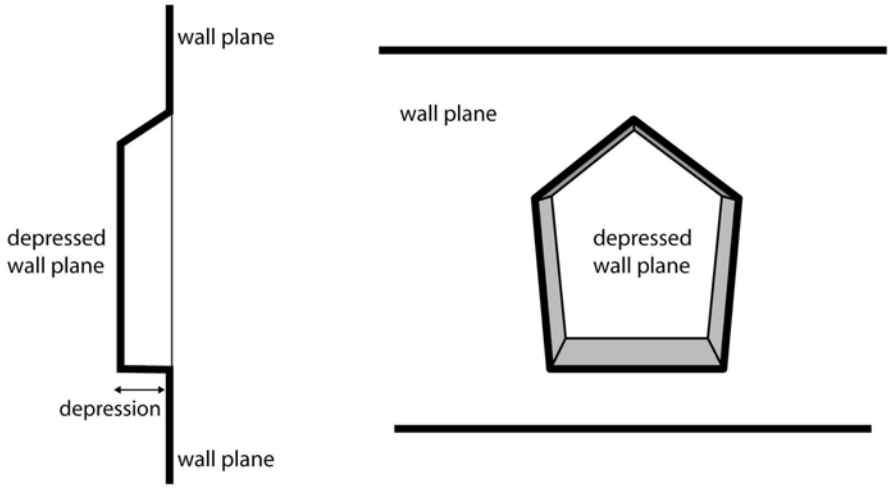


Figure 2.7 The Depressed Wall Plane (Şeker Ilgın)

The major overhead element of a house is the ceiling plane. While we have physical contact with wall and floor planes, the ceiling plane is usually the most distant from us. It not only shelters the building's interior spaces from the sun, rain, wind and snow etc., but can also affect the overall form of the house and the form of its spaces. The form of the ceiling plane is determined by the material, proportion and geometry of the structural system that transfers the loads across spaces to its supports. The ceiling plane can be the major space-defining element of a house's form, and thus visually organize forms and spaces. It can be manipulated to symbolize the sky plane and it can be lowered and raised to alter the scale of a space, or to define zones of space within a room, or a path of movement through it.

The third major plane element within the boundaries of the house is the floor plane. The floor plane is significant in terms of ordering the physical activities and the direction of movement on it. The form, color, pattern and texture can be utilized to

determine the degree of delimiting and flow. The texture and the decoration of the material underfoot also affect and orient the movement on it. The mosaic floors in the Roman domestic architecture are good examples in this respect.

The floor plane can create different spatial qualities by manipulating other planes such as the ceiling plane above it. For instance, a field of space can be articulated by depressing a portion of the floor plane. The boundaries of the newly created field are defined by the vertical surfaces of the depression. The depressed field can be an interruption of the floor plane but can remain as an integral part of the surrounding space. The *impluvium* and the sunken gardens in the Roman domestic architecture are examples of such depressed floor planes. They created different spatial experiences within the boundaries of the house. (Fig. 2.8)

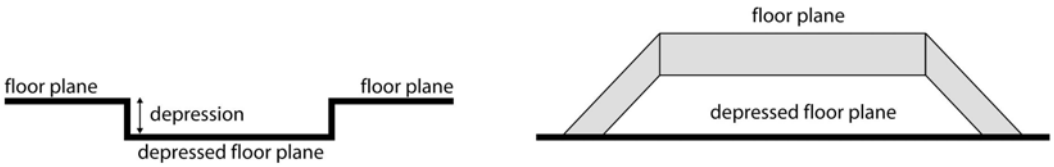
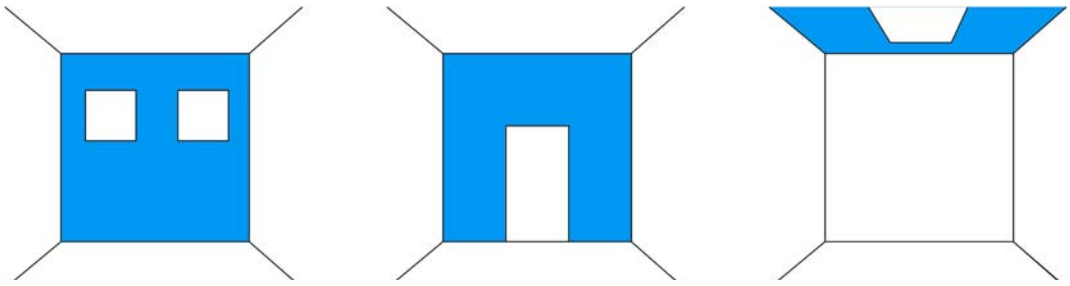


Figure 2.8 The Depressed Floor Plane (Şeker Ilgın)

Elevating a portion of the floor plane also creates a field of space within a larger spatial context. The change in the level along the edge of the elevated plane defines the boundaries of its field and interrupts the flow of space. The elevated floor plane defines a space which serves as a retreat for the activity around the surrounding space. It can be a platform for viewing and also be used to articulate a sacred or special place within a space. (Fig. 2.9) The *tablinum* in the Roman domestic setting is an example of such elevated floor planes. The architectural space reserved for the *tablinum* was often elevated from the floor level of the atrium. This articulation created spatial differentiation between the two spaces, provided a different spatial perception to the visitors in physical and visual terms and also defined the boundaries of the activities within the two spaces.

Figure 2.9 The Elevated Floor Plane (Şeker Ilgın)

An opening on the other hand is a part of surfaces/ planes which provides a visual and physical link between neighboring spaces. (Fig. 2.10) It can also be described as a manipulation of the enclosure, the space, in order to create the desired level of interaction between the space and the surrounding environment. The opening is actually a subtraction from a surface, usually from a wall surface through which the outside or the adjacent environment could be viewed. The openings break the structural and planar continuity of the surfaces and the resulting form of the surface can be described as a punched surface. A punched surface is an agent to supplement a particular function in terms of creating or blocking visual links.



Window Openings Door Opening Roof Opening

Figure 2.10 The Openings on Surfaces (Şeker Ilgın)

The position, size, shape, and the number of openings have a great influence on the ‘‘personality’’ of spaces. The shape of an opening, especially that of a large one, affects our sense of the form of our ‘‘neutral’’ space. The degree of enclosure of a space, as determined by the configuration of its surface elements and the pattern of its openings, has an impact on the human perception of the orientation and overall form of the space. For instance, the more horizontal or vertical the opening’s shape is, the more the room will be perceived as a horizontally or a vertically stretching space.

Providing a door and window are two common ways of punching an opening in a plane: both function as sources of light and air; they are frames that allow visual extensions into an exterior view, and act as visual and physical passageways. An opening on the exterior wall planes determines the degree to which the interior spaces will relate to the outdoor spaces. The configuration of the exterior wall planes together with their openings also describes the building’s overall form and mass. The position and the relative size of the openings and their form also structure the space and help to define the nature of the envelope.

The window is the welcomer of daylight. It is an important element allowing light to penetrate inside the spaces and illuminate the surfaces. The sun is the natural source of light for the illumination of architectural spaces. As the source of fresh air and sometimes place of exchange of words and smells a window is thus another design element that creates visual links between the outside and the inside. Hence, a window performs three design functions: it provides light and air, a view and articulation between the interior and the exterior in addition to the openings on walls the ceiling in the Roman house was articulated also as a punched surface with the *compluvium* (opening) that allowed the light to penetrate inside the atrium and illuminate its surfaces. It was the spot for draining the rain water to the *impluvium* beneath. (Figs. 2.11 and 2.12)

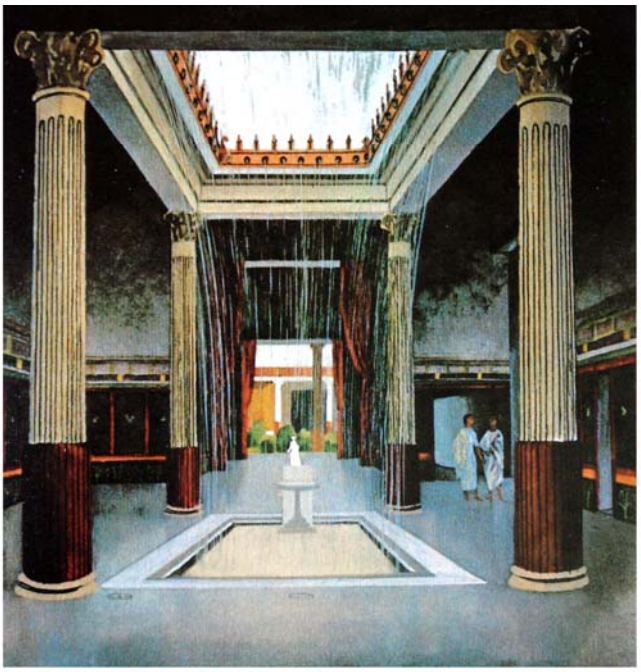


Figure 2.11 The Roman Atrium (Jashemski, 1993, 17)

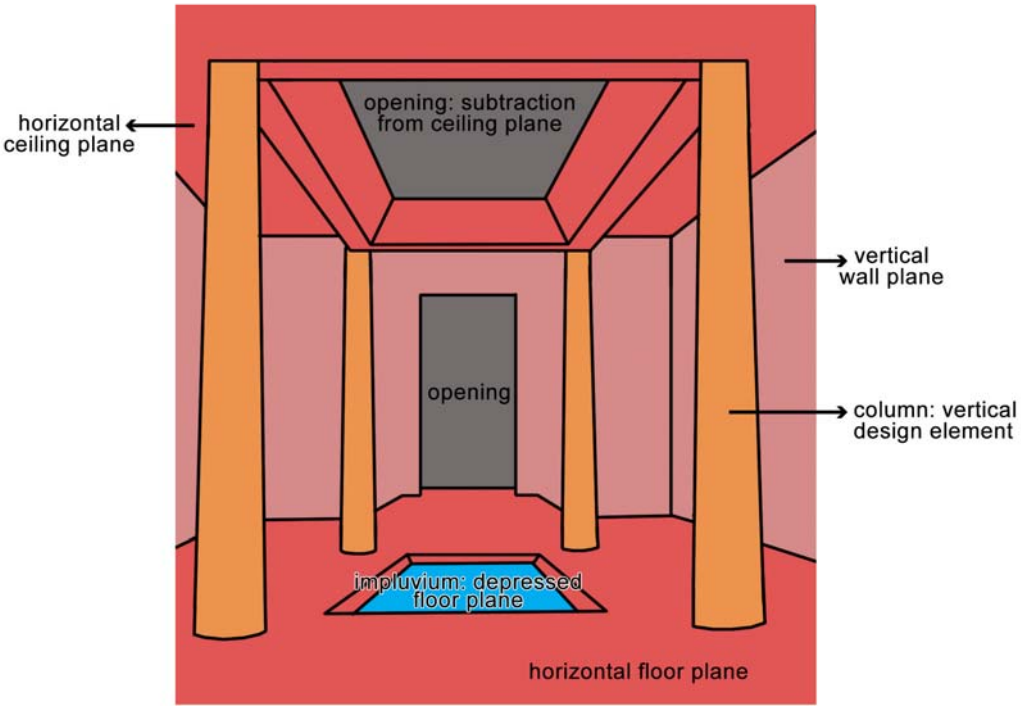


Figure 2.12 The Abstraction of the Roman Atrium
(adopted from Jashemski, 1993, 17)

To enter a space within the house involves an act of penetrating through the vertical plane, the wall that distinguishes one space from another and separates ‘‘here’’ from ‘‘there’’. The entrance or the door is the primary agent in the act of entry and is actually defined by an opening in the plane of the wall. The Roman house could offer an elapsed or a straight entrance at the beginning of the axial arrangement, that is, it was possible to enter the Roman house in two ways: by stepping straight into the atrium or more commonly by walking through an entrance passage which created an elapsed approach to the hearth of the house.

2.3.2 Points / Lines: Column and Colonnade

Column is a vertical form-giving design element used commonly to support or decorate a building or to stand alone. The column therefore represents a point in two dimensional representations such as the plan and a vertical line in two and three dimensional graphic representations such as the section and elevation. (Fig. 2.13)

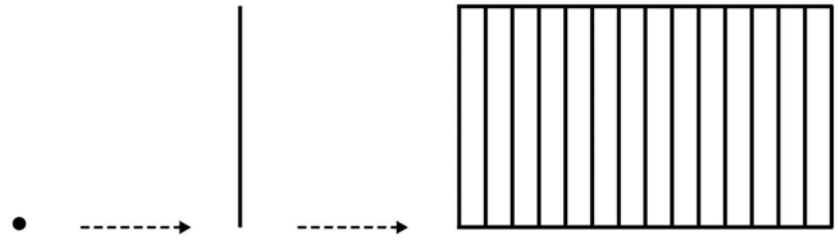


Figure 2.13 The Configuration of the Column (Şeker Ilgın)

The column is seen as a point in the architectural plan and therefore retains the visual characteristic of a point. The point can serve to mark two ends of a line, intersection of two lines, meeting place of lines at a corner of a plane or volume and a center of a

field. Hence, the column as a point in the plan marks a position in space. It has no direction, depth, width and length; therefore it is static, directionless and centralized.

Despite the fact that the point does not have direction, depth, width and length, it makes its presence felt when it is placed within a visual field. Hence, the point becomes a basic form-giving design element in architecture because it becomes a reference in its surrounding environment and dominates its field.

To animate the point as a three dimensional element of form in a space, the point can be converted into a vertical linear element such as a column. Thus, the point becomes a line when it is extended in the space which has a direction and length. The point has a static characteristic; however the line which describes the path of a point has a dynamic characteristic expressing direction, movement and growth. A series of columns on the other hand can define a path or delimit a space. In the Roman domestic architecture for instance, the columns in the atrium helped to frame the symmetrical and sequential axis and also to define and organize the path of physical movement in the porticos of the *peristyle*.

The column has been used in public and private architecture throughout history in order to define and decorate a space, support the structural system, commemorate significant events and to establish loci in architectural space. As such the column was also a significant component of Roman domestic architecture. It was used especially in the atrium, the *peristyle* and the banqueting rooms in order to emphasize their public nature and spatial prestige and importance within the boundaries of the domestic setting. (Figs. 2.11, 2.12, 2.14, 2.15 and 2.16)

This chapter has outlined ‘‘form’’ and ‘‘space’’ as the two basic design components of architecture and the elements used in their design in a brief and general framework. The traditional architectural layout of the Roman atrium house and the major and most frequented household spaces in it are discussed in the next chapter in order to understand the use and the character of the Roman atrium house in relation to the above mentioned spaces. It is claimed that houses seen from the perspective of

their form-giving and space-defining elements exhibit a richness and variety within the traditional atrium plan scheme.

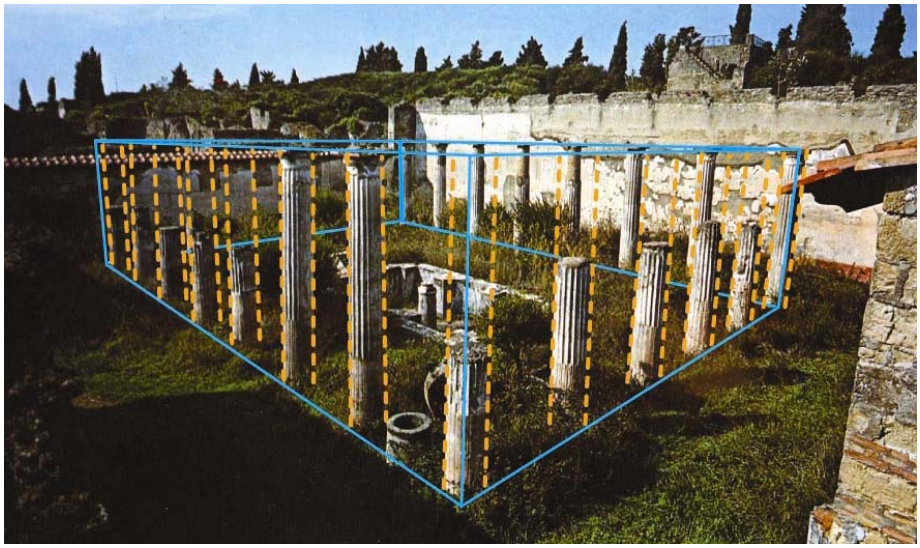


Figure 2.14 The *Peristyle* Garden in the House of Meleager (adopted from Carpiceci, 1977, 40)

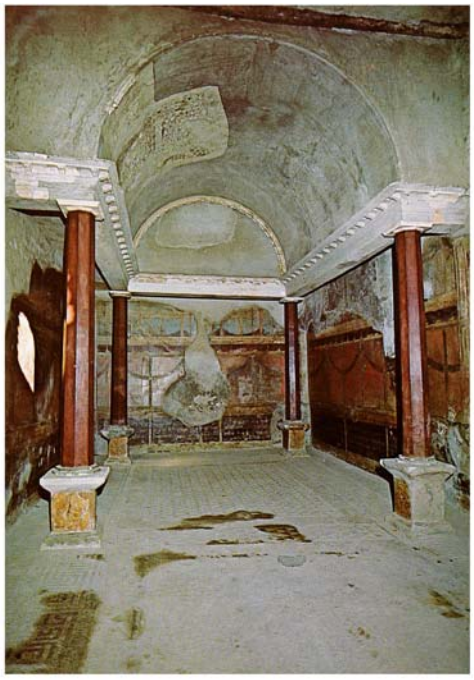


Figure 2.15 The *Oecus* of the House of the Silver Wedding (Carpiceci, 1977, 53)

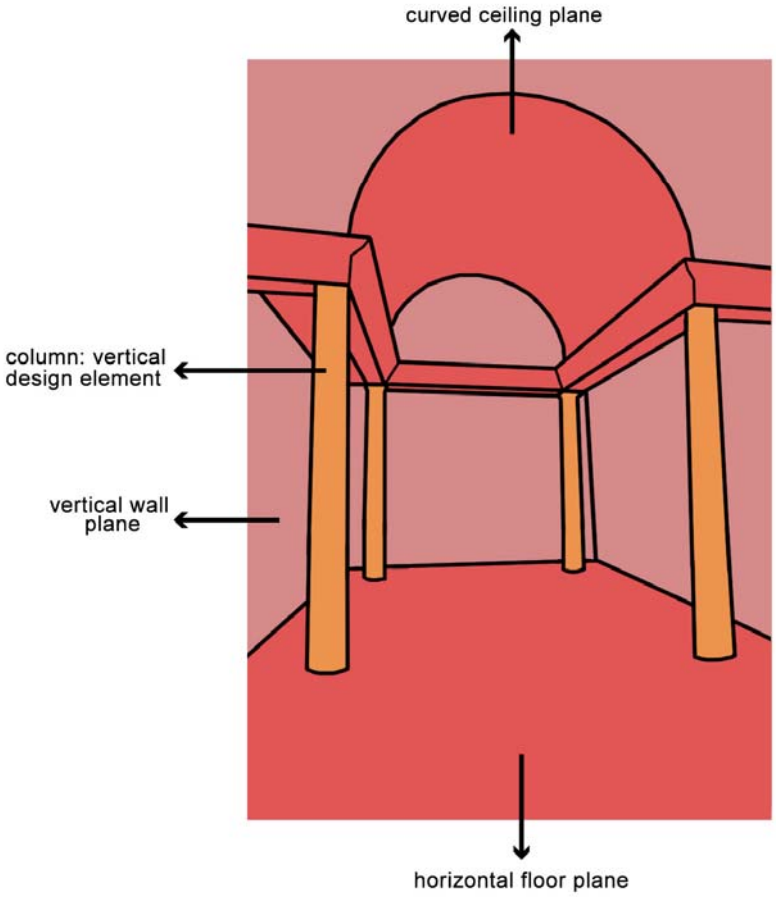


Figure 2.16 The Abstraction of the *Oecus* of the House of the Silver Wedding (adopted from Carpiceci, 1977, 53)

CHAPTER 3

THE ROMAN ATRIUM HOUSE

The early Roman house was built around a square or a rectangular, interior and central courtyard with a large and richly decorated room, the *tablinum* located opposite the street entrance. (Fig. 1.3) The most favored design in this organizational principle was a plan developed around a semi-closed hall, the atrium, which is now believed to have had its roots in the early Etruscan homes.[17] The early atrium houses had a single main room with many small rooms around a courtyard, or, in some cases, a set of small rooms, from which the atrium developed. The atrium can be classified as a centrally developing domestic pattern that controls and imposes a spatial organization in between the remaining spaces.

With its dominating position and physical and visual close proximity to the entrance, the surrounding spaces and the garden, the atrium was the basic architectural novelty of Roman domestic architecture. Ellis (2000) claims that the Roman atrium took its place at the center of the houses and represented the ideal type of aristocratic single family house before the introduction of the *peristyle* and other Hellenistic influences towards the end of the 1st century A.D. after which the atrium started to lose its popularity against the *peristyle*, the colonnaded garden. The *peristyle* however did not replace the atrium, but existed alongside it throughout the 1st century. According to Dwyer (1991), Pompeii was a town of atrium houses when it was destroyed in 79 A.D. by Vesuvius.

[17] The atria are also seen in the Etruscan houses (Laurence and Wallace-Hadrill, 1997).

3.1 The Architecture

The principal opening of the Roman atrium houses to the exterior world was the street door. (Figs. 3.1 and 3.2) This entryway was called *fauces* by the Romans. The *fauces* was flanked by two flat walls, on its longer sides, and the entrance door on one of its shortest sides. At the end of the narrow entryway where it met the atrium on its other short side it was totally open. (Fig. 3.3) This was a narrow and high corridor that had the quality of a highly restrictive and easily controlled entrance leading from the exterior world to the interior one. As the Roman domestic space had restricted access to the public domain the entrance became a crucial spatial interface in between these two realms.

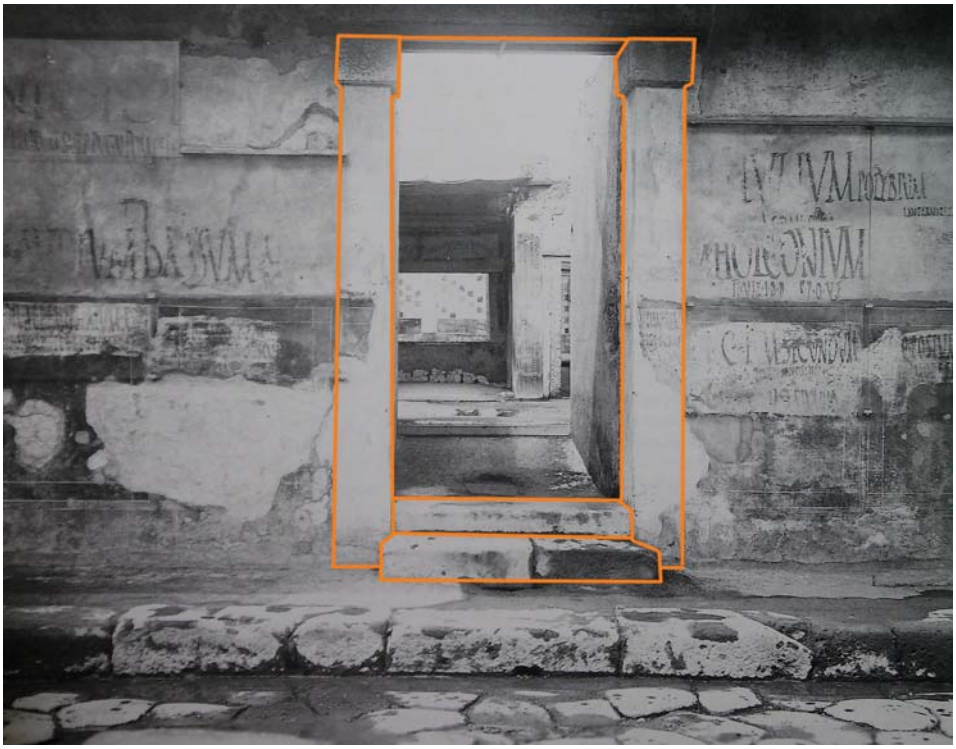


Figure 3.1 A House Entrance from Pompeii (adopted from Jashemski, 1993, 100)

Figure 3.2 The Entrance of the Samnite House (Clarke, 1991, plate 1)

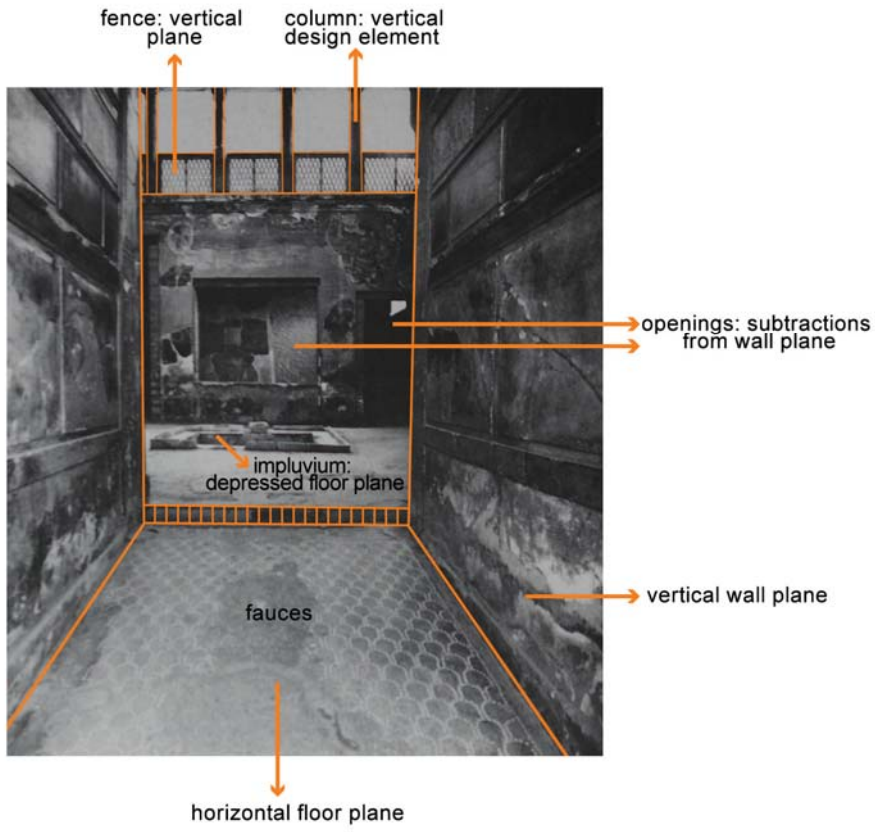


Figure 3.3 The View from the *Fauces* of the Samnite House (adopted from Clarke, 1991, 32)

After passing through this high and narrow corridor, the visitors met with the central configuration of the house which was the atrium. (Figs. 1.3, 1.4 and 3.4) Ellis (2000) states that the Roman houses retained a reception suite near the front entrance of the building which took the form of the atrium with a central pool, *impluvium,* whether following the earlier Roman traditions or the local Greek and Campanian influences. The traditional atrium had a central pool, *impluvium* and an opening, *compluvium,* at its roof above the pool which could be supported by columns. Although the atrium was not often the geometrical center of the Roman house, it represented the center of the household activity. Hence the atrium was not a closed enclosure and can be defined as a symbolic focus due to its conceptual centrality in the life of the family.

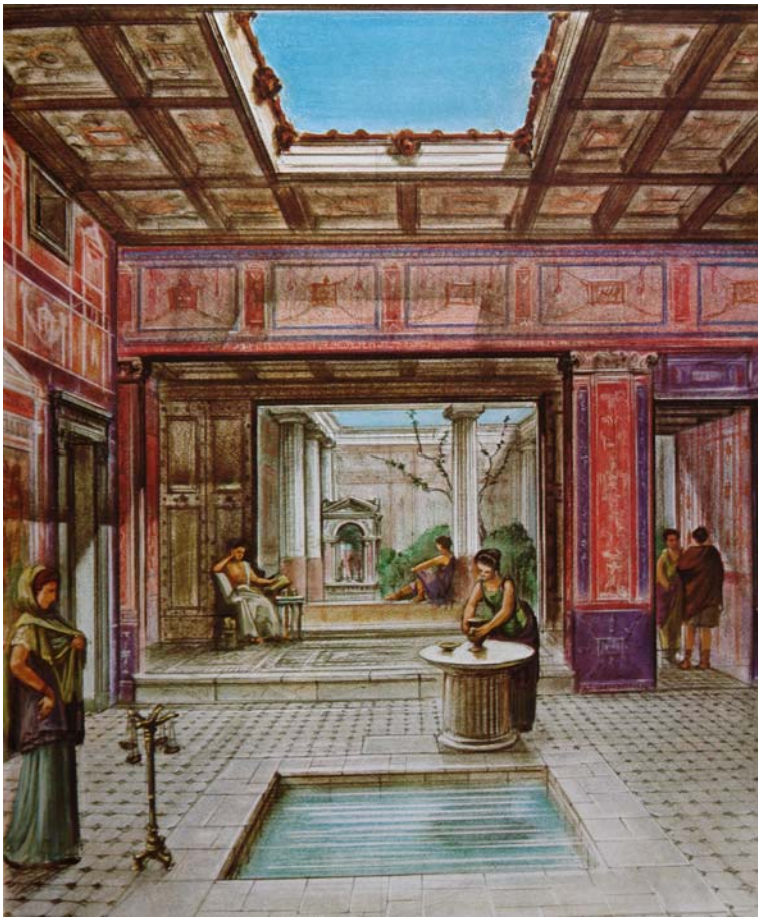


Figure 3.4 An Hypothetical Illustration of the Roman Atrium House Showing the Atrium, the *Tablinum* and the *Peristyle* (Carpiceci, 1977, 29)

The Roman house had a planned view along a central axis which was easily recognizable by the outsiders when the street door was open. (Figs. 3.5 and 3.6) An outsider could catch the sequential arrangement of the *fauces*, atrium and *tablinum*, and sometimes even the *peristyle* located beyond the *tablinum* and placed along this axis. The central axis was therefore significant to give a sense to the viewer standing at the threshold that the whole house was arranged to be captured from his/her standpoint. The viewer could also catch the symmetrical arrangement of the house along the central axis when he/she passed through the *fauces* and stood at the start of the atrium. However, the visually symmetrical sequence captured along a straightforward axis did not match the sequence of the physical movement. One could not walk straightforward to the *tablinum* or *peristyle* from the *fauces* because of the architectural obstacles such as the *impluvium*. In the architectural design of the Roman houses, the eye could move axially, but the body could not.

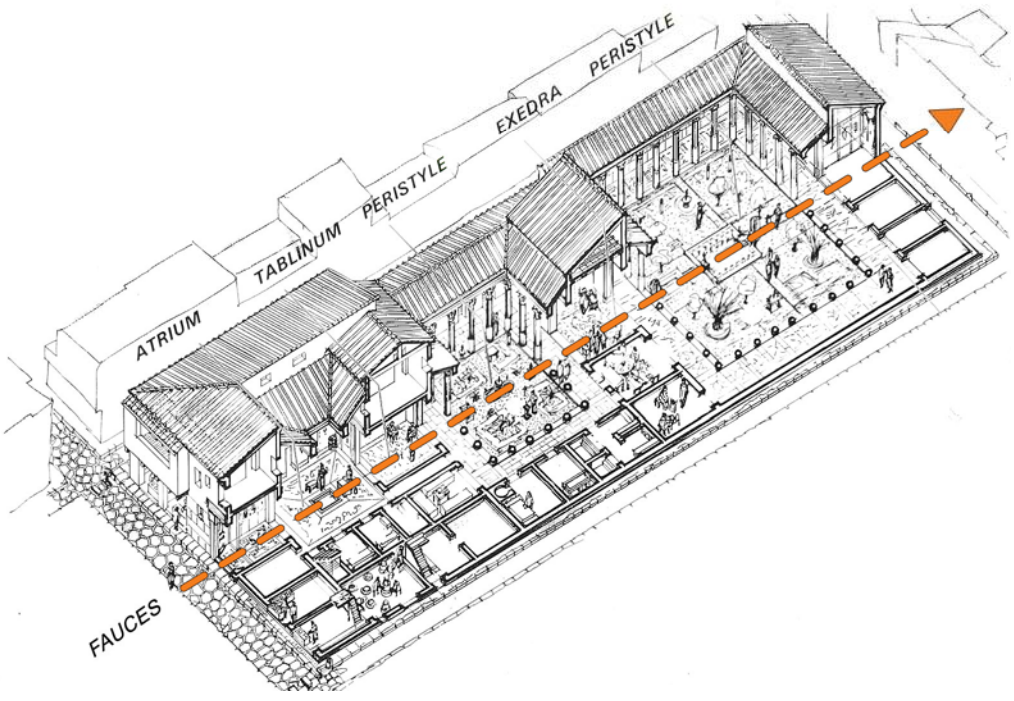


Figure 3.5 The Axial Arrangement of the Typical Roman Atrium House (adopted from Carpiceci, 1977, 7)

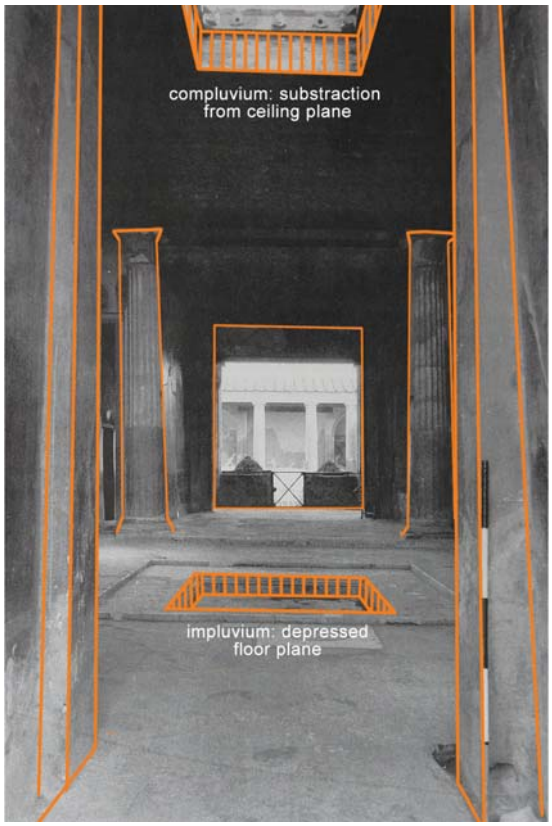


Figure 3.6 The Visual Axis of the Atrium House from the *Fauces*
(adopted from Clarke, 1991, 5)

The visual axis connecting the *fauces* to the *tablinum*, and then the back garden passed through the atrium, which actually linked this horizontal axis with a vertical one that connected the atrium with the sky from its center at the roof level. (Fig. 3.7) This notion of expansion into both directions gave the atrium a ‘‘porous’’ quality in both visual and physical terms; because of its penetrable quality both visually and physically, the atrium was spatially capable of providing and generating relationships among different household spaces, and also with the outside environment. Moreover, the surfaces surrounding the atrium and the surface attributes such as portraits and openings were consciously employed to define the space encompassed by the atrium. These surfaces and form-giving attributes, especially the openings provided a designed architectural relationship between the other spaces and the ‘‘operational’’ center of house.

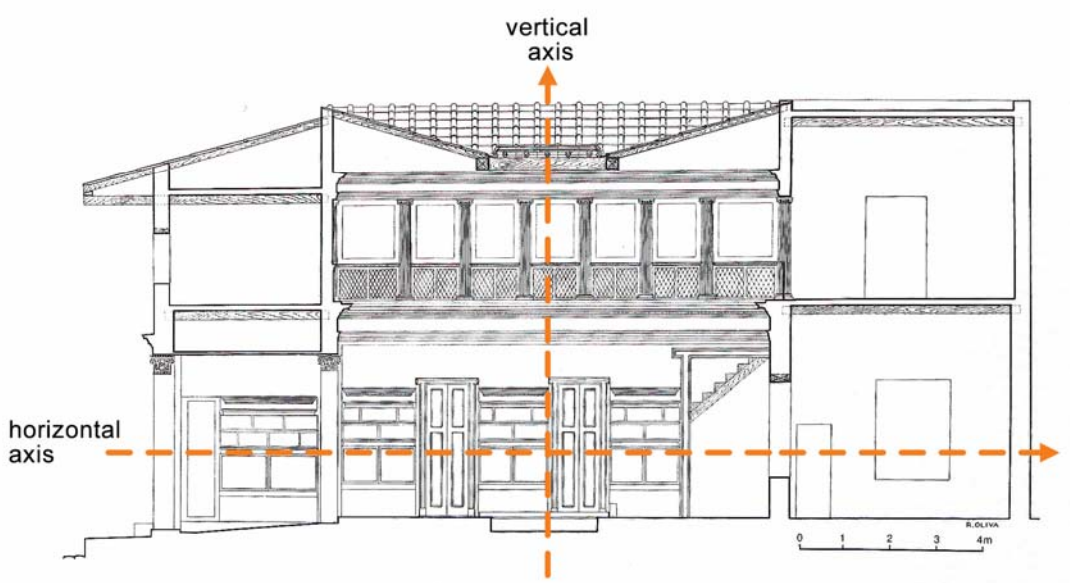


Figure 3.7 The Vertical and Horizontal Axes in the Atrium House
(adopted from Clarke, 1991, 91)

The visual transparency and the porous quality of the interior in the Roman house was on the other hand a significant sign of the lack of privacy. The visitor standing in the *fauces* was immediately presented with a vista that passed through the heart of the residence. The importance of this vista was revealed by its elaborate symmetrical framing, by means of doorways and columns on both sides and the focal objects along the central axis – the *impluvium* basin, a marble table, and a statue or a shrine at the end. This vista might not necessarily be geometrically symmetrical but could only be optically symmetrical – that was symmetrical from the viewpoint of the observer in a given position – which showed that the symmetry was not merely an architect's convenience but something designed, desired and chosen to make an impression on the visitor.

In this sense, the atrium which can be defined as a threshold for the *peristyle* and the banqueting rooms, which constitute the more private section of the house represented that *liminal* standpoint for the spatial capturing of the house. It, on the other hand also provided a zone of security in the house due to its positioning suitable for a visual and spatial capturing of the street door. In a traditional Roman atrium house,

the *tablinum* was placed next to the atrium in a commanding position across the *fauces* and hence was appropriately positioned to provide and control the security of the household and the house.[18]

3.2 The Household Space

A Roman atrium house could include many spaces used for various household activities. This section of the study focuses only on some of the recurring domestic spaces such as the atrium, the garden and the banqueting room for these spaces exhibit a variety in terms of the form-giving and space-articulating design elements employed in their design. In addition these are the spaces in which most of the culturally significant household activities took place.

The formal, spatial and architectural merits of the atrium house as already mentioned played a central role in the performance of certain domestic rituals[19] such as the reception of the *salutatio* guests. The atrium had a dynamic atmosphere with different activities occurring in different times with different participants throughout the day. Of these the morning reception of guests, called *salutatio,* was a common daily ritual between the dependents, collectively called the *clientela*, and the *paterfamilias*, their patron or *patronus*. Flower (1996) claims that salutation is the best known function of the atrium in the Roman domestic culture.

This was a formal ritual that secured the power and fortune of the *paterfamilias* by those who served his political interests. Besides, it was this ritual's social and spatial context that structured the planning of the house. This daily event was set mainly in the atrium and elevated the significance of the atrium to a ceremonial hall which

[18] See Dwyer (1991) for more information on *tablinum*, security and surveillance.

[19] The rituals were described in two senses as formal and habitual rituals by Clarke (1991, 1).

could display the wealth, status and the taste of the owner of the house.[20] The atrium and *tablinum* were an ideal architectural combination for the morning salutation in the houses. The atria could serve as a waiting area for the visitors of the morning *salutatio,* and the spatial wings called *alae* in the atria could also be used for seating. The *tablinum* and the atrium with its wings formed an inseparable architectural unit appropriate for accommodating this daily routine in the Roman house. (Fig. 1.3)

The long visual axis running from the *fauces* and the atrium, the central hall that organized the distribution, access, viewing and use of interior spaces was also operative during the ritual of the morning salutation. The morning visitors walking through the *fauces* could see their patron seated in the *tablinum* right across. This visual axiality and transparency however was disturbed by the *impluvium* and the physical movement was directed to both sides of the *impluvium*. This shift of movement however, was a desired opportunity for the home owner to exhibit the ''animated''[21] wall surfaces that stood as evidence for his wealth, status, taste and social power to his visitors.

In addition to its potentially prescribed locus for the morning *salutation,*[22] the atrium also played a significant role in the occasional household ceremonies such as those following birth, marriage and death. [23] The birth, especially the birth of a son, was significant with respect to the guarantee of lineage in Roman culture and the atrium became a suitable place for the announcement of the birth and the special ceremonies including the serving of a meal for congratulations. The marriage is one of the most significant rituals in human life; it was also the same in Roman culture and

[20] According to Dwyer (1991, 27), in the early Republic, the client was considered as a family member of his master, often after a special ceremony of adoption. However, in the late Republic and early Empire, the morning salutation became a simple demonstration of political and economical dependence.

[21] The wall surfaces in the atrium became animated planes by the use of the wall paintings, painted and waxed ancestral images, portraits, genealogies, military trophies and alike.

[22] When the *paterfamilias* left the atrium after the morning *salutatio,* the atrium could be used for other domestic activities (Hales 2003).

[23] See Özgenel (2000, 178-190) for more information about the habitual rituals that took place in the atrium.

represented the creation of a new *domus*. In marriage, the atrium was the place where the bride was received into the family of her husband and his ancestors; hence, the transition between the two *domus* occurred. Contrast to birth, death symbolized the end of life and it had a special ceremony organized in the atrium as well. This was a crowded public occasion and the atrium in terms of scale and space was a suitable place for this ceremony. The mourning started when the body of the deceased was laid on a bed placed in the atrium.

According to Clarke (1991), the persistence of the original atrium and the visual axis incorporated to the later versions of the Roman house was due to its significance in the organization of rituals concerning the Roman family and business life. However, in later examples various modifications were made to this initial architectural scheme, such as the addition of a colonnaded garden. (Figs. 1.4 and 3.5) After the introduction of the colonnaded garden, the atrium lost its previous popularity and primacy but nevertheless it kept its presence, possibly due to its being the symbolic center of household activities.

The *peristyle* garden as an architectural novelty was laid out according to certain design principles depending on its functional usage. The garden had a cultural significance in the Roman world as a place of family, leisure and luxury. Besides its visual and formal merits, the *peristyle* was foremost utilized to fulfill some practical and operational functions.

The clear skies and the warm climate with lots of sunshine made it possible for much of the life in the Roman houses to be lived outdoors during the large part of the year. The garden in this respect was a pleasant locus to work and play, to relax, to worship and to gather for the meal.[24] The large number of masonry banqueting couches found in the gardens of Pompeii attest to the popularity of eating and relaxing outdoors.

[24] The musical entertainment was part of the dinner organization in the Roman world. The sound of music was a desire for outdoor dining. Wall paintings and mosaics that depict musicians, as well as, the discovery of actual musical instruments, attest to the popularity of music in the life of the Romans in the context of Campanian houses (Jashemski 1993).

(Fig. 3.8) According to Jashemski (1993), the garden *triclinia* in Pompeii were for the most part simple U-shaped structures consisting of two parallel couches, usually equal in length, joined by a third couch. Similar to the indoor banqueting arrangement, each of the three couches was large enough to accommodate three people and this arrangement made nine the ideal number for a banqueting party in the garden as well.[25]

Figure 3.8 The Garden *Triclinium* of the House of the Ephebe (Jashemski 1993, 93)

The large number of homes in which garden *triclinia* have been found makes its possible to understand better the role of the garden in daily life. The lavish indoor banqueting rooms were mostly used for more formal entertainment and banqueting in winter, whereas the simpler outdoor banqueting areas were mostly used for more informal entertainment and banqueting in summer. After all, the *peristyle* design clearly indicates that there was a close connection between the garden and banqueting in the Roman houses and the designed visual vistas from the outdoor banqueting areas as well gained significance in architectural terms.

[25] Only one semicircular couch is found at Pompeii (Jashemski 1993).

According to Clarke (1991, 130), the addition of the *peristyle* to the Roman atrium house also helped to solve some other practical and operational problems such as the accommodation of slaves who were among the members of the wealthy houses in the Roman Empire. A second *peristyle* with the servant's quarters, or upper storey rooms in a *peristyle* could successfully remove the slaves from the sight when their service was not required.

The garden was a popular place for the women. It is known that much of the economy of Pompeii was based on wool production which required female labor. Thus much of the female work including wool production could be carried under the shade in the garden. There were probably many households in which the women spent some time spinning and perhaps weaving wool. Depending on the weather, the garden or the portico could therefore become an ideal place for such activities in the Roman houses. In fact much of woman's work actually could have been carried in the shade of the garden or the portico if at all possible. The garden thus could be a place of work as well as recreation for some of the household members.

The garden was also a popular place for the other household members. Throughout the day and into the evening, for much of the year, the garden was a place of work and play, a place to be shared with pets for the children. The Roman love of animals has long been recognized, and the evidence indicates that the inhabitants of Campania shared their homes and gardens with their pets. Open spaces and porticoes were home to a variety of animals. (Fig. 3.9, 3.10, 3.11 and 3.12) Dogs for example had a significant place in the Roman houses. The watchdog mosaics that guarded the entrances of the Pompeian houses are good examples to illustrate their presence and significance. (Fig. 3.13 and 3.14) Besides the Roman gardens which were planted with valuable fruit and nut trees needed the protection of watchdogs. Cats are known to have been kept in the *peristyle* gardens as well. However, they could have reduced the rodent population and kill the birds much loved by the Romans; therefore it is not surprising that little evidence is found concerning their presence in the gardens. It is on the other hand clear that birds had an undeniable popularity in the Roman gardens. They were an important feature in every garden and were frequently painted

in frescoes. The most spectacular wild birds were pictured so often that we get the impression that they were considered as a desirable decor for the garden design; the depictions in frescoes suggest that birds were encouraged to enter and stay in the Roman gardens. Therefore cages could be found in gardens as movable accessories and thus became a part of the decorative ensemble.[26] Fish which could also be regarded as a pet were also popular and were kept at home in the fishponds as food or display.

Figure 3.9 A Garden Painting Depicting a Male Golden Oriole
(Jashemski, 1993, 85)

[26] Although many gardens in antiquity must have had a bird cage, they were usually of wicker and left no traces behind (Jashemski 1993, 107-108).

Figure 3.10 A Garden Painting Depicting a Dog with Jeweled Color (Jashemski, 1993, 103)

Figure 3.11 A Mosaic Depicting a Cat and a Feather Prey (Jashemski, 1993, 104)

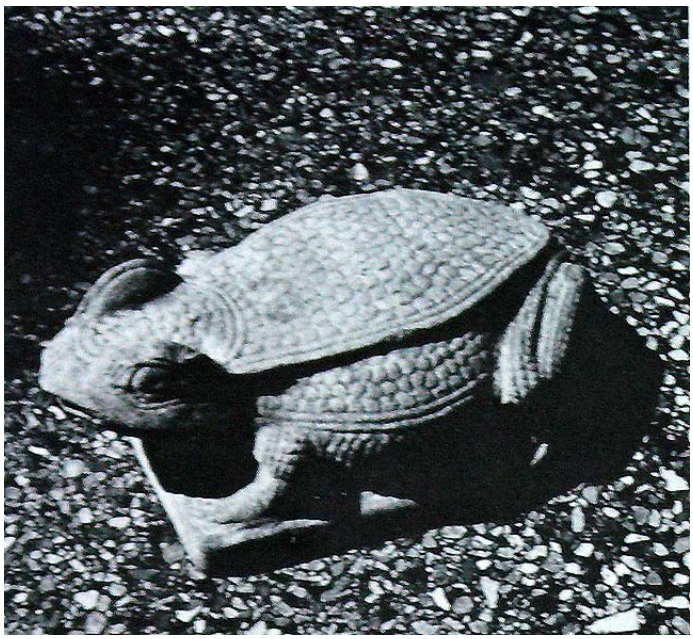


Figure 3.12 A Frog Fountain (Jashemski, 1993, 105)

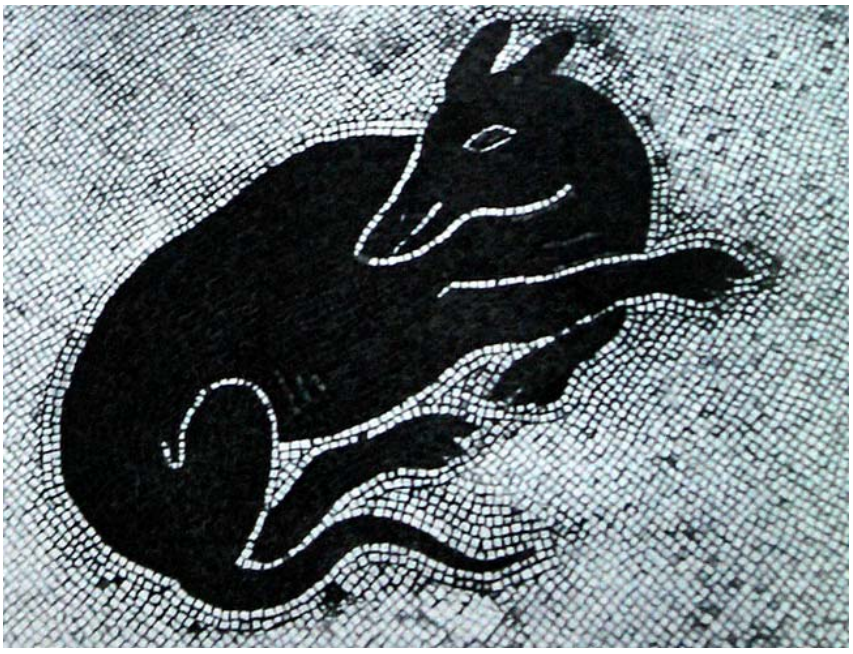


Figure 3.13 The Mosaic Depicting a Watchdog at the Entrance of the House of L. Caecilius Jucundus (Jashemski, 1993, 102)

Figure 3.14 A Mosaic Depicting a Watchdog (Corte, 1979, 2)

Although it was not the architectural center of the house from the point of view of accessibility, the *peristyle* garden, regardless of its size, character, architecture or function was the hearth and the center of the house in terms of the household life.

The banqueting rooms which were generally the largest and most richly decorated rooms in the atrium houses had a cultural significance as a place of leisure and luxury. The formal banqueting organizations and parties were social and cultural institutions in the Roman society. Some banqueting organizations were strictly family affairs, but many were for the entertainment of friends, official guests and business associates, during which both business and entertainment took place. [27]

The atrium, the *peristyle* and the banqueting rooms are among the prestigious and distinguished spaces in the Roman atrium house. In this respect, the architectural composition of these spaces is worth to examine in terms of the form-giving and space-defining attributes used in their design. The next chapter will discuss these domestic spaces from the point of view of how lines, planes and volumes are brought together to create a harmonious unity and to obtain the desired architectural articulation that suited the function of each space in the most efficient way.

[27] Brothers (1996, 45).

CHAPTER 4

READING THE ROMAN ATRIUM HOUSE AS ‘‘FORM’’ AND ‘‘SPACE’’

‘‘Form’’ and ‘‘space’’ can be utilized to stress and identify the significance of functions and localities in a domestic setting. In this sense, ancient Romans gave importance to the disposition, design and organization of domestic spaces, and their execution in terms of form; because the spaces were not only designed to accommodate the assigned activity efficiently but also expected to display the owner’s social status, power and wealth to the outside. This was a culturally relevant phenomenon hence the domestic spaces positioned along the symmetrical axis running from the *fauces* through the atrium to the *peristyle* exhibit a common language of form. Such a symmetrical layout could help to organize the form-giving and space-defining elements within the house. An overview of how the Romans conceptualized and organized their daily routine in their houses and how form and space contributed to both processes is useful in understanding the Roman way of dwelling.

Studying domestic space which is one of the primary elements of human social environment as well as its formal attributes has become a more sophisticated research field in architecture in the recent years. The relationship between the social and the spatial worlds of a society and the inseparability of these two spheres are recognized as significant determinative facts in the architectural design of spaces. Both spheres as constituting a society’s cultural milieu are closely related to the politically, economically and culturally relevant dynamics in that society.[28]

Spatial studies contribute to the understanding of an architectural context by providing a broader social meaning. According to Laurence (1997), space is seen by modern geographers as a field of study in which all human actions take place;

[28] Laurence (1997).

moreover, space is shaped by social processes and reflects human activity that take place in it. A society's spatial practices within its domestic environment may include a multiplicity of elements that enrich the seeming uniformity of its architectural forms. Space can be seen as the setting for social life; by investigating the pattern of domestic space, we can investigate a key aspect of a society's cultural life.

Domestic space is conceptualized to show an appropriate balance between utility, luxury and display of status and wealth. Thus the social, political, economical and cultural messages reflected through domestic space cannot be separated from its practical and operational features. In this respect, in the Roman society in which the social roles were clearly defined the house was seen and conceptualized to reflect a matching opulence with respect to a man's social position.[29] A man of power, an aristocrat for example was expected to have reception rooms which were of a suitable standard and luxury for receiving high status guests.

Especially in such reception areas, it was possible to demonstrate the social position and power to the outsiders. The formal and spatial applications seen in the design of such rooms illustrate and clarify this position. The architectural language of form and space in some of the architecturally and socially prominent domestic spaces are worth examining in this context in order to understand the essence of the meaning and use of house in the ancient Roman case. The conceptual associations in reference to the function of these spaces in addition, illustrate the means how ''form'' and ''space'' in the ancient Roman domestic setting was articulated according to the culturally relevant and operative functional, formal and symbolic attributes.

The spaces under consideration in this chapter are:

- atrium (threshold- *liminal*, inside, visual, practical-operational)

[29] Vitruvius, VI.5.2

- garden (terminus, outside, visual, practical-operational)
- banqueting room (perforated enclosure, inside, visual, leisure-pleasure-wealth). (Fig. 4.1)

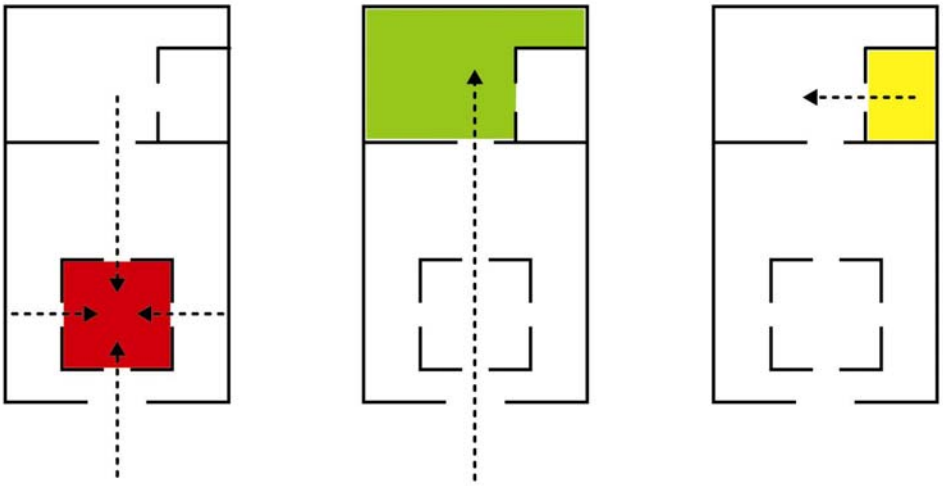


Figure 4.1 The Schematic View of the Atrium (Liminal), *Peristyle* (Terminus) and Banqueting Room (Perforated Enclosure) (Şeker Ilgın)

4.1 Atrium as a Porous Enclosure

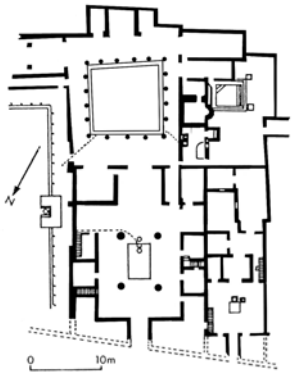
The early Roman house as mentioned before was developed around an inner courtyard called the atrium, mostly with a roof opening, *compluvium*. This was therefore not a totally open space to the sky. The atrium indeed was the basic core of Roman domestic architecture. It was developed in the Etruscan houses and also became a characteristic feature in the Roman houses seen in Italy. Although the atrium was not placed on the geometrical center of the plan or the house, its central role in accommodating the household activities and rituals and its close proximity to the surrounding spaces such as the garden and the *fauces* made it the operational center of the house.

The Roman architect Vitruvius classified the atrium under five categories: Tuscan, Corinthian, *tetrastyle*, *testudinate* and *displuviate*.[30] (Fig. 4.2) The beams stretching inward from the walls of the room supported the roof opening in the Tuscan atrium. The roof opening was supported by the columns at the angles of the *impluvium* in the *tetrastyle* atrium and by the columns all around the *impluvium* in the Corinthian atrium. There was however no roof opening in a *testudinate* atrium and this type of atrium allowed the upper storey rooms to be built over it. According to Ellis (2000) on the other hand, there were two main types of atria, *compluviate* or *displuviate*. The *compluviate* atria had a roof which sloped down towards the roof opening over the *impluvium*. This roof design helped to collect rainwater in the *impluvium*. The *displuviate* atrium, on the other hand, had a roof which sloped down outwards from the roof opening.

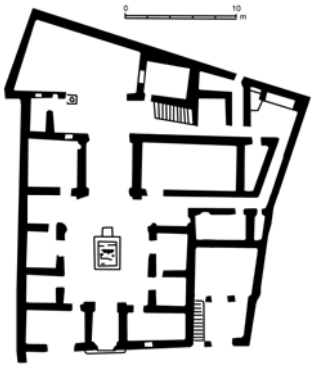
The façade composition of the Pompeian houses did not allow the atrium to become visible from the street as the façade facing the streets were often design as a continuous and unbroken wall. Rare window applications on this façade were small and usually placed above the eye level on the exterior to conceal the private enclosure behind and to create completely sheltered spaces from the outside world. Thus the street façade exhibited a monotonous character and the house mostly gained individuality when one entered inside. Hence, as a general design approach the house remained as a visually hidden setting from the public or the outside world, except as exposed from the street door in Roman domestic setting (Figs. 4.3, 4.4 and 4.5).

Columns were sometimes used in the portals of the Roman houses. The majority of the earlier houses in Pompeii had impressive portals flanked by half columns or pilasters, an architectural component possibly borrowed from public architecture in order to emphasize the publicness of the façade on which they were exposed. (Fig. 4.4)

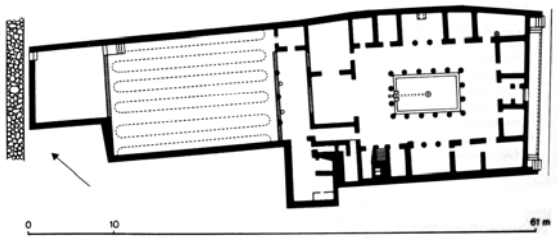
[30] Vitruvius, VI.3.1-2



House of the Silver Wedding
Illustrating the Tetrastyle Atrium
(adopted From McKay, 1998, 35)



House of the Surgeon
Illustrating the *Tuscanic* Atrium
(adopted from McKay, 1998, 37)



House of Epidius Rufus Illustrating the Corinthian Atrium
(adopted from Richardson, 1988, 112)

Figure 4.2 Examples of *Tetrastyle*, *Tuscanic* and *Corinthian* Atria.

Figure 4.3 The Façade of the House of Trebius Valens (Jashemski, 1993, 15)

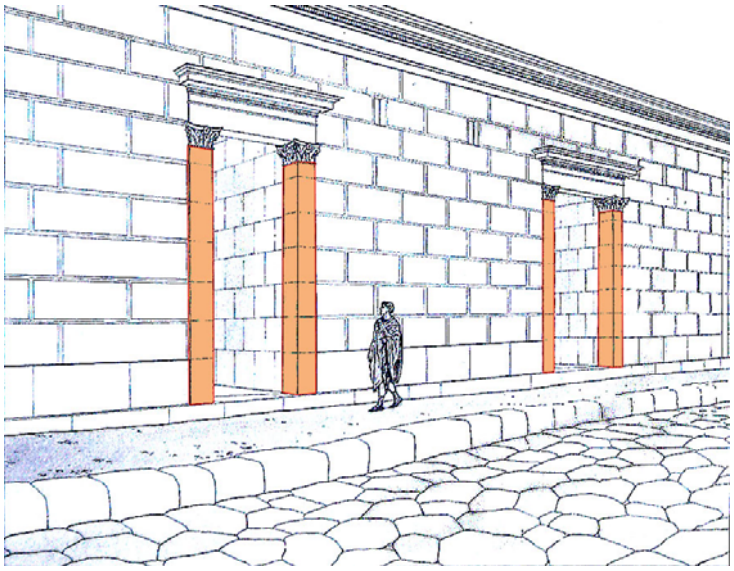


Figure 4.4 Reconstruction of a Street in Pompeii (adopted from Zanker, 1998, 35)

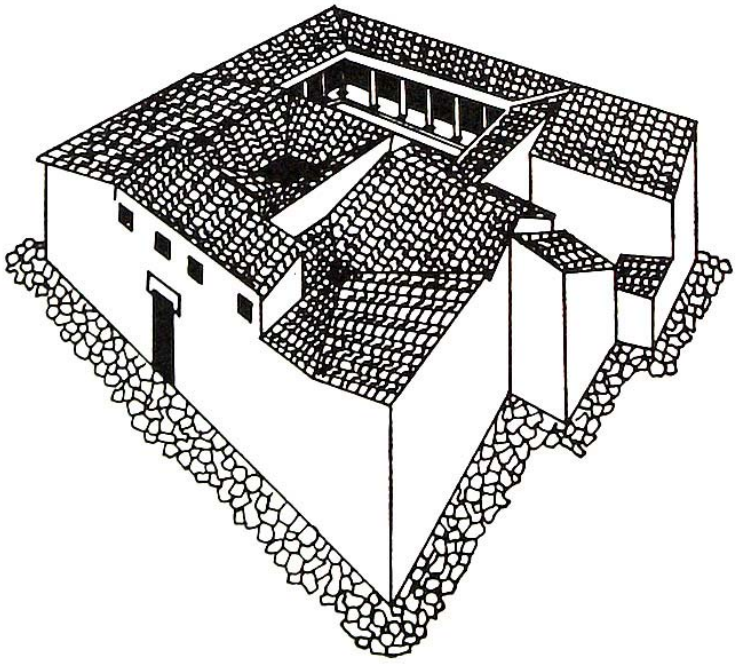


Figure 4.5 The Entrance Façade of the House of the Vettii (McKay, 1998, 57)

In the general architectural layout which is based on symmetrical and sequential arrangement, the atrium had a dominating location. (Figs. 3.4 and 3.5) The sequential arrangement of the house started from the *fauces*, passed through the atrium and *tablinum* and ended in the *peristyle* as a terminus point. The *fauces* represented the first spatial enclosure along the sequence of the Roman atrium house and could provide a direct relationship with the public outside by means of the street door.

The street door which often was the only opening at the entrance façade was designed to create a framed and symmetrical viewing axis towards the domestic spaces that laid beyond in relation to the outside: it created a sense of directionality from the entrance towards the atrium. (Fig. 3.3) The perception of enclosure in the *fauces* however could change depending on whether the street door was left open or closed. When the street door was left open it gained a transitional (transparent) character that offered an uninterrupted visual and physical connection to the outside. From here a person would see the atrium, the *tablinum* and even the *peristyle* framed by the *fauces'* floor, walls and ceiling. This transition/transparency was blocked when the street door was closed and hence the *fauces* turned into a semi-closed enclosure delimited by the two high walls on either side of the entryway.

The atrium was an enclosed space surrounded by walls punched with the doors of the surrounding rooms, the ceiling that had an opening and the floor which housed a shallow pool. Although it was enclosed from all sides both vertically and horizontally, the atrium could extend to the sky, the public outside (the street), the private outside (the garden) and the surrounding rooms in both visual and physical terms. Hence, it might be claimed that it was actually a porous space and being connected to various other spaces it inevitably became the operational center of the household activity.

The roof of an atrium (with an opening or not) could be supported by columns in which case they, as vertical design elements standing at the center of the house, enriched the quality of the spaciousness in the atrium. Foremost they framed the symmetrical and the sequential axis. (Figs. 2.11 and 2.12) The use of columns in the

private houses, especially in the *peristyles*, the atria and sometimes in the banqueting rooms was a proof of their significance in the articulation of prominent and most frequented domestic spaces. According to Wallace-Hadrill (1994, 20), the introduction of the column into the atrium house was an attempt to introduce public architecture into domestic space, and it was also the hallmark of private architecture. The column was a significant design element of the Greek architecture too; but the Romans used the column in different combinations in various buildings including their houses. The column, whether in an atrium, within a room or in a colonnade has the potential of marking out the space into which it was integrated as a prestigious one.

The atrium was a unique space in terms of its design. A number of compelling architectural elements such as the *compluvium* and *impluvium* emphasized the use of axial arrangement in the planning of the Roman house. In addition, a number of space-defining elements other than the columns distinguished the atrium as a unique space. These include the ancestral images and *lararium* which elevated the image and function of the atrium to a symbolic context as well.

The most characteristic opening in the Roman house was the *compluvium*, the opening at the center of the ceiling plane above the atrium. (Figs. 3.4 and 3.6) This was frequently used as a basic design element in the traditional Roman atrium house. As a significant amount of subtraction from the center of the ceiling plane, the *compluvium* evidently marked centrality. Together with the rectangular and shallow pool placed just underneath, it defined a center in the house as well as a vertical axis that connected the floor plane with the sky above.

Both visually and functionally, the *compluvium* was an undeniably dominant spatial and architectural design element. In functional terms, it can be defined as a roof opening which provided water, light and air to the atrium area. This opening was designed to funnel the rain water coming from the roof to in the *impluvium*. Most significantly, it provided day light to the almost closed and introverted house. In this respect, the atrium provided different sensual experiences of light both during the

day and also from one season to the other: the amount and intensity of light that entered from the *compluvium* changed in a continuous cycle.

Daylight entered the Roman atrium house from the *compluvium* in the ceiling plane and fell on the surfaces within the house, enlivened their colors, and articulated their textures. The penetrating sun-light created changing patterns of light and shade and hence enabled an ever-changing spatial atmosphere animated the space and articulated the perception of its form. The size of the opening controlled the amount of the penetrating daylight and its location affected the manner in which the light was diffused from the center to the peripheries.

The *impluvium* was another dominating space-defining element found beneath the *compluvium*. Visually and physically, it functioned together with the *compluvium* above it. (Fig. 3.6) This was also a functional element as it was used to collect the rainwater that drained from the *compluvium*. The *impluvium* was actually a depressed floor plane and created a focal point within the house for those who entered from the exterior. (Fig. 2.8) Its central role in the architectural layout of the atrium was understood from its being physically located on the symmetrical axis of the house. As such however, the *impluvium* prevented an axially continuous physical movement since it stood as a physical obstacle at the center of the atrium. The *impluvium,* standing at the center, directed the visitors and the physical movement to both sides, and by doing this it made them come closer and perceive the surfaces on either side where imagery was exposed and displayed in the form of wall paintings executed on wall surfaces, the vertical planes that enclosed the atrium. The *impluvium* also reflected the sun light coming from the *compluvium* into the space and hence provided a dynamic perception of the atrium.

The atrium furthermore was chosen as the space for displaying the ‘‘family archive’’ by the Roman households. The placement of the painted and waxed ancestral images, portraits, genealogies, and military trophies on the wall planes served to store and

exhibit the family history and glory.[31] (Fig. 4.6) Besides their symbolic attributes, these images functioned as the space-defining elements of the atrium. The empty volume, devoid of furniture except few possible items like a *lararium*, a table and a chest was actually defined by the surrounding surfaces themselves; the exhibited imagery in this respect helped to ‘‘furnish’’ the space and bring it forth as an articulated volume.[32]

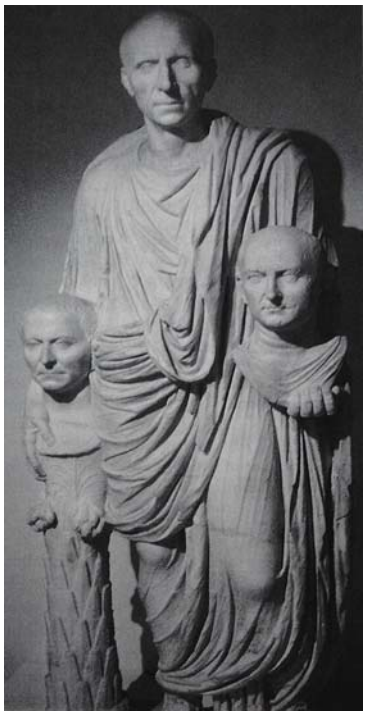


Figure 4.6 Possible Ancestral Busts (Kebric, 2005, 33)

The atrium was an ideal place for performing the rituals of domestic worship as well. The presence of many *lararia* found in the atrium houses points to the fact that

[31] See Flower (1996, 185-222) for ancestral display.

[32] It was customary to place furniture and some household accessories such as large chests containing valuable family belongings, cupboards and marble tables in the atria. These constituted the movable spatial accessories. Used for storing both luxury goods and articles of everyday use, cupboards and chests made of wood were the most common furnishing of typical Roman atria. George (1998) claims that most of the furnishing of the atria has not survived, and that information can be obtained mostly from the literary sources.

religious rituals were localized in specific areas. (Fig. 4.7) The atrium seems to have been one of the primary spaces for the performance of the domestic religious activities such as the family worship; it was the site of the shrine (*lararium*)[33] of both the ancestors and the tutelary gods of the family. As noted by Clarke (1991), the *paterfamilias* regularly prayed and offered sacrifices to the *lares* at the *lararium.* Whether in the shape of a niche, a separate altar or a wall painting, the *lararium* enhanced the spatial look of the atrium and added further symbolism to the house.

Figure 4.7 A *Lararium* at the Corner of an Atrium (Ling, 1996, 50)

[33] Foss (1997) claims that domestic shrines could also be found in the kitchens and food preparing and cooking areas.

The atria supported and organized the flow of the daily routine, thus it was a dynamic space in every sense.[34] It is apparent that the elements used to construct and adorn the atrium were placed to function in an integral mode to define and manifest the desired spatial configuration and perception of the architectural volume that made up the center of the house. The surfaces embraced a dynamically configured space that could respond to various culturally relevant rituals and private demands.

In order to achieve this, all the vertical and horizontal surfaces or planes such as the walls, the floor and the ceiling in the atrium were articulated in some way. Mosaic decorations and the *impluvium* for instance were examples of articulations done to the floor plane. Thus, examples of articulations include subtractions or depressions from planes, punching openings and color and texture applications. In this respect, all the vertical and horizontal surfaces or planes in the Roman domestic setting became the backbones for such spatial articulations.

4.2 Garden as a Terminus

The garden which furnished light and air and eased communication and connection to the rooms placed around it became the new focus of the Roman house after it was introduced during the 3rd century B.C. It can well be described as the new key element in the design of domestic architecture which changed the configuration of the house to a great extent. The garden indeed, from the earlier periods to the later ones, had always contributed to and modified the architectural articulation of the Roman house and became an essential component of the Roman way of dwelling.

[34] According to Clarke (1991, 16), the decoration in spaces like the atrium required quick recognition of simple patterns rather than complex ones which required prolonged attention such as those found in the banqueting rooms.

Hortus was the earliest type of garden in the Roman house and it may have derived from the Greek *hortos* which referred to an enclosure of cultivated greens.[35] A later development was the introduction of a *peristyle* garden, a colonnaded garden placed in the rear of the *tablinum*. (Figs. 1.3 and 1.4) It became a common feature to have a *peristyle* garden in the Roman houses from the 3rd century B.C. onwards, and an elegant and wealthy house might have had as many as three or four. The Romans started to embellish their gardens with colonnaded porticoes which were larger and more elaborate than the earlier *hortus*, or the back garden of the earlier Roman atrium houses, after they conquered the East in the Hellenistic period and met with Greek domestic culture. (Fig. 4.8) The houses built after the Roman expansion to the East reflected the influence of contemporary luxurious Hellenistic *peristyle* houses. They were built by adding the Hellenistic type of *peristyle* to the rear of the old Italic atrium. The expansion of the house by the addition of a *peristyle* garden or gardens was an important innovation, and the only restriction on its luxury was on the owner's purse.[36] The Roman *peristyle* which was imprinted onto the old *hortus* at the rear of the house however did not replace the atrium but became more favorable as a leisure space. According to Dwyer (1991), atria have been identified in many of the houses of the 2nd century A.D., but these became subordinate to the large *peristyles* which now formed the central element of the design. Thus, whilst many aristocrats were able to include *peristyles* in their houses by buying up the adjacent property, they often maintained the atrium in their original properties as well.

Creating visual vistas from the rooms situated around the *peristyle* gardens such as the reception and banqueting rooms, assumed significance in the design of domestic setting especially after the elaboration of the garden as a visually attractive and pleasure-giving spatial volume. The articulation of the house within a ''landscape'' and the views from the rooms were emphasized by the owners by using certain architectural elements and employing specific design principles. The architecture of the house was, in some cases, manipulated to create a through vista to the garden,

[35] See Farrar (1996) for more information about the architecture, landscaping, water features, ornamentation, and flora of the Roman gardens.

[36] Clarke (1991, 13).

which was often provided with a focal point. Privileged views were offered from the large reception rooms looking over the *peristyle*. These views could be arranged and framed by widened intercolumniations in order to create striking perspectives and visual vistas. Moreover, linearly composed design elements such as colonnades and openings of the reception rooms could be designed simultaneously to provide privileged viewing options for the visitors.

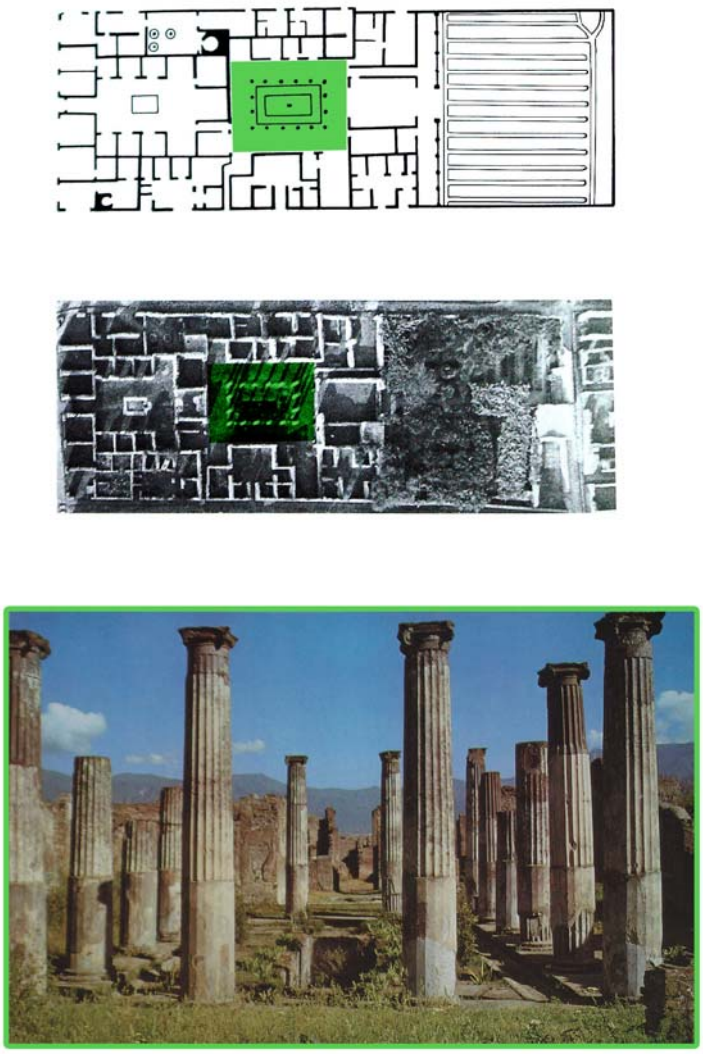


Figure 4.8 The *Peristyle* of the House of Pansa
(adopted from Jashemski, 1993, 18)

However, in spite of their similar architectural arrangement not all the Roman gardens were planned according to the same design principles and usage. In this respect, the Roman gardens can be classified under three categories: formal, commercial and mixed-use gardens. Some Roman houses had larger *peristyles* engaged in commercial production as understood from their vegetable plots and orchards, which enabled the owners to make money from their gardens. These could well have served also for the visual and ornamental taste of the household: Bergmann (2002) claims that vegetation in an economic sense played a key role in their design. In some other houses on the other hand, a formal garden could have been utilized also to produce food for household consumption as well as to serve the visual and decorative tastes of the homeowner. [37] *Peristyle* gardens were often planted to produce food, and a randomly planted scheme was not unusual even in formally designed gardens; thus there might not have been a careful and sharp segregation between the formal and the commercial ones.

In many Roman houses then, the newly arranged gardens were organized and located at the back side of the house, whenever possible on the main axis of the house in order to extend the view that started at the entryway. As such gardens often became the terminus point of the visual and physical access in the house. Although they could be different in size, design, function, planting and use of water, sculpture and furniture, gardens served to fulfill the need for the same symbolic attribute: a tamed nature taken inside the domestic sphere.

The *peristyles,* enclosed and surrounded with the linearly stretching colonnaded porticoes on two, three or four sides in a porous manner, were actually planted spaces completely open to the sky. (Fig. 4.9) The desire for a bit of green, perhaps with flowers, seems to have been a common Roman desire. Domestic *peristyles* were often designed with a formal arrangement of flowers, shrubs, trees, and low box hedges at their center. The garden space thus formed an area to walk in, and the sculptures and water elements like fountains created points of attraction to look at.

[37] See Lawson (1950) for more information about the formal and practical Roman gardens.

Those present in the adjoining rooms, or under the colonnades could have had a good visual glimpse of such assemblages. Such designed gardens became the new spatial foci that housed the rituals of leisure made possible by the wealth and taste of the owner.

Figure 4.9 The *Peristyle* of the House of the Vettii
(adopted from Carpiceci, 1977, 49)

Form-giving and space-defining articulations applied to the gardens gained increasing significance in this respect. Farrar (1996) states that, in the developed version of the Italic *peristyle* house the preferred form was a garden surrounded by four covered porticoes. This type became so fashionable that when the available space was insufficient, architecture and art were manipulated to imitate this ideal. In such cases one or two porticoes would be placed and the remaining, solid enclosing walls of the garden could be decorated with applied stucco or painted columns to complete a mock *peristyle*.

Making a small garden appear larger by painting a picture was a common practice at Campania. (Fig. 4.10) The modest inhabitants of towns in this region could have such images displayed in their gardens through the illusion created by the painter's brush effects. Indeed it seems very natural and charming to see the small size of a

modest garden enlarged perceptually by a garden painting. In such paintings, behind a low painted fence, flowering shrubs and trees could appear to have grown in profusion, and statues and fountains too large for the actual garden could be enjoyed. Many Roman gardens in the Campanian houses had huge paintings of almost life-size animals. But if the owner had greater aspirations he might have suggested to the painter to include in his garden's decoration not only fountains, trees, birds and flowers, but also lakes and streams set in a mountain landscape through which wild animals roamed in profusion. So this was a powerful way of utilizing the wall as a plane to make a spatial articulation.

Figure 4.10 The Garden Painting in the House of Sallust (Zanker, 1998, plate 11.2)

Although it remained as a rare application, the sunken garden was an example of a depressed floor arrangement in the Roman house. A sunken garden could serve as a transitional space between the two levels of a house. Such gardens were reached by a flight of stairs, and were usually surrounded by porticoes raised from the garden level. House of the Apollo is a good example for this type of sunken garden. [38] This house had two gardens, one was reached from the atrium but the bigger garden was reached from the first garden by passing through what used to be two rooms in

[38] See Zanker (1998, 156-158) for more information about the house.

between, and leading down to the garden which was enclosed by a kind of terrace on three sides by a few steps. This kind of a sunken garden created a different sense of design, space and physical atmosphere in the house by means of creating an extra volume, or of enriching the volume by increasing the vertical depth and perception.

4.2.1 Garden as Locus of Tamed Nature

Romans transformed the Greek *peristyle* into a garden when they adopted it to the atrium house. However, they did not leave the *peristyle* as a beaten clay court or paved it with cobblestones, cement or mosaics as was done in the Classical and Hellenistic houses. According to Jashemski (1979), the Romans transformed the *peristyle* courtyard into a living and breathing garden different from the paved courtyards found in the Hellenistic houses.

The garden was also a means of enlarging the house, and benefiting from the open area as a light well for the surrounding rooms. In addition the garden and its shady porticoes also provided extra living spaces where it was possible to benefit from fresh air and views. The *peristyles*, merging the paved Greek *peristyle* and the Italian *hortus*, represented an ‘‘exterior’’ brought into the ‘‘interior’’.

The *peristyle* which was adopted as a central inner garden was the tamed version of the wild nature. The Romans preferred to impose an order on nature, whether wild or domesticated, in their gardens. For the Romans, landscape was seen as a context to be civilized, decorated and enriched by architecture. The Roman gardens in this sense contained numerous architectural elements, and by looking at the manner in which they were disposed we can ascertain if they were sited in a random fashion, or as part of a particular architectural scheme within an ordered landscape. Pools, fountains, statues, garden furniture, fences, paths and planting tell us much about the spatial character of the Roman garden; which can be described as domesticated, enclosed and framed nature.

With the incorporation of architectural and decorative elements the garden in the Roman house became a space in its own right. The colonnades, pathways that were used for circulation or for leading to specific features or beds placed within the garden became form-giving elements and thus they gave the spatial volume a formal or a randomly created look.

Paths were utilized to create the image of a very well ordered outdoor space in the garden. As the garden was not considered only as a space for looking at but also for walking in, the paths were utilized to organize the human movement in a designed manner within the boundary of the garden. Paths often become visible in archeological excavations because of a change in soil texture and color and hence can be easily spotted. Alternatively where archeological circumstances allow, the direction of the paths can also be traced by the rows of holes spotted in the soil. The form of the cavities in turn can indicate whether fencing or hedging was present. The materials used to make the paths were dependent on the available local sources. Therefore paths consisting of loose or broken stones, sherds of pottery and tile, sand or gravel could all be seen. Paths created sub planes or surfaces on the ground surface and contributed to the perception and physical and visual movement and space division within the boundaries of the garden.

Surface-creating elements were used as form-defining applications in the Roman gardens. *Peristyle* gardens were usually bordered with high masonry walls which constitute the vertical boundary surfaces. These walls were functional in stopping unwanted intrusion as well. But the massive garden walls were usually treated as colored planes and were perceived not as bold masonry surfaces but as artistically articulated and colored planes. Decorative brickwork could be used for articulation in which case the material gave a different planar effect. Depressed surfaces were also prepared in the wall plane or surface for inserting the niches.

Among the other vertical boundary surfaces in the gardens were fences. A fence was sometimes inserted between the columns, at other times it was attached to the exterior surface of the columns, thus enclosing them in a continuous manner. (Fig.

4.11) In larger gardens fences were used to separate different zones, or to give a particular design to the garden. They helped to create the form-giving and space-defining divisions in the gardens as they created vertical sub planes or surfaces within the boundaries of the garden and defined the spatial articulation of the visual and physical movement.

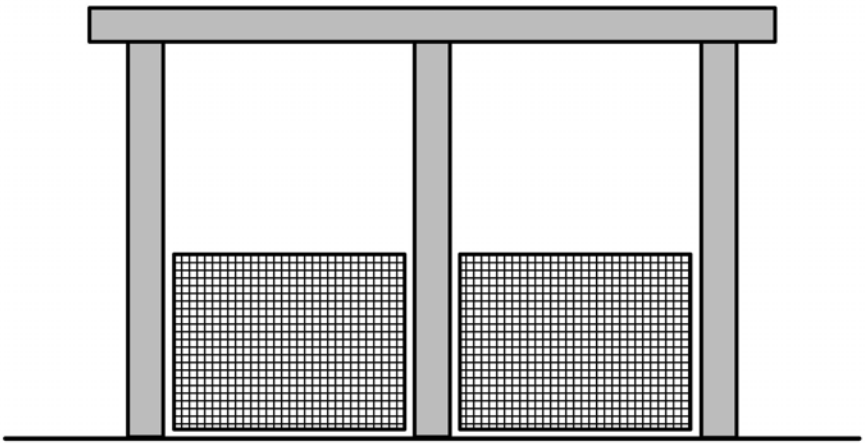


Figure 4.11 The Schematic View for the Fence and Column (Şeker Ilgın)

The introduction of an aqueduct to Pompeii during the time of Augustus and the more generous distribution and use of water that it made possible greatly altered the appearance of the Pompeian gardens; there happened a great change in the art of gardening. The use of water in the Roman house became a symbol of high social status or wealth. The house owners used fountains and pools as one of the key elements for displaying wealth and luxury[39], for the private supply of piped water to a house was costly and available only for a certain sector of the society. [40] The

[39] See Jones, R. and Robinson, D. (2005) for more information about water, wealth and social status at Pompeii in reference to a case study on the House of the Vestals dated to 1st century A.D.

[40] Water could be channeled from the distribution points and directed to the tanks or piped straight to the water features in the gardens (Jashemski 1993).

building of an aqueduct therefore elevated the running water as a luxury item.[41] Pools and fountains which added variety in terms of visual pleasure were introduced to many of the houses in Pompeii.

The pool in this context became a focal point that influenced garden design highlighting the wealth and status of the *peristyle* and the property; however it was by no means the central feature in every garden. Many houses had no pools; in some others the pool was subordinated or combined with other garden decorations. Depressed surfaces were prepared in the floor plane for inserting the pools. Most of the pools were smaller and shallower, and thus left more space in the garden for planting. With the availability of more water however it became fashionable to have fishponds and ornamental pools in the Roman garden design. Furthermore, Farrar (2000, 69) states that the inner surface of the ornamental pools was in some cases coated with a painted waterproof plaster and was painted blue to provide the perception of a healthy image and also a good reflection. Some pools display traces of painted fish and aquatic creatures swimming against a blue background, thus mimicking actual water sources and sea animals.

Fountains were the other common water accessories in the Roman gardens. The principal use of water in houses that had no private baths was to supply the pools and fountains in the gardens. Anderson (1990) states that most of the ornate fountains tended to be oriented towards the entrance from the street; they were built to be seen by the casual passerby and hence to make a social statement. Romans sometimes utilized the wall planes to make a background for the fountain assemblages in their gardens. During the last years of Pompeii showy mosaic fountains became popular. The gardens without fountains or pools indicated that they did not receive aqueduct water; in these cases, which constitute a large number, old-fashioned landscaping with planted trees that furnished fruit as well as shade continued to be the case. Extravagance however was clearly a feature of the day. For instance, a conspicuous waste of water would serve to show the unlimited wealth at the owner's disposal. A

[41] See Jashemski (1979) for more information about the water features in the Roman gardens.

tap could be used to regulate the flow of water and individual fountains could be switched on or off when required for show-off and display. Whatever the case was, piped water was an item of luxury and not simply a utility in the Roman houses; it was an expensive instrument, and used as a luxuriously prescribed decorative element.

Planting could tell much about the design approach in a garden, whether arranged in a formal sense or not. The limited but useful information about planting provided by ancient authors supports the archeological evidence and helps to reconstruct the general image of greenery in the *peristyles*. The Pompeian gardens mostly had evergreen plants and were primarily green year round. The heavy shade of the trees made the *peristyle* as well as the portico more comfortable during the hottest part of the day. These heavy shaded large trees were usually placed at the center or one at each corner of the *peristyle*. Farrar (1996, 41) states that the Romans of the Republican era and early Empire were essentially of a practical nature and therefore plants grown in a *hortus* were usually those which served a particular purpose. However; some planting designs were purely decorative and did not have any special benefit, other than providing a pleasing appearance. The formal and low plantings replaced the old shade trees at the later periods of Pompeii, and curtains started to become more popular for providing the desired shaded areas in the gardens.[42] It is also noteworthy to state that many old houses at Pompeii continued to have informal, old-fashioned planting until the city was destroyed in A.D. 79.

The formal garden designs had a more geometrical organization. Rows of trees, whether short or tall, functioned as the vertical design elements similar to columns. They might have been used to define the physical movement in the garden and occasionally to control the visual and symmetrical organization of the house. The planting also symbolized the difference between the introverted and extroverted spatial qualities. The *peristyle* garden had the aura of nature which is not seen in the other interior spaces.

[42] Jashemski (1993, 53).

According to Jashemski (1993), the earliest formal architectural garden design can be dated to the Augustan era. This coincides with the introduction of the aqueduct to Pompeii after which abundant water could be supplied to arrange formal gardens and enrich the planting schemes. Earlier, planting requiring minimum water must have been favored and for this purpose trees were a natural choice, for they needed water only until they had become well rooted in the ground. It is therefore possible to see that Roman *peristyle* gardens witnessed an evolution from the earlier freely planted schemes to the more formally and architecturally arranged ones. However, a change in the old and traditional planting habits would have been rather slow; it must have been difficult to cut down a tree which grew in many years and whose productivity was increasing with its age. Hence, the old type of modest gardens was retained in many houses.

A Roman garden would not be complete without some sculptural ornamentation. Archeological evidence has indicated that sculpture[43] in the Roman houses is often found in the open areas. (Fig. 4.9) The use of sculpture in large gardens is revealing in terms of decoration, show-off and spatial quality. Sculptures as status objects were placed in prominent places where, they could demonstrate the wealth of their owners. Statuary could be placed besides a water basin, where reflections could add to the allure of the scene. Garden statuary was normally of a smaller size; however scale depended on the size of the garden. It was often seen to be of a mass produced kind, and represented or linked to a particular divinity associated with gardens; some of the attributes of these deities were represented in the garden art as well. In the Roman world, the garden statuary was essentially connected to the subjects that could be seen at home in an outdoor context, the countryside, sea, fields or woodland.[44] Some

[43] Most of the sculpture was of white marble; bronze is occasionally found, even more rarely found is the colored marble (Jashemsi 1993, 35).

[44] Much of this sculpture, in terms of subject matter and style, showed Hellenistic influence; but occasionally the influence of archaic or classical Greek originals are also seen. See MacDougall and Jashemski (1987) for more information on garden sculpture.

sculptures had both religious and ornamental meanings.[45] Garden sculptures were ornamental items, and show the fact that the Romans were sensitive to beauty and form, and could appreciate the decorative aspects and sacred connotations of statuary in an architectural ensemble in the outdoor space as well. The garden assemblage was a necessary background to place sculptures. In a plain and empty *peristyle*, the perception of the sculpture would be fairly different.

Other types of space-defining accessories could adorn the *peristyles*. The sundial as a device of timekeeping in the ancient world for example was one such item. The garden as the source of sunlight was thus the ideal place to go and get the time of the day. The sundial however seems to have been a part of the standard furnishing in only the more elegant gardens; occasionally it could be found in the more modest ones. Pompeii is our best source for sundials, [46] for more have been found here than at any other ancient Greek or Roman city. The sundial was an open air accessory that could be used directly under the sun.

Another garden item frequently found in Pompeii was the lamp. The garden could actually be used both during the day and night. Thus activity in the garden did not cease when the sun went down. The coolness of the garden and its porticoes was more attractive than the hot and stuffy rooms on a warm summer evening and it was a common practice to have special provision for night lighting in several gardens to extend their use into late evenings. The little lamps found in large gardens would have been placed on garden tables or on portable lamp-stands or fitted into the small niches frequently found in gardens. Accessories such as lamps used for illumination were the significant design elements that contributed to the spatial organization of the *peristyle* during the night. It helped to extend the experience of nature in the darkness within the boundaries of the domestic setting.

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[45]The location of the altars in the gardens meant that some particular deities were being worshipped here. The Romans were superstitious, and liked to see the presence of their gods in many things and contexts (Farrar 1996, 29).

[46] Four different types of sundials were found in Pompeii: spherical, conical, and planar (horizontal and vertical). The favored design at Pompeii appears to have been the spherical ones (Jashemski 1993, 112).

Portable furniture, such as tables and couches, in addition were also placed in the gardens for occasions and provided comfort and extended usage for the visitors and family members. A stone or marble seat would especially be more durable for all year round outdoor use. The appearance of marble garden seats or benches might resemble an elongated version of the Greek thrones seen at theatres. Tables found in the gardens sometimes have their tops missing, for while the support was often of marble, stone or masonry, the top was occasionally made of wood. Tables associated with outdoor *triclinia* were generally in-situ fixtures and as such had masonry bases**.** Contrast to the in-situ spatial design elements such as the columns or pools, the portable design elements indicate that the *peristyles* were not always planned according to strict design rules. Some space-defining design elements such as the portable furniture could help to change the spatial organization of the garden. The placement of such furniture could frequently be changed by the home owner according to the purpose of the usage of the garden during the day or evening.

The pets completed the desired garden image which was conceptualized in relation to nature in the Roman world. The Roman garden was a formally arranged space, with ordered pathways, fences, pools, fountains, plantings, sculpture and garden furniture. Pets however were the live accessories and thus space-defining elements of the gardens. The movement of pets within the boundaries of the gardens could not be controlled as different from the other in-situ and architecturally ordered design elements in the gardens. Yet by bringing the formal design accessories and pets together, the Romans created a reflection of the wild nature within the boundaries of the house; the *peristyle* was the designed outdoor space which was domesticated and tamed by using specific elements.

A balance between the wild and tamed nature in the garden was taken as one of the principal architectural design criteria in the Roman domestic setting. It was achieved by manipulating the garden space with columns, walls and floors which were brought together to create a harmony among points, lines and planes as the architectural design elements.

4.3 Banqueting Room as an Enclosure

The consumption of food is essential to human survival. But the manner in which food is consumed and shared is a matter of cultural construction, and the result of a particular society's important judgment in its general understanding of human social relationships.[47] In the light of this, banqueting can be described as a social and cultural event and this was also the case in the Roman world. Dinners were family events but banqueting was usually considered as a public dining reception for entertaining friends, invited guests and business associates, during which *negotium* and *otium* (work and leisure in Latin) were both accomplished.[48]

In a broader sense, dining can be done in any place where people can eat. There is a large difference, however, between taking lunch alone in a random room, and eating formally with guests in a banqueting room.[49] The former is taking in food merely for sustenance; the latter is an institutionalized and ritualized group consumption which is much elaborated in the Roman domestic architecture. Hence, as the locus of the social consumption of food, time, *negotium* and *otium*, the banqueting rooms assumed a great significance in the Roman culture.

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[47] See Bradley (1998) for more information about the dining rituals in a social context.

[48] The role and participation of women and children in the Roman banquets is a matter of debate. Unlike the Greeks, women were not completely excluded from the banquets and female participation was known. Similarly, the participation of children was also an acceptable behavior. The distance between the children and the adult males were symbolized with their physical positioning at dinner was matched by a similar symbolic marking off wives from husbands. Traditionally wives did not recline at couches, but they sat like the children. In both literature and art, however, women are sometimes portrayed as reclining (Bradley, 1998). By the Late Republic, and throughout the Imperial Period, there is no doubt that the elite women could and did attend mixed banquets, and that they would recline when they did so (Dunbabin, 2003). However, the presence of wives and children at the banqueting organization was not a fixed convention (Bradley, 1998) Roman boys sometimes attended the banquets perhaps to learn the rules of acceptable adult deportment from simple observation or instructions from their fathers. The banqueting was indeed an event for which the child had to be prepared before full participation was possible. The arrangement and positioning of the diners' bodies at dinner gave physical expression to the asymmetrical institutional relationships between father and children, and husband and wife that typified the Roman society. When women and children participated to the banquets, they did so in a manner which made all the participants conscious of their relative standing in the familial hierarchy.

[49] Bradley (1998).

How the Romans started to organize the banquets in a formal manner in the earlier periods is a key question to understand its meaning and spread in the Imperial era. The banquet as a gathering of friends seen as equals was an important social ritual in the Roman world but it was practiced for different audiences as well.[50]

In Rome, the practice of reclining to dine spread vertically through society, so that a custom originally aristocratic was in time imitated by lower social groups. The owners of the Roman houses saw banqueting as their most important social activity at all times. The banqueting became an aspect of the competition for public recognition, a spectacular display of authority and power. The group consumption of food created a social solidarity and cultural bond among the citizens. The banqueting organizations for a group stressed the significance of eating in a social context over the individual consumption in a random room.

At the huge public banquets offered to the populace by the aspiring politicians which played a major role in the political life of the late Republic from the 2nd century B.C. onwards, and which were developed on an even larger scale subsequently by the emperors, we hear of couches and *triclinia* spread in public places for vast numbers; doubtless the opportunity to recline and be served was regarded as a valued part of the benefaction. The banqueting organizations became much more elaborate in the Imperial Period and the Imperial banquets created a newly designed consumption and entertainment ceremony. Banqueting started to be organized in a more luxurious and conspicuous way. Reclining never lost the connotations of status and luxury, the mark of a privileged order of society and of behavior which must be learned and practiced. According to Dunbabin (2003, 13), it was undoubtedly adopted widely throughout the Roman Empire, in regions where such behavior was previously unknown, by members of the local elite eager to display their rapid acculturation.

[50] According to Garnsey (1999, 137), there were three kinds of banquets. The first one was the client dinner. Here the social inferiors were entertained, social barriers were lowered and normal social conventions relaxed. The second was the protégé dinner. A prospective recruit into the governing class was brought as a dinner guest, perhaps by a fellow townsman who had made well, in order to meet the prospectus important person as a way of aiding his adoption into the aristocracy. This was a regular practice in a socially mobile society such as Rome was. The third was the peer group dinner; this dinner brought together the social equals and it had a political focus.

The social composition of banqueting rooms and guests, the style of furnishing, the presentation of art and decor, the setting of the banqueting room, the subjects of the conversation and the nature of the entertainment show the greatest concentration of interest on banquets in the Roman Empire. Social, cultural and economical significance of banqueting and banqueting rooms were stressed by the arranged viewing opportunities and their spatial and social scope as well.[51]

Because of its social and cultural significance that was strengthened and reflected by its architectural design, the banqueting room, or the *triclinium* became one of the primary domestic spaces in terms of manifesting the personal and financial statement of the home owner and impressing his guests with the luxury of its setting. The simple early form of the Roman *triclinium*, conceived as a separate room set aside for banqueting, showed a standard design in the houses of the 1st centuries BC and AD., and the rectilinear *triclinia* continued to be the predominant form in Italy, well into the 3rd century A.D. However, the origins and the introduction of this typical Roman banqueting room are more obscure, like the question of how Roman convivial practice evolved in the early and mid Republic.[52]

In the Republican period, the *triclinium* normally laid off the side of the atrium close to the *tablinum*, often at the corner of the house. Under the Empire this room became one of the most emphasized in the house and started to be found in the prestigious rear gardens, *peristyles*. They were usually enclosed by solid surfaces with an opening in the form of a wide doorway at their entrance façades. They sometimes had openings in the form of windows placed high from the floor level, so that the banqueting room did not lose the quality of being an enclosed space even with an opening; in such cases however the room can be defined as a ‘‘perforated enclosure’’.

[51] See Bek (1983) for more information about the Imperial banquets.

[52]Dunbabin (2003, 46); it is originally cited by Friezes, Dentzer (1982, 230-40).

Banqueting rooms can be clearly identified by their architectural form and decoration. The primary attribute of a banqueting room was a set of dining couches, each holding three diners in comfort in a reclined position.[53] Hence the banqueting rooms were called *triclinium*, a Greek word derived from the traditional three couches (*klinai*) on which the diners reclined. According to Bek (1983), this mode of reclining on three couches during the meal had superseded the older Italic habit of sitting at table in the 3rd and 2nd centuries B.C., as a result of Greek influence.

The couches were placed along the three sides of the banqueting room; an arrangement set in the form of the Greek letter Π. (Figs. 4.12 and 4.13) They were closely fitted together around a single central table, which could be round or rectangular, and the table was close enough for all to reach. One side of the banqueting room was left free to provide enough space for service and entertainment and also for the entryway. The banqueting rooms were usually long and narrow; Vitruvius specifies the proportion of this U-shaped space as: ‘‘…Dining rooms ought to be twice as long as they are wide…’’. [54]

In contrast to the *peristyles* and atria on the other hand, the spatial and architectural design of the banqueting rooms changed throughout the Roman Empire. In the later centuries of the Empire, the basic *triclinium* layout continued to be used in both domestic and public contexts. But a significant difference from the Pompeian banqueting rooms was the scale. Although the late Imperial banqueting rooms were still laid out for three continuous couches, they were no longer designed to offer

[53] In the Roman *triclinia*, a strict etiquette surrounded the ceremony of the banquet, beginning with an invitation that assigned the guest his or her place at the table, and thereby the person’s rank and status at the event. (Clarke 1991) As it is mentioned, there was space for nine people on three *klinai*, placed in a U-shaped order along the back and side walls of the dining room. According to Dunbabin (2003), each couch had a name which indicated its position in the room. Looking into the room from its entry, the couch on the right was the *summus*, that against the back wall the *medius*, and the one to the left the *imus*. Also there were three places on each couch numbered in turn, and strict rules of precedence dictated the positions of the guests. But the hierarchy of the seating, the emphasis on positions of honor and the order of precedence, created a very different atmosphere right at the beginning of a banqueting. What the arrangement really encouraged was networking, the complex exchanges of favors and obligations that was so basic to the Roman social structure.

[54] Vitruvius, VI.5

space for a maximum of nine guests, with a central table within the reach of all. The notion that the ideal banqueting was composed of no more than nine guests was clearly abandoned.[55] Following the changes in size and design, the new banqueting room of the later times also necessitated a change in the method of serving as well. The central space now became too wide and long for a single table; either the servants must have brought small individual tables to each guest, or a ledge must have run along the front of the couches, corresponding to the border on the mosaic here.

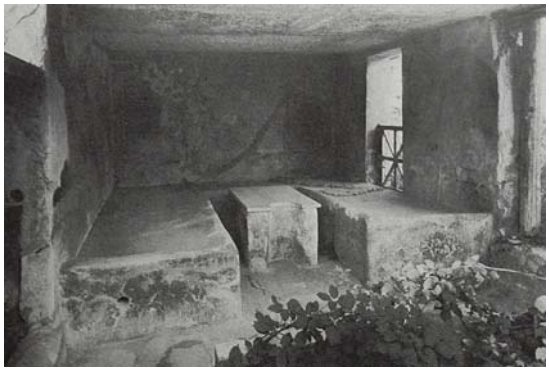


Figure 4.12 The *Triclinium* of the House of the Moralist (McKay, 1998, figure 55)

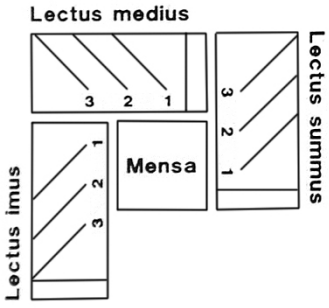


Figure 4.13 The Diagram of Showing the Seating Arrangement in a Typical Roman Banqueting Room (Clarke, 2007, 116)

[55] See Dunbabin (1991) and (2003) for more information on the spatial developments of the Roman banqueting rooms.

Between the 1st and 4th centuries A.D., many profound social changes had taken place, among them the rise of provincial aristocrats.[56] In the late Imperial domestic architecture, an important architectural development was the widespread use of the apsidal banqueting rooms which had a semicircular dining couch, the *stibadium* and the semicircular marble table, the *sigma*. Hence, the apse, a new planar design element was introduced and adopted to the Roman domestic setting. The shape of the *stibadium* lent itself to the form of the apse and so the formal banqueting room evolved as a combination of an apsidal end and a rectangular or square hall in front. (Fig. 4.14) The semicircular couch could only hold a small numbers of diners- between 5 and 8- while the traditional combination of three rectangular couches could accommodate perhaps as many as 18 or 20 quests. The substitution of three semicircular couches for three rectangular couches gave the room the shape of a *triconch*, a room with three apses, each providing space for a *stibadium*. (Figs. 4.14 and 4.15)

In the late Republic and early Empire, it was not at all uncommon for a house to have more than one banqueting room, and the richer houses frequently had more than one, scattered according to appropriate locations suitable to be used in different seasons, for different occasions, or simply to provide variety: there was no one typical location. However, the placement of a banqueting room in an open space such as an atrium or *peristyle* may have been as important as the direction it faced, determining its seasonal role. In some early atrium houses, two banqueting rooms flanked the *tablinum* at the back of the atrium. The winter banqueting room faced back onto the atrium, largely sheltered from the cold weather. The summer banqueting room on the other hand faced onto the *hortus* or *peristyle* at the back of the house through a broad doorway or window. As the atrium-*peristyle* house developed, banqueting rooms came to be placed more around the *peristyle*, taking advantage of the light or breezes, especially in the summer. Because the more enclosed atrium offered more protection

[56] See Ellis (1991) and Polci (2003), for more information about the general layout of the Roman banqueting rooms throughout the Late Empire. See also Çonkır (2005), for more information about the architectural changes of the banqueting rooms in the domestic architecture of late antique Anatolia.

against the weather than did gardens, the banqueting rooms that faced onto the atrium may have been reserved for winter use.

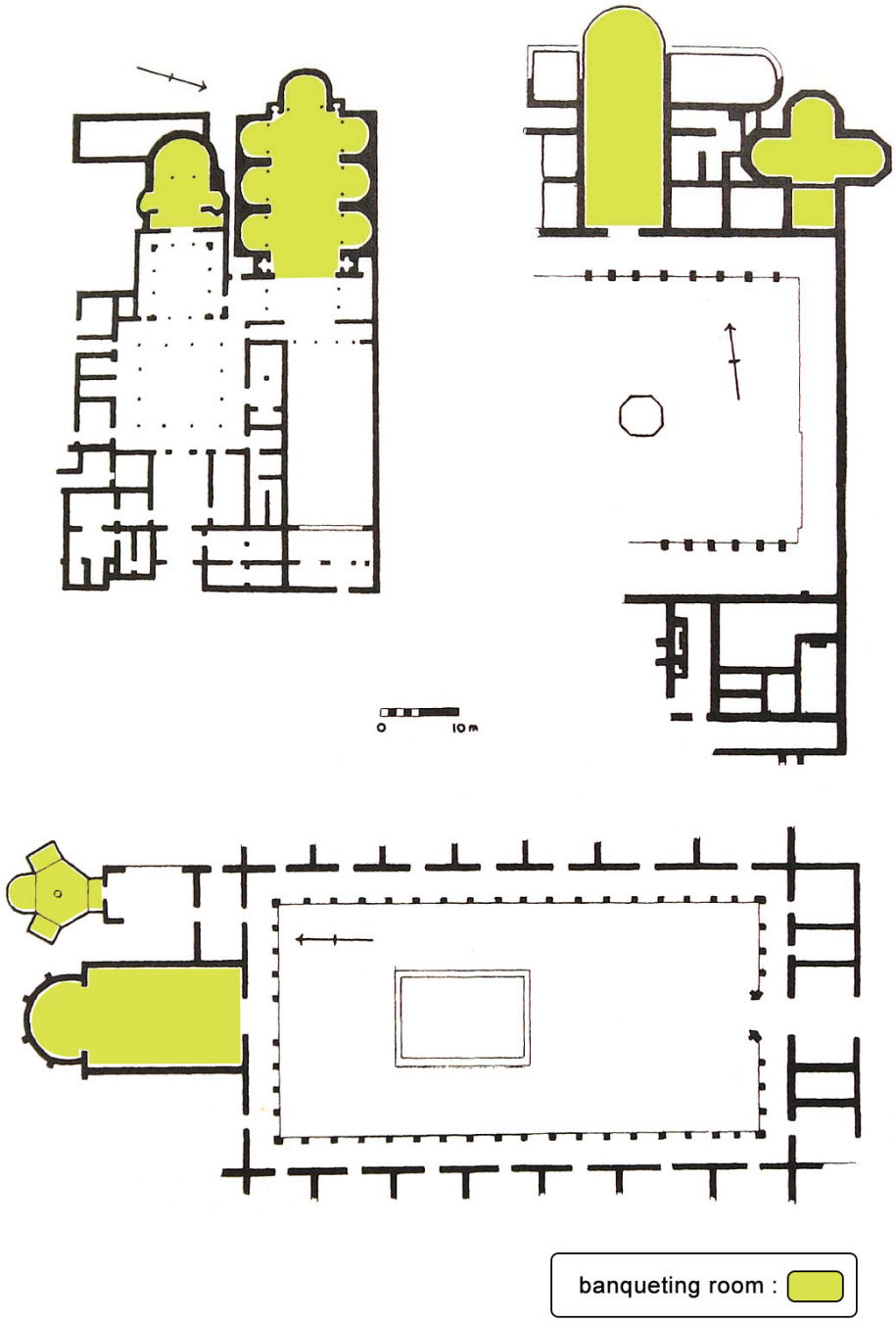
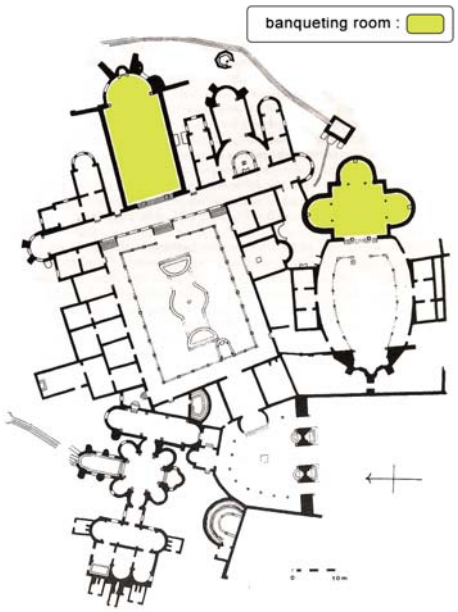
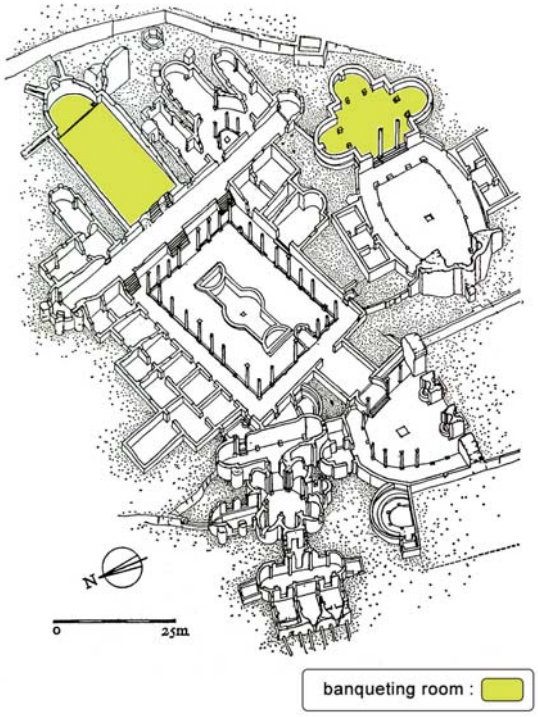


Figure 4.14 Plans of Some Apsidal Banqueting Rooms
(adopted from Ellis, 2000, 173)



(adopted from Ellis, 2000, 162)



(adopted from McKay, 1998, 134)

Figure 4.15 The Roman Villa Called Piazza Armerina

The positioning of the banqueting rooms for winter use which was a locality often exposed to the afternoon sun was a common architectural design choice in Roman domestic architecture. Sometimes what was obviously a summer banqueting room was not placed inside the house at all; it could be placed in the garden with a fountain in front, and sheltered by a pergola or pavilion in order to provide shade from the sun. A common feature at Pompeii was the garden *triclinia* used for outdoor or semi-outdoor banqueting in summer. (Figs. 2.2 and 3.8) In this type, there were masonry couches, with fittings similar to those found in the indoor *triclinia*, though the traces survived also indicate the use of wooden ones according to the excavations of Jashemski in the gardens and vineyards of Pompeii.[57]

The Romans designed and put into order different kinds of spatial organizations in their houses. The space was generally imagined as a sheltered volume which contained activities and objects enclosed by the vertical and horizontal planes or surfaces. However open and transitional organizations that served to create alternative spatial designs as in the case of the courtyards and pergolas for summer banquets were also frequently employed in the planning of the private context.

Decoration was a significant spatial design element in the Roman banqueting rooms as well. Ellis (1991) claims that the largest and most richly decorated room in the Roman house was opposite the entrance, on the far side of the *peristyle*. The rich décor and large size of this room led the scholars to assume that the room called *triclinium* in the ancient literature and where the home owner received guests whom he would have wanted to impress corresponded to this large and lavishly decorated room. Here too, as in the other parts of the house, surfaces were utilized to accommodate decorative ensembles and texture and color were used as the primary media to articulate them.

The mosaic pavements showed differences in their schematic display due to their placement in the traditional *triclinium* as being underneath the beds or at the central

[57] See Jashemski (1979), (1987), (1993), (2002).

open space. The position of the dining couches was often marked by a change in the mosaic pattern on the floor. The mosaic floors of some of the *triclinia* had plain or geometric panels on which the dining couches would have been set and more emblematic panels and elaborate motifs were at the center where the diners could see them. Both the mosaic decoration and the frescoes often distinguished the forepart of the room used for the reception of the guests, service, and entertainment and the lower part of the couches clearly. [58] The planar differentiation employed in the mosaic pavements of the *triclinium* suggest the function and use within the enclosure and organized the spatial behavior and movement in visual and physical terms.

The use of column as a significant form-giving and space-articulating design element could change the architectural atmosphere of the Roman banqueting rooms. (Figs. 2.15 and 2.16) The columns could be placed inside the room, in front of the walls and at the entrance of the banqueting rooms. The column by displaying an ‘‘impressive’’ image made the banqueting room, like those found in the atria and *peristyles*, assumed a public grandeur and prestige among the other rooms in the *domus*.

Wallace-Hadrill (1994) claims that the architectural quality of the larger domestic spaces such as *tablina* and banqueting rooms received a public character with the use of columns in these spaces which made reference to civic buildings. The adoption of the columns in the atria as well as in the reception rooms such as the *oecus* in the House of the Silver Wedding and the Corinthian *oecus* in the House of the Labyrinth suggest a desire to recall the architectural language of civic buildings in private spaces. Indeed, according to Hales (2003), every ritual that took place in the domestic space represented the significance of the civic import, apparently played out in a public locus. The adoption of the form-giving elements from public architecture such as columns reminded the viewer of the civic implications of rituals and also the civic role of the host.

[58] See Dunbabin (2003), for detailed information on the mosaic decorations in the Roman banqueting rooms.

The banqueting rooms had a unique character due to their space-defining elements. Movable furniture such as tables and couches help to understand the spatial look of the banqueting rooms. The movable couches often of wood or bronze that were most commonly used, especially in the more luxurious settings have seldom survived, but the cuttings in the walls occasionally help to specify their location precisely within the banqueting rooms. The rooms with permanent masonry couches found fairly frequently at Pompeii are more informative and sometimes, the low plinths can also show where the couches were placed.

4.3.1 The Viewing Systems

The organization of privileged viewing systems from the positions of the guests arranged according to their social rank and hierarchy was a commonly employed spatial design principle in the Roman banqueting rooms of the Imperial period. Following her survey of rooms used for banqueting in Pompeii and Herculaneum, Bek (1983) suggests that the view out from the rear left-side was a favored one. From there one could appreciate best the planned views of the space-defining elements of the garden such as fountains, statuary and the garden itself which was framed by symmetrically arranged window and door frames, columns and pillars.

The main concern in the planning was the view from inside and not the other way round; the widening of the entryway connecting the *triclinium* with the *peristyle* visually and the subsequent increase of the inter-columniation between the columns of the portico seen through this opening indicated that visual extensions into the *peristyle* were preferred practices.[59]

The view from the banqueting room was an expectation of the Roman banqueters. The organization of this view from the banqueting rooms towards the garden was as important as a design principle as the choice of the architectural location of the

[59] See Çinici (2006) for a discussion on the viewing systems in Roman domestic architecture.

banqueting rooms in the Roman house. Like the dominant axial arrangement, the dynamic spatial quality and the visual axis in the planning of the house (*fauces-atrium-tablinum*), the planned views out of static spaces also employed a sequence of frames and visual symmetry. But unlike the *fauces-atrium-tablinum* sequence, this view was not strictly axial, it was oblique. [60] (Figs. 4.16 and 4.17) According to Çinici (2006), after the embellishment of the houses with *peristyles*, other axes were introduced as secondary viewing directions. The domestic rituals that took place in the rooms situated around the *peristyle* required a different type of visual planning from that of the entrance sequence. Whereas the *fauces-atrium-tablinum* axis and the walk around the *peristyle* addressed the walking spectator, the *triclinia* were among the places one rested and looked out from his or her place on a couch.

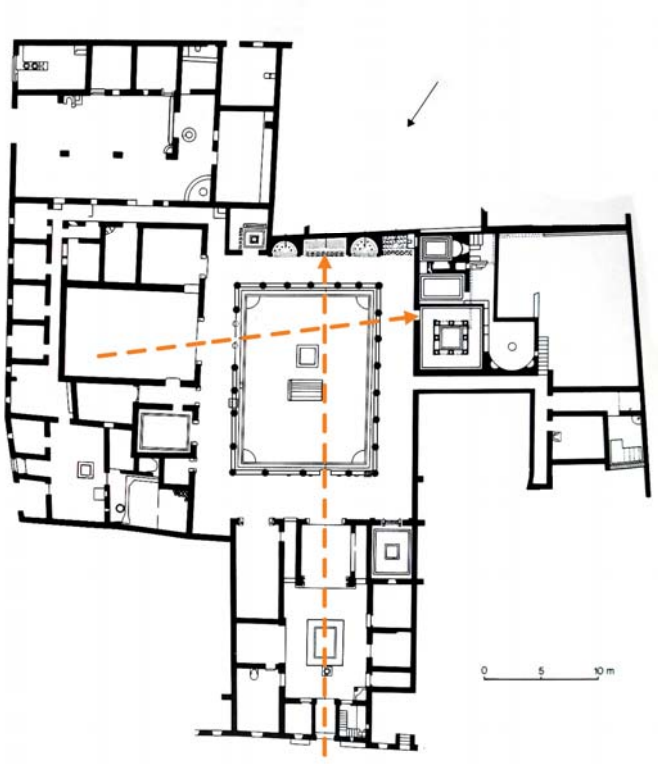


Figure 4.16 The Plan of the House of the Menander (adopted from Clarke, 1991, 15)

[60] See Clarke (1991, 17) for the axial arrangement of the Roman houses.

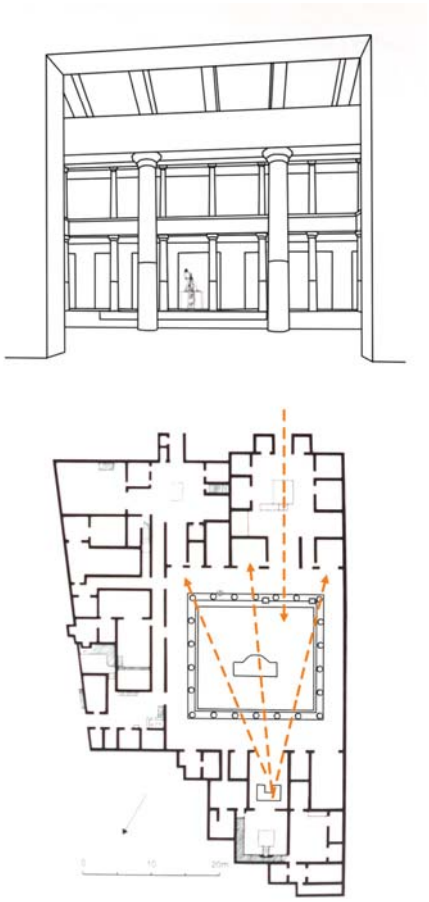


Figure 4.17 The Plan of the House of the Centenary (adopted from Clarke, 1991, 18)

Windows could be found in the Roman houses in rooms which had a visual relation with the *peristyle*. Windows which were found above eye level were often placed on the facades which indicates that such windows did not aim to establish a visual connection between the house and what is beyond. The Roman banqueting rooms in this sense were privileged enclosures that had openings for viewing into designed vistas towards the *peristyles* or atria. The *peristyles* and the banqueting rooms spatially and visually interacted to create distinguished views across the house for the dinner guests. The visual relationship between these two spaces was provided by large openings on the exterior facades of the banqueting rooms in the form of wide doorways or windows. In the later examples, clerestory windows or windows placed

high from the floor level were added to the banqueting rooms to make the enclosure receive more day light.

Roman aristocrats expected to capture a view from their reception rooms and this meant that, for example, a villa should have been sited within a picturesque countryside. In this sense, extending views over nature, landscape and sea in areas such as the Bay of Naples was also in operation in situating the banqueting rooms in the houses.[61] The views to the sea, forests or mountains were framed by large windows and folding doors that presented slightly different panoramas to each banqueting participant reclined in his assigned position. Views over the sea by large windows were ideal and views over estates were equally acceptable. In the cities as well, viewing was a desired situation and the *peristyle* and the banqueting rooms were placed in direct relation to create similar pleasing views for the dinner guests. The elaboration of the banqueting room exhibited the skills and the imagination of a man's intervention into his environment. The House of the Moralist for instance had reception rooms with large windows overlooking the garden. In this house, the owner wanted to offer his guests views of real trees, like those that embellished the views from a villa.

Equally important to the capture and presentation of the natural environment was the process of melting the artificial and the natural into a well organized backdrop for the meal. Wealthy Romans artificially created natural landscapes for their urban banqueting rooms, using the space defining elements in the *peristyles* such as statuary, fountains, trees and flowers as substitutes for natural topography, bodies of water and forests. The large banqueting rooms looking over the *peristyle* often enjoyed the privileged viewing systems capturing these elements. According to Clarke (1991), room orientations were adjusted, intercolumniations were re-aligned, and major art works were specifically sited to organize the views and to receive the attention of the spectator.

[61] See Ellis (2000) for more information about the viewing systems in the Roman villas.

A banqueting room's aura involved not only the view at hand, but also the degree of light and heat which the room received according to the season and the path of the sun. The principal means of regulating heat and light in a banqueting room without the aid of portable heaters were windows and doors. Vitruvius provides us with the most detailed information about seasonal architecture. His concern is mostly on the available light sources:

> …These are outstandingly useful for winter chambers because their high *compluvia* do not obstruct the windows of the *triclinia*... [62]

> …Now then, there is the greatest need of light in *triclinia* and other chambers …

The banqueting room was an enclosed U-shaped space and all its form-giving and space-articulating design elements were arranged to make it have both an inward focus and an outward orientation. The three flat vertical wall planes and the horizontal floor and ceiling planes enclosed the space from every one of its six sides and hence directed the visual interest deep into the *peristyle* garden. The enclosed volume shared its inward spatial organization with the tamed nature.

This chapter of the study focused on the atrium, the garden and the banqueting room which exhibit a variety in terms of their formal and spatial applications in the architectural design of the Roman atrium house. The architectural language of form and space in such recurring domestic spaces is examined in order to understand the essence of the meaning and use of the domestic setting. The next chapter will discuss a number of Roman atrium houses by comparing and contrasting them for their architectural design language. It will mostly base on the form-giving and space-articulating design elements of the recurring domestic spaces such as the atrium, garden and banqueting room by highlighting their innovative schemes and patterns.

[62] Vitruvius, VI 3.2

CHAPTER 5

‘‘FORM’’ AND ‘‘SPACE’’ IN THE ROMAN ATRIUM HOUSES

Points, lines and planes as form-giving and space-defining design elements found their equivalents in the Roman domestic architecture as columns, walls, floors, ceilings and openings. These elements however were used in different architectural compositions. Examining a number of Roman houses in a comparative reading, based on their form-giving and space-defining applications and interpretations in terms of their architectural composition is helpful in comprehending these design elements which were used in the Roman domestic architecture.

The House of Loreius Tiburtinius, the House of Meleager, the House of Apollo, and the House of the Anchor are in this respect chosen as an illustrative sample. These houses differ in size and architectural layout and thus are chosen for constituting a good comparative group to demonstrate the variety in the design of atrium house.

Although these houses were designed in the traditional atrium plan which is symmetrical and sequential, the spatial articulations they received made them different from many of the atrium houses in Pompeii. The House of Loreius Tiburtinius with its huge and formally organized garden which was a majestic court, the House of Meleager, with the duality of its centers which broke the traditional sequential axis of the house, the House of Apollo with its sunken garden which was a major depressed volume and the House of the Anchor with its two-storey *peristyle* garden which was a vertically expanding volume were in this respect unique examples. They illustrate how atrium houses could actually be articulated by executing different spatial alternatives without losing the essence of the original spatial quality of the atrium house.

5.1 The House of Loreius Tiburtinius and the Majesty of the Garden

The House of Loreius Tiburtinius, located at Region II.ii in Pompeii is an example of the domestic architecture of the late Pompeian taste which reflects how an ordinary Roman atrium house was transformed into a miniature urban villa. (Fig. 5.1) The house had an atrium and two gardens, one being a majestic court. It is especially popular for its huge and elaborate garden. The design of the garden displays the creativity and innovative flexibility of its architect who brought together various form-giving and space-defining elements for making an impressive outdoor ensemble. (Fig. 5.2)

Similar to many houses in Pompeii, the house was built around a rectangular atrium with many small rooms around. The principal opening to the exterior world was the street door; this subtraction from the wall plane was actually a monumental portal. (Figs. 5.3 and 5.4) The main entrance was directly located on the axial arrangement of the house connecting the *fauces* with the *peristyle* garden. (Fig. 5.5) The house had an easily controlled entrance; the *fauces* leading from the exterior to the interior was flanked, as in most traditional atrium houses by two flat walls as the vertical planes on its longer sides, an entrance door on one of its shortest sides and a totally open surface where it met the atrium on the remaining side. The *fauces* of the house as typical was a long, narrow and high corridor. Near the entrance door that opened to the street were also two shops.

The house had a planned view along the central and sequential axis. This view was easily recognizable when the street door was open. Although the *fauces* was a long and narrow space which distanced the outsider from the private enclosure beyond, it did not restrict the visual connection of the outsider to the more deeper regions in the house. The contradiction between the physical and visual accessibility of Roman domestic setting can easily be read in the architectural planning of the House of Loreius Tiburtinius.

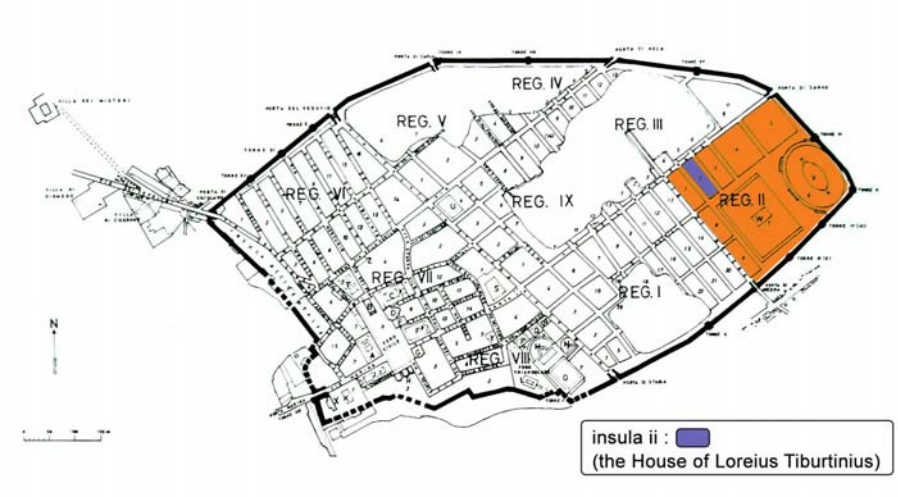


Figure 5.1 The City Plan of Pompeii, Region II, *Insula* ii
(adopted from Jashemski, 1993, 75)

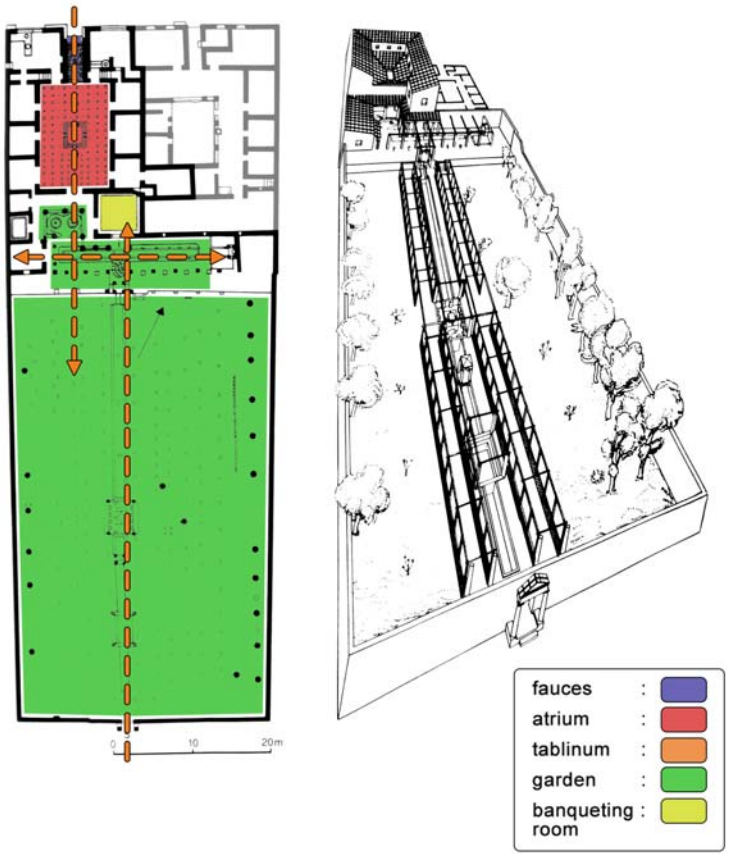


Figure 5.2 The House of Loreius, Tiburtinius, II, ii
(adopted from Clarke, 1991, 195)

Figure 5.3 The Entrance Façade of the House of Loreius Tiburtinius (Carpiceci, 1977, 85)

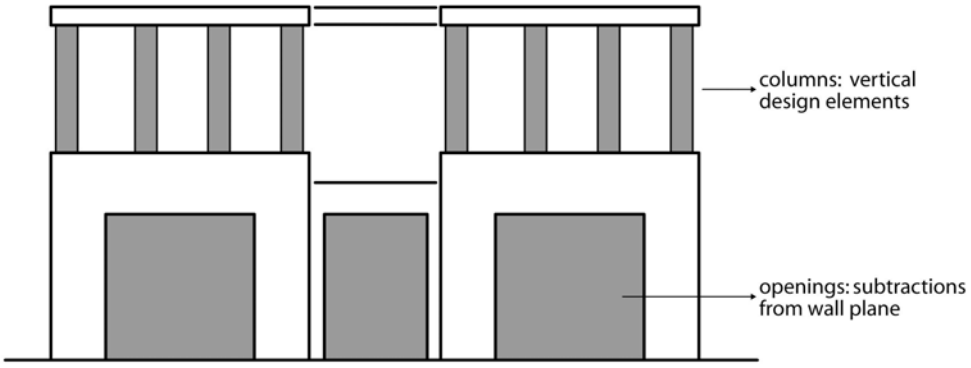


Figure 5.4 The Abstraction of the House of Loreius Tiburtinius (Şeker Ilgın)

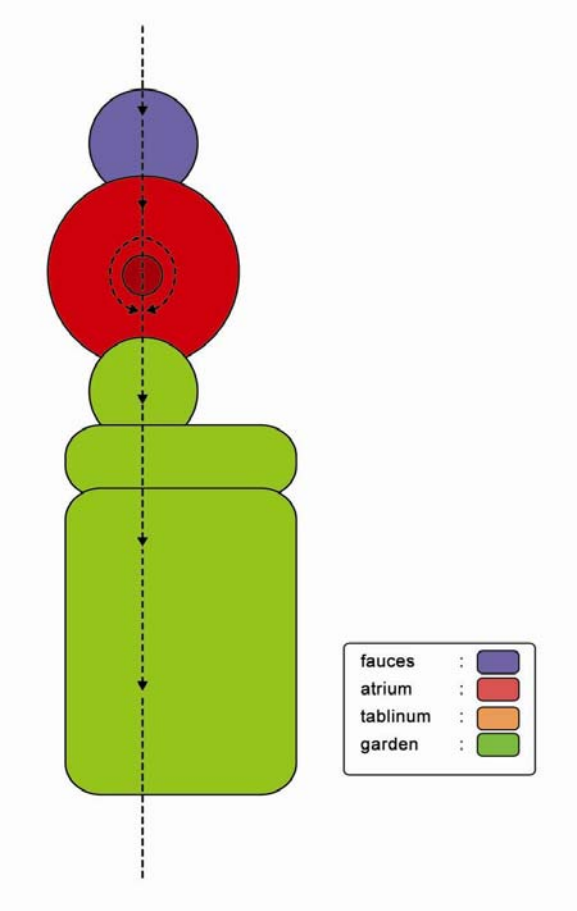


Figure 5.5 The Diagram of the Spatial Organization of the House of Loreius Tiburtinius (Şeker Ilgın)

Passing through the *fauces*, the visitors met with the Tuscan atrium in which the roof opening was supported by the beams stretching out from the walls of the rooms. (Fig. 5.6) The atrium was a rectangular, interior and central courtyard surrounded from all of its sides vertically and horizontally by the walls of the rooms, their door openings, the ceiling and the roof opening, the *compluvium*, the floor and the shallow pool, the *impluvium*. Despite the roof opening, the atrium was not a totally open space.

The house was not planned to have or perhaps modified not to have the traditional *tablinum* which was normally located opposite the *fauces* in the Roman houses. Thus there was a direct relation between the atrium and the small *peristyle* garden in both physical and visual terms.

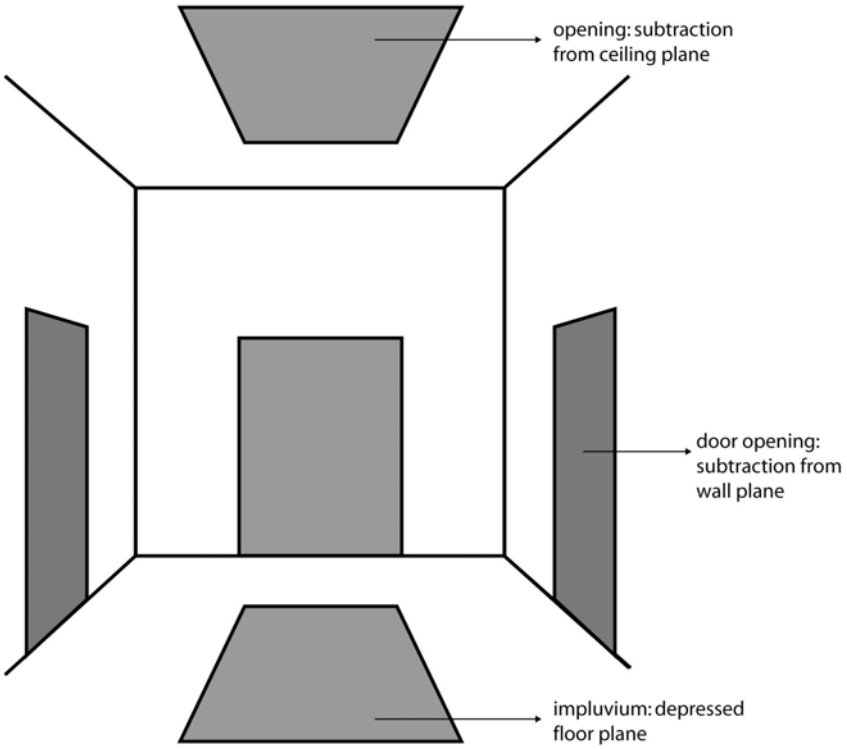


Figure 5.6 The Abstraction of the Tuscan Atrium
House of Loreius Tiburtinius (Şeker Ilgın)

The axial arrangement of the house was emphasized by some of the traditional space-articulating elements such as the *compluvium* and the *impluvium* found in the atrium. The most characteristic opening in the Roman house, as mentioned before was the *compluvium* which was a subtraction from the ceiling plane and marked the center of the atrium above the *impluvium*. The *compluvium* was a dominant spatial and architectural design element in visual and functional terms. It provided water, light and air to the domestic setting and affected the spatial quality of the house in different modes during the day and from one season to the other during the year.

The *impluvium* was another space-defining element found beneath the *compluvium* and directly located on the axial arrangement of the house. It was bordered by a low and double masonry wall. The low wall planes around this pool clearly defined and stressed the physical location of the *impluvium* as a depressed or sunken floor

arrangement and also its importance as a unique space-defining element in the architectural design of the atrium. (Figs. 5.7 and 5.8) The *impluvium* was also visually and physically connected with the *compluvium* and together they formed a vertical axis in between the floor plane and the sky. This vertical axis was emphasized by the reflection of the light, view and even the rain penetrating from the *compluvium* to the *impluvium*. (Fig. 5.9)

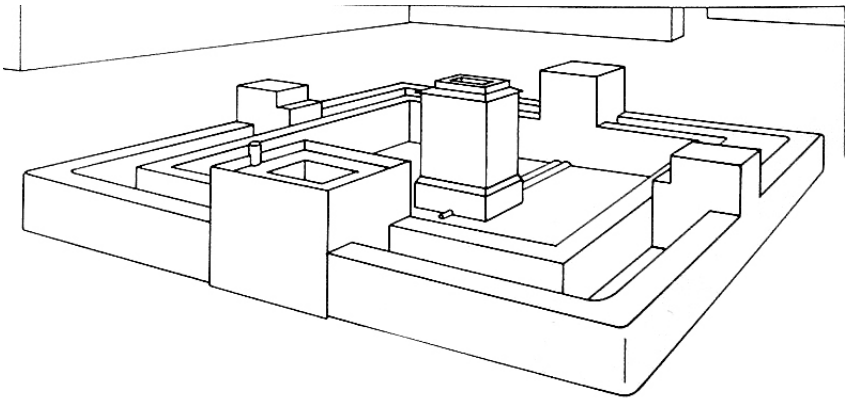


Figure 5.7 The *Impluvium* in the Atrium, House of Loreius Tiburtinius (Jashemski, 1993, 78)

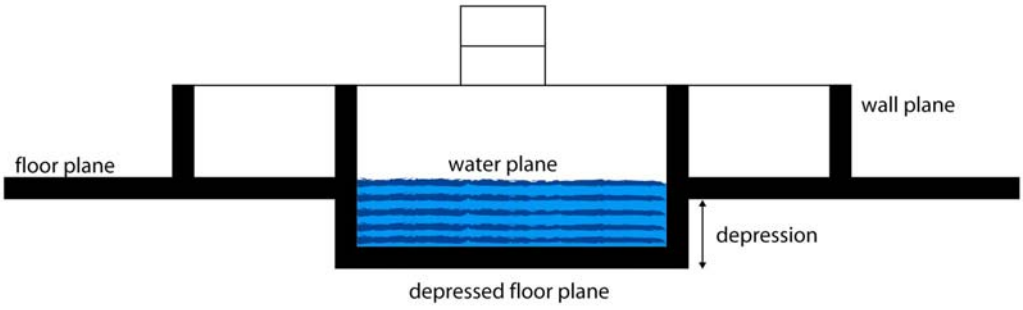


Figure 5.8 The Section of the *Impluvium*, House of Loreius Tiburtinius (Şeker Ilgın)

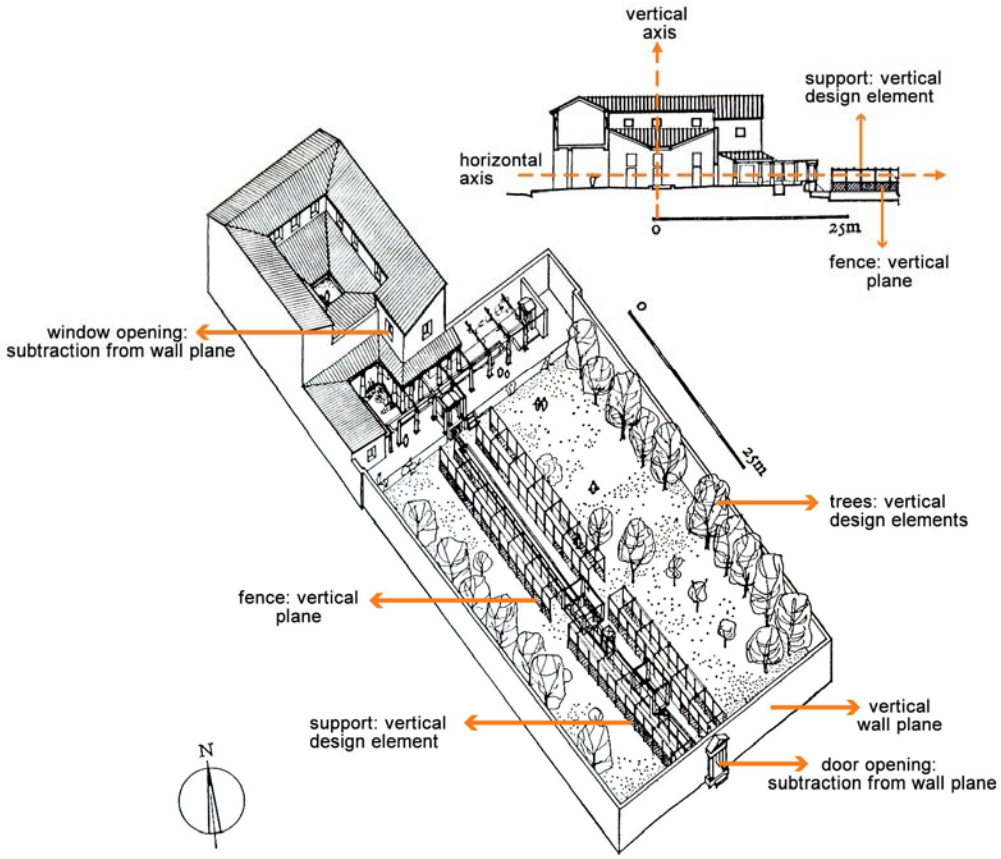


Figure 5.9 The House of Loreius Tiburtinius
(adopted from McKay, 1998, 45)

The *impluvium* was located on the horizontal axis of the house and stood as a physical obstacle. It prevented an axially oriented physical movement and directed the visitors to both sides of the axis. (Fig. 5.10) Hence, the visitors were directed to get a close perception of the surfaces and the imagery such as the wall paintings displayed on the surfaces. The *impluvium* here was marked by a fountain at its center which might have held a statue and four other water assemblages, fountains placed at the center of each side of the low walls of the *impluvium*. The fountain as a space-defining element/installation strengthened the centrality of the *impluvium* and the remaining fountains created a frame for this focal composition.

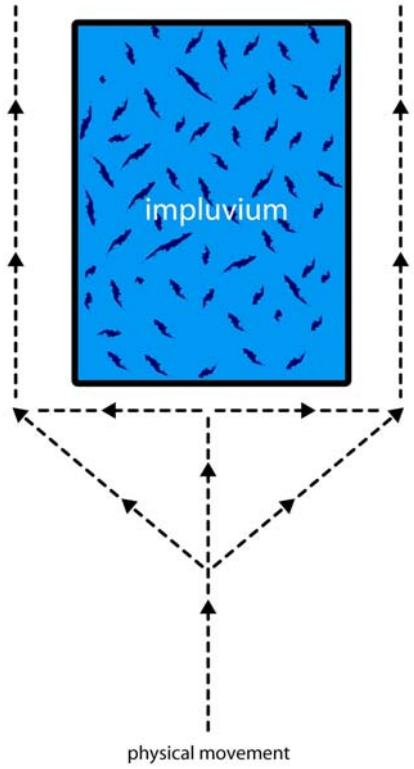


Figure 5.10 The *Impluvium* as a Physical Obstacle,
House of Loreius Tiburtinius (Şeker Ilgın)

As there was no *tablinum*, the atrium and the small *peristyle* was connected by an opening at the rear wall of the atrium. The rectangular *peristyle* garden was enclosed on the east, north and west sides by porticoes supported by columns which were joined to each other by a very low parapet wall. On the south, the *peristyle* opened to the porticoed terrace nearly for its full-width. The combination of the vertical linear elements represented by the columns and the vertical planar elements which are the low walls defined the boundaries and the spatial organization of the small *peristyle*. Jashemski (1993)[63] states that there were two circular beds in the center of the garden and a bed along the edges with a path in between which could be entered from the south. The dot in the center of each circular bed might be a root cavity. Hence, the trees may have been planted as space-defining and vertical design

[63] Cited from Spinazzola (1928).

elements, like the columns in the small *peristyle*, and hence also emphasized the center of the beds clearly. Presence of statuettes which improved the spatial quality of the *peristyle* garden was also attested.

Another special arrangement was applied in the porticoed terrace shaded by vines located immediately beyond the *peristyle*. (Figs. 5.11 and 5.12) The portico stretched out across the rear of the house with a channel functioning as a depressed floor plane which was once teeming with fish running through the middle of the pergola. A secondary axis which was created at the terrace, different from the canonical horizontal and vertical axis in the house was clearly made manifest by the channel and the columns. The passageways on both sides of the channel emphasized the architectural axis created by the channel itself. At the end of the porticoed terrace, there was an aedicular niche framed by two columns. At both sides of the aedicule, two masonry couches that formed a *biclinium* were placed. Two small bridges crossed the channel and were connected to the passageways, one in front of the *biclinium*, and the other in front of the grand *triclinium,* opening off the north side of the terrace. From this room there was a direct view, across the little bridge, to a small tetrastyle pavilion with jetting fountains which emptied into the channel at the edge of the plinth on which the pavilion stands; beyond was the large and lower garden that extended the length of the *insula*. (Fig. 5.13) The porticoed terrace was adorned with statuettes and fountains as space-articulating design elements. It is evident that the statues were mostly lined along the water channel and created a boundary between the channel and the passageways. The north wall of the terrace was also decorated with animal paintings that enhanced and complimented the sense of the nature within the boundaries of the garden.

As mentioned above, the most significant design application of the house which made it unique among the other domestic settings in Pompeii was its huge and majestic garden. The garden was located at the terminus point of the house in both visual and physical terms. It was a rectangular open space clearly defined in physical terms by the vertical and flat wall planes and the porticoed terrace. The vertical wall planes separated the internal space, completely outside or transitional from the

external or urban space left in between the house itself and the others around. This type of organization allowed a sharp segregation between the wild and tamed or domesticated natures. The only physical connection from the majestic garden to the external space was a door opening punched on the back wall.

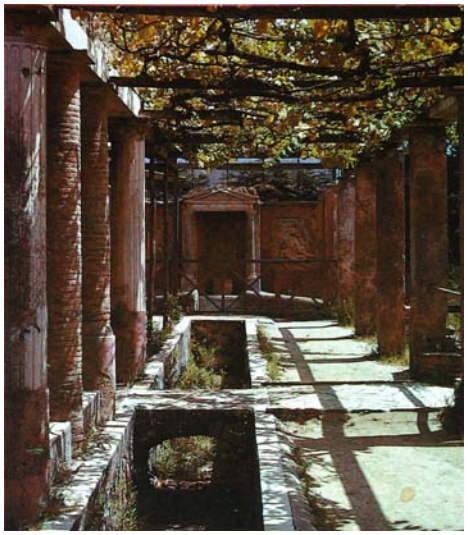


Figure 5.11 The Porticoed Garden Terrace,
House of Loreius Tiburtinius (Jashemski, 1993, 45)

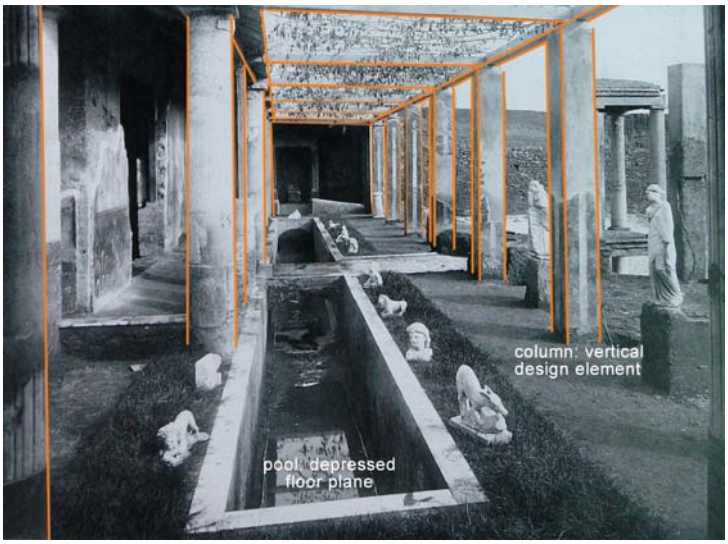


Figure 5.12 The Porticoed Garden Terrace, House of Loreius Tiburtinius
(adopted from Jashemski, 1993, 79)

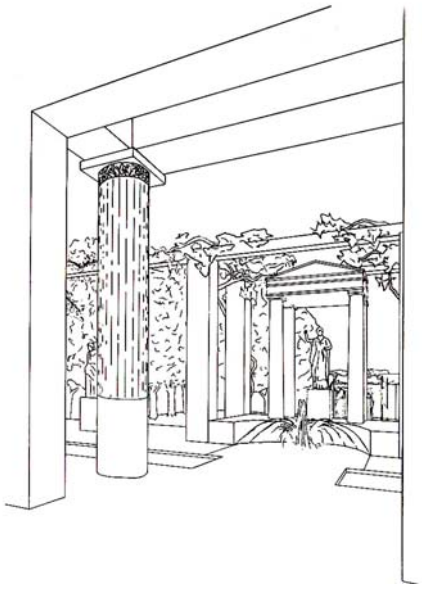


Figure 5.13 The Guest of Honor's View from His Place on the *Triclinium* Couch, House of Loreius Tiburtinius (Clarke, 1991, 205)

The narrow water channel which stretched for more than fifty meters down the length of the garden actually emphasized the fourth axis in this atrium house. (Fig. 5.14) The axis of the channel started from the upper level of the garden and continued to the secondary entrance of the house at the lower level of the garden. The channel was also significant as it defined the direct physical movement in the garden. Jashemski (1993) states that there were cavities in the soil along the channel which indicates that there had been a long passageway on each side of the water channel. The channel was clearly emphasized by the passageways running on both sides. They were covered with pergolas in order to protect them from the sun light. The pergolas themselves were further defined by the vertical elements such as supports and fences. These defined the boundaries of the passageways and created a type of semi-closed or transitional space in the garden.

Figure 5.14 The View of the Water Channel from the Doorway of the *Oecus,* House of Loreius Tiburtinius (adopted from Clarke, 1991, 201)

There were three structures on the water channel which created spatial focal points in the garden. The first one was an elaborate fountain shaded by a vine-covered pergola. Water rising from an elevation in the middle of the pool flowed into four directions down from four little steps into the pool. Twelve bases attached to the inside edges of the pool once held fountain statues or vases with jets which also poured water into the pool. The second element was a pool and had a small pavilion over it. A pool from which rose a jet near the end of the channel and shaded by another vine covered was the third focus in the installation.

Rows of root cavities running parallel to the vine-covered passageways are also spotted. According to Spinazzola (1928)[64], the cavities nearest to the side walls were those of the roots of large shade trees; next come rows of smaller trees. Rows of these trees whether short or tall, functioned as vertical design elements similar to the supports of the pergolas on both sides of the water channel, thus delimiting the vision

[64] Jashemski (1993)

by creating a linear perspective for the eye and the body. (Fig. 5.15) Next to the channel on each side were also lower plantings.

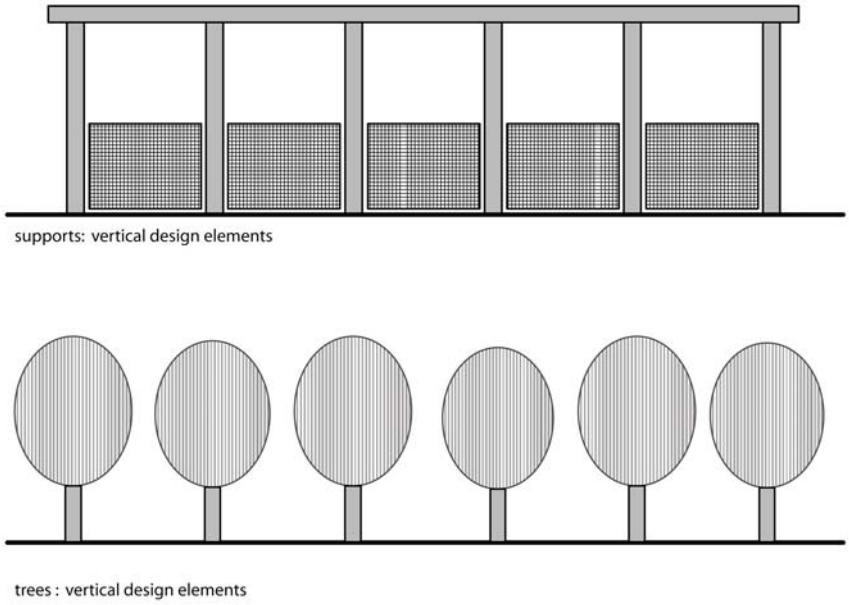


Figure 5.15 The Vertical Design Elements,
House of Loreius Tiburtinius (Şeker Ilgın)

Thus, it can be imagined that the garden was a huge and formally organized space with various form-giving and space-articulating elements brought into a composition. The House of Loreius Tiburtinus was a majestic complex with a complex architectural iconography of lines and planes that blended with greenery to create frames, paths and spaces to be captured and experienced visually and bodily in an outdoor domestic context.

5.2 The House of Meleager and the Duality of the Centers

The House of Meleager was located at Region VI and insula ix. The house is different from the traditional axially and sequentially planned Roman houses. (Fig.

5.16) Although the house had an atrium and a *peristyle* garden, the *peristyle* was not placed at the rear end of the atrium, that is on the sequential axis, but was placed at the north west of the atrium or at the north west of the traditional axis. Hence this organization created a third axis between the atrium and the *peristyle* besides the sequential axis of the domestic setting and the vertical axis, in between the *impluvium* and the *compluvium* in the atrium. (Fig. 5.17) The house was also rich in terms of the composition of the form-giving and space-defining elements.

The house had the main entrance directly located on the axis of the house running from the *fauces*, the atrium and the *tablinum*. The *peristyle* garden of the house however was not located on this axial arrangement. Similar to many houses in Pompeii, the *fauces* was flanked by two flat walls on its longer sides, an entrance door and a totally open surface on its shortest sides. The *fauces* of the house was a narrow and high corridor which also helped to control the entrance to the private interior. It, as usual distanced the visitors from the enclosure physically, but not visually; when the street door was open the interior was visible to those standing in the street.

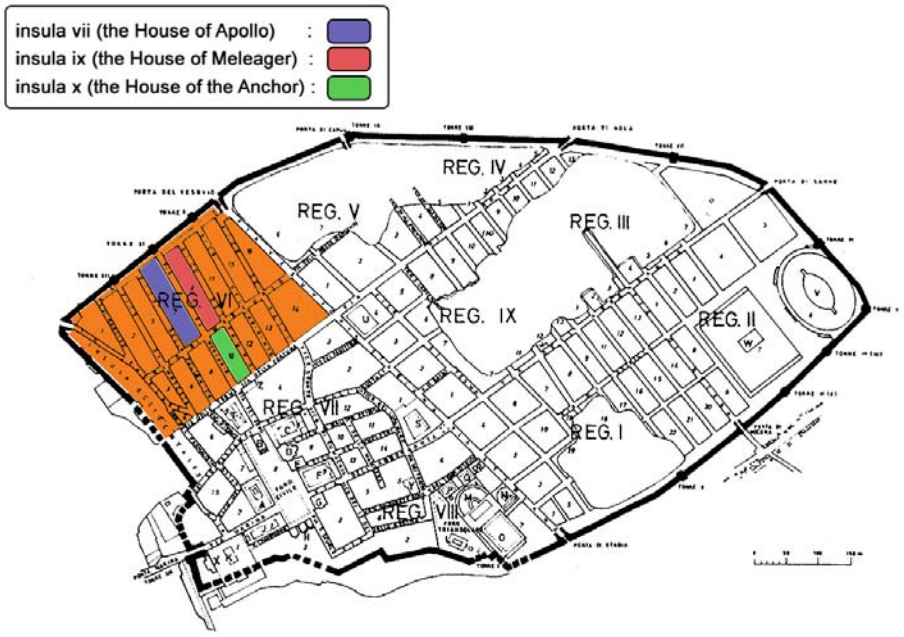


Figure 5.16 The City Plan of Pompeii, Region VI, *Insula*, vii, ix, x
(adopted from Jashemski, 1993, 119)

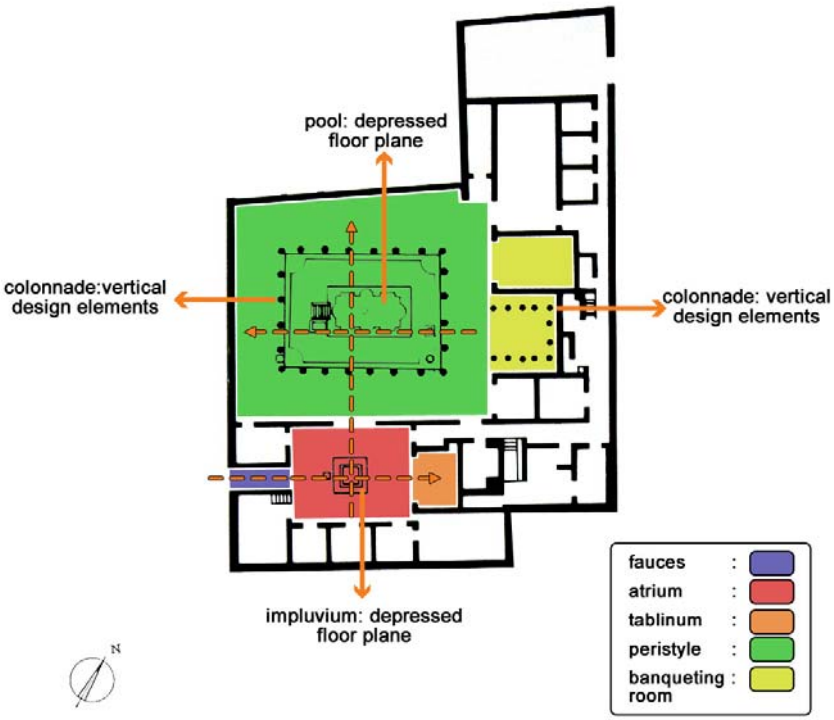


Figure 5.17 The Plan of the House of Meleager, VI, ix
(adopted from Jashemski, 1993, 137)

The atrium became the welcomer of the visitors after they passed through the *fauces*. The house as usual was built around a rectangular atrium but this atrium behaved differently from the other houses of Pompeii because it shared its centrality by the *peristyle* garden at the north-west. The house thus had two centers placed not on a sequential axis but side by side. (Fig. 5.18) Besides, the atrium was also not surrounded by rooms from all of its four sides. It was separated from the *peristyle* by a flat wall at north west with an entrance and the *peristyle* garden was entered from the atrium directly.

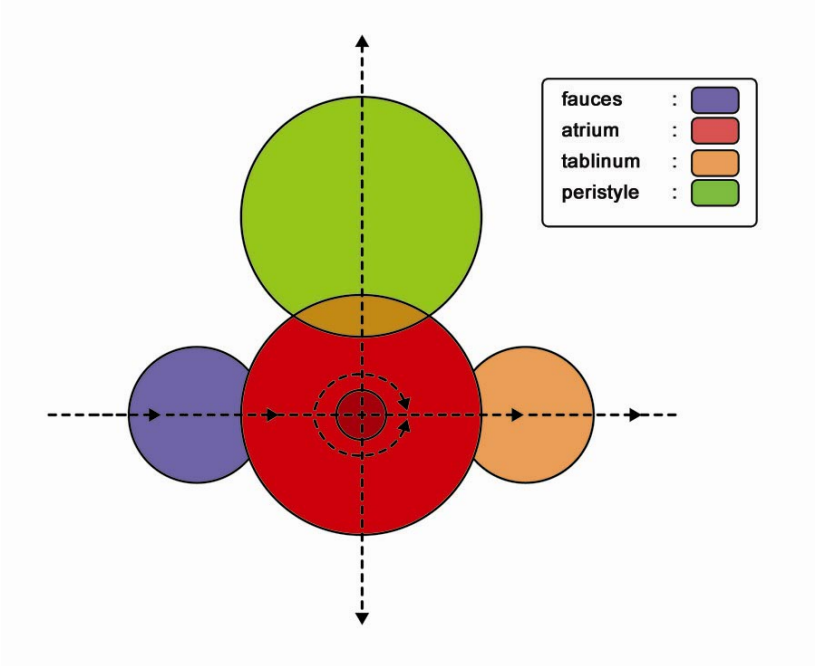


Figure 5.18 The Diagram of the Spatial Organization of the House of Meleager (Şeker Ilgın)

The form-giving and space-defining elements of the atrium were similar to many of the traditional domestic settings in Pompeii. The walls of the rooms, the door openings, the ceiling, the *compluvium* and the *impluvium* determined and stressed the spatial quality of the atrium. The *impluvium* as a space-articulating element was beneath the *compluvium* located on the axial arrangement of the house. The *impluvium* directed the physical movement of the visitors who wanted to go to the *tablinum* to the both sides of the axis. It, as usual, stood as a physical obstacle at the center and composed a vertical perception with the *compluvium*. The axial and sequential arrangement of the house came to an end at the *tablinum* after passing through the atrium and its form-giving and space-defining elements.

The *tablinum* was surrounded by three flat wall surfaces and one open surface where it met the atrium. It had a U-shaped configuration made up of vertical wall planes similar to the banqueting rooms. The open surface allowed the space to have visual and spatial continuity with the atrium as an adjoining space towards the *fauces*. (Fig. 5.19) Hence the visitors could have a direct visual relationship with the *tablinum*

when the street door was open or when they were at the *fauces*. The *tablinum* presented the dead end of the visual and sequential axis of the domestic setting that started from the *fauces* and continued through the atrium.

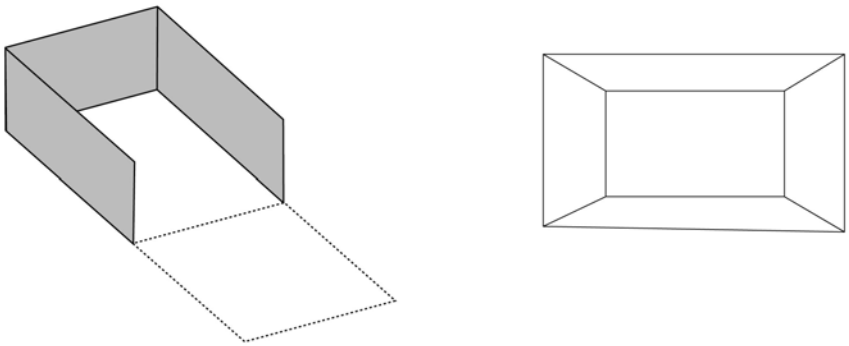


Figure 5.19 The U-Shaped Configuration of the *Tablinum,*
House of Meleager (Şeker Ilgın)

The house on the other hand had a luxurious *peristyle* garden entered from the atrium. (Fig. 2.14) As mentioned above, the most significant architectural design principle of the house was the location of this *peristyle* garden. The garden was located at the north west of the traditional axis. This type of architectural organization broke the sequential axis of the domestic setting and created a duality between the centers.

The *peristyle* garden was enclosed by a portico of twenty four stucco-covered columns. According to Jashemski (1993), there was a wooden fence built between the columns. The columns, as vertical design elements and the fences, as vertical planes or surfaces created an architectural assemblage that defined the spatial differentiation or space division in the garden. They helped to create boundaries between the portico as a transitional space and the garden as an open space and separated them from each other in the house. (Fig. 5.20)

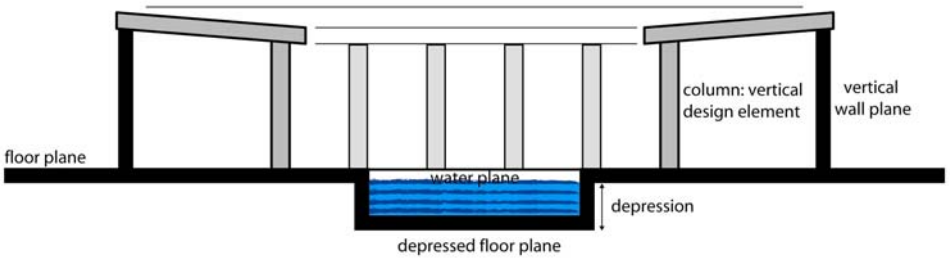


Figure 5.20 The Section of the *Peristyle*, House of Meleager (Şeker Ilgın)

In the middle of the garden was a large and elaborate pool with a marble rim, its interior painted blue to provide the perception of a clear water image and possibly also a good reflection. The elaborate pool as a depressed floor plane similar to the *impluvium* in the atrium became a focal point and dominated the garden design. It also highlighted the wealth and status of the property. The pool was surrounded by the porticoes, the columns and the fences from all of its sides. Hence the central placement of the pool in the garden was emphasized by the porticoes as the transitional spaces and by the columns and the fences.

The interior walls of the pool were bordered with alternating rectangular and semicircular recesses employed as articulated planar design elements. There was a column in the center of the pool which supported a round table, from which water jetted and fell again into the pool. Water also fell, presumably from a statuette, in the middle of the west end of the pool and cascaded down eight little steps into the pool. A small pool, another depressed floor arrangement with a marble rim at the east end of the garden created a secondary focal point in the *peristyle*. This pool had an opening on its west side, but there is no evidence that it was connected with the large one.

At the rear of the *peristyle* garden, were two banqueting rooms. The one on the left side had a U-shaped configuration of vertical wall planes. (Fig. 5.21) This configuration defined a field of space that had an inward focus as well as an outward

orientation. At the rear end of the configuration, the field was enclosed and well defined. Toward the open end of the configuration however, the field became extraverted in nature. The space had an oblique visual axis towards the garden and the focal points such as the pools.

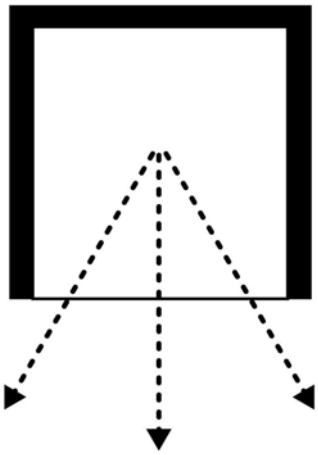


Figure 5.21 The Schematic View of the U-shaped Banqueting Room, House of Meleager (Şeker Ilgın)

The banqueting room on the south east had a similar U-shaped configuration. This room was also open, taking advantage of the view of the garden. It however had a row of columns as vertical design elements placed in front of the walls which changed the spatial and architectural atmosphere of the room. (Fig. 5.22) Similar to the *peristyle* garden, the columns made the banqueting room have a public grandeur and prestige because of their majestic look. The columns in the banqueting room made a reference to public buildings and suggested a desire to recall their architectural language in the private spaces. The columns within the boundaries of the banqueting room and also the *peristyle* garden emphasized the civic implications of the rituals and also the public role of the host.[65]

[65] Hales (2003, 127-128).

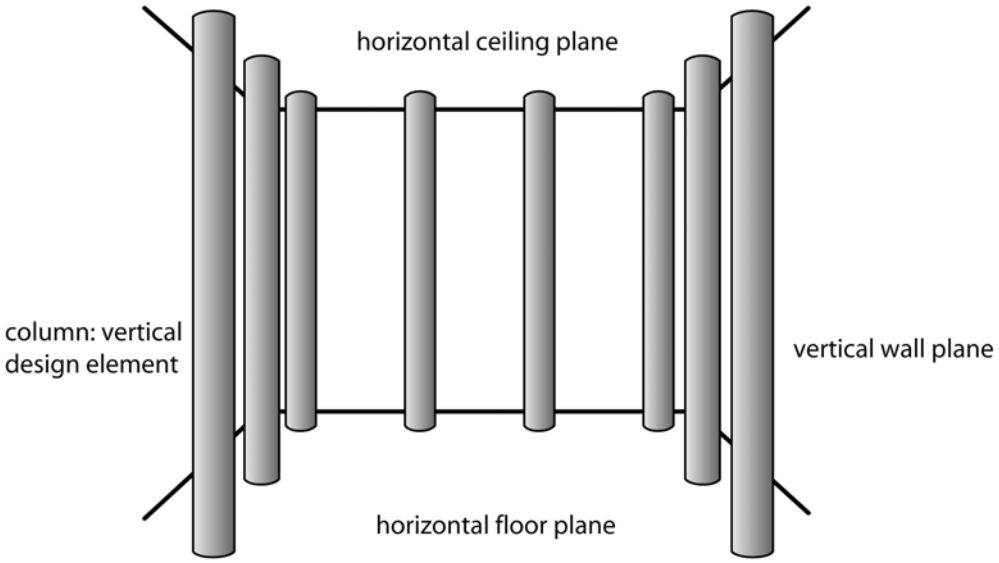


Figure 5.22 The Schematic View of the U-Shaped Banqueting Room with the Columns, House of Meleager (Şeker Ilgın)

To sum up, the House of Meleager had a different architectural composition from the traditional atrium type of Roman houses in Pompeii. The house did not have the atrium and the *peristyle* on the same sequential axis as usual. Instead the *peristyle* was placed at the north west of the atrium or at the north west of the traditional axis. Hence the House of Meleager was an original Roman domestic setting which had the atrium and the *peristyle* garden side by side but not on the same alignment. By breaking the traditional sequential axis of the house, this type of organization created a duality of the centers in the domestic setting.

5.3 The House of Apollo and the Articulation of the Garden

The House of Apollo was located at Region VI, as in the case of the House of Meleager and in *insula* vii. The house is an elegant, non-ostentatious house with interesting secrets and surprises. It was not a large house, but a comfortable one. (Fig. 5.16) It is different for its sunken garden which is a rare application found in

Pompeian houses. The house had an atrium and two gardens, one of which was sunken. (Figs. 5.23 and 5.24)

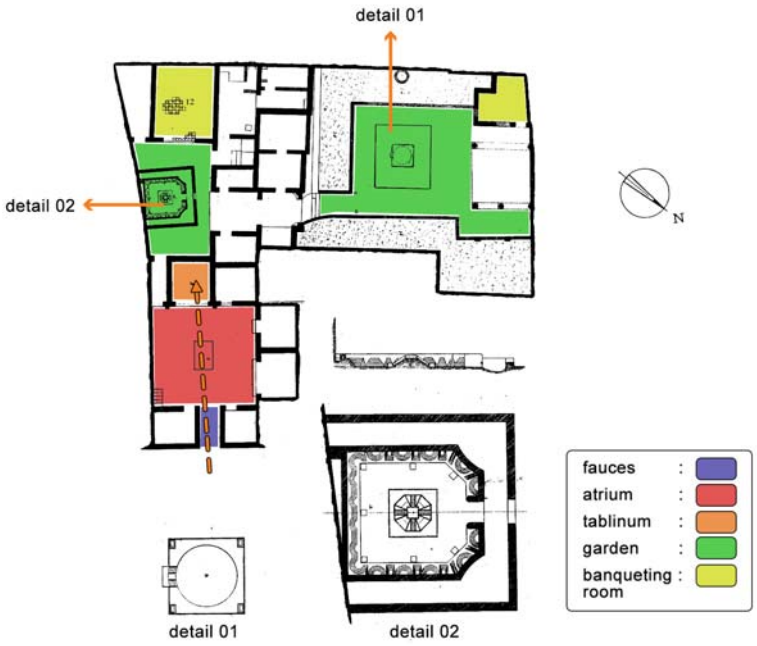


Figure 5.23 The Plan of the House of Apollo, VI, vii (adopted from Zanker, 1998, 157)

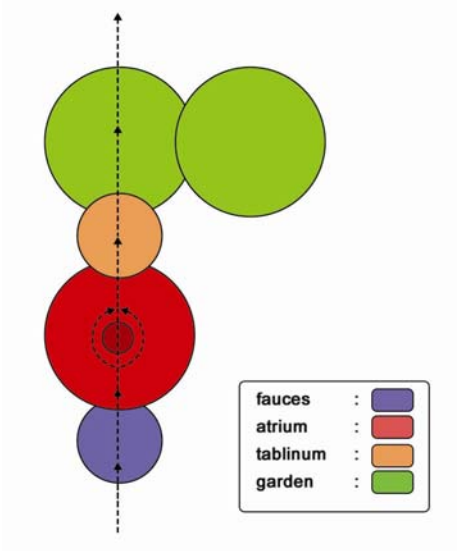


Figure 5.24 The Diagram of the Spatial Organization of the House of Apollo (Şeker Ilgın)

This house was located just in front of the town wall. It was entered from the street door located on the linear axis of the house. The street door as usual led to the *fauces*. The *fauces* was short and relatively broad. Two *cubicula* flanked the *fauces*, and over these were rooms in a second storey approached by a stair along the south wall of the atrium. Passing through the *fauces*, the visitors met with the small Tuscanic atrium. The atrium had the *impluvium* and the *compluvium* as the space-articulating elements but no *alae*. The small atrium was surrounded by one flat wall from its south side and the rooms from its other sides. The horizontal axis passing through the atrium led to the small *tablinum* or the main room of the house opposite the entrance. At the rear end of the *tablinum* was a little garden. The *tablinum* was totally open, except for the jambs, to the atrium from the front and to the garden from its back.

The garden was reached from the small atrium by the long and narrow corridor flanked by two flat walls and two open surfaces. The little garden was framed on three sides by a walk; on the fourth side it ran to the house wall. The walks were bordered by a low masonry *pluteus* broken by a passage in the middle of the north side. The garden was almost filled by an elaborate pyramid-shaped marble fountain as a space-defining design element, down the sides of which were four series of little water steps over which the water poured into a marble pool. (Fig. 5.25) Around the pyramid-shaped marble fountain, there were three two-headed herms. Each pair was supported on little posts decorated with plants, several marble vases decorated with relieves and other sculpture. The exterior of the fountain wall was plain. The scale of the whole ensemble was completely out of proportion for the small garden.

The wall behind the fountain was decorated with a large painting of a garden scene to give the illusion of larger space. The expansion of the gardens by paintings of scenes of beautiful gardens or parks filled with many different kinds of birds, fish ponds and statuettes applied on the ambulatory walls changed the perception of the surrounding surfaces and the volume they enclosed dramatically. Illusionist paintings expanded the space and diminished the boundary perception in the garden, similar to some other rooms in houses. The desire for an ‘‘enlarged’’ garden was sometimes

supported by water games, as in the case of the marble fountain in the House of Apollo.

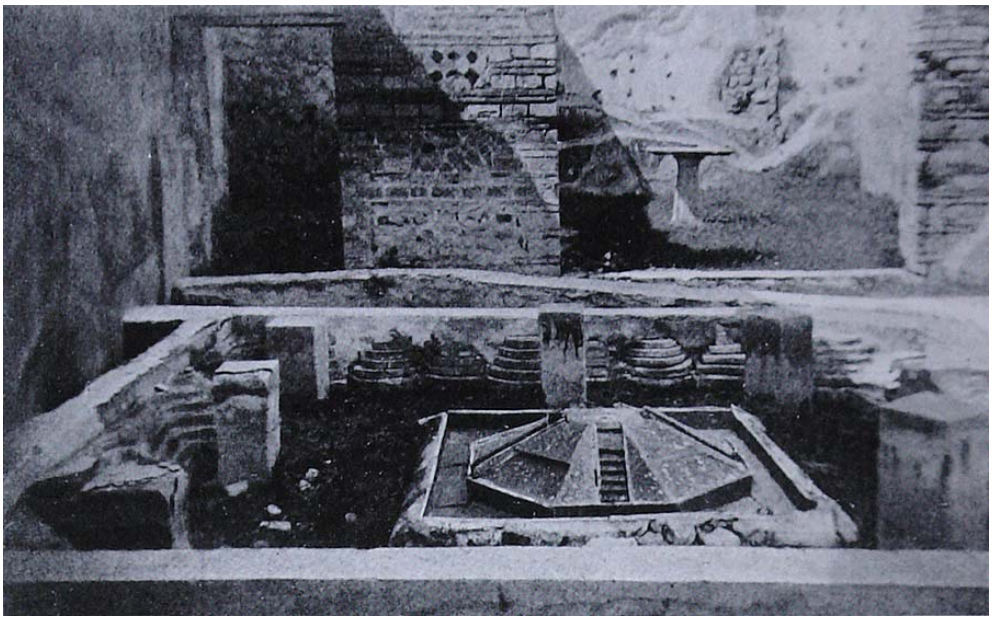


Figure 5.25 The Pyramid-Shape Marble Fountain,
House of Apollo (Zanker, 1998, 158)

There was a trapezoidal space and a large and U-shaped banqueting room side by side at the western end that opened onto the garden with the pyramid-shaped marble fountain. The banqueting room had an inward focus and also an outward orientation toward the garden because it too was composed of three solid walls and an open surface towards the garden.

Off the northwest corner of the garden opened a lobby that served as a stairwell for access to the rooms in a second storey that had four rooms. West of the lobby opened into the kitchen court, a long rectangle space with a hearth platform, latrine closet and *lararium*.

The large garden, as opposed to the small and painted one, was located on a plot of ground to the north that was probably acquired after the house was built. (Fig. 5.26) It is situated to the north and four steps below the level of the house. This was the sunken garden of the house. The sunken gardens were rare applications in the Roman houses in Pompeii. Such gardens were reached by a flight of stairs, and were usually surrounded by porticoes raised from the garden level. House of the Apollo is a good example for this type of garden and the sunken garden made the house unique in architectural terms. The sunken garden was reached from the first garden by passing through what used to be two rooms in between, and leading down to the garden which was enclosed by a kind of terrace varied in width, from its three sides. These terrace walls as vertical planes defined the architectural volume of the sunken garden. They actually made a sharp segregation between two different levels of the house. According to Jashemski (1993), the raised terrace was planted with flowers or shrubs and that the wall paintings and the mosaics with trees and birds on the terrace walls made the garden look like an arbor that ran the entire length of the terrace.

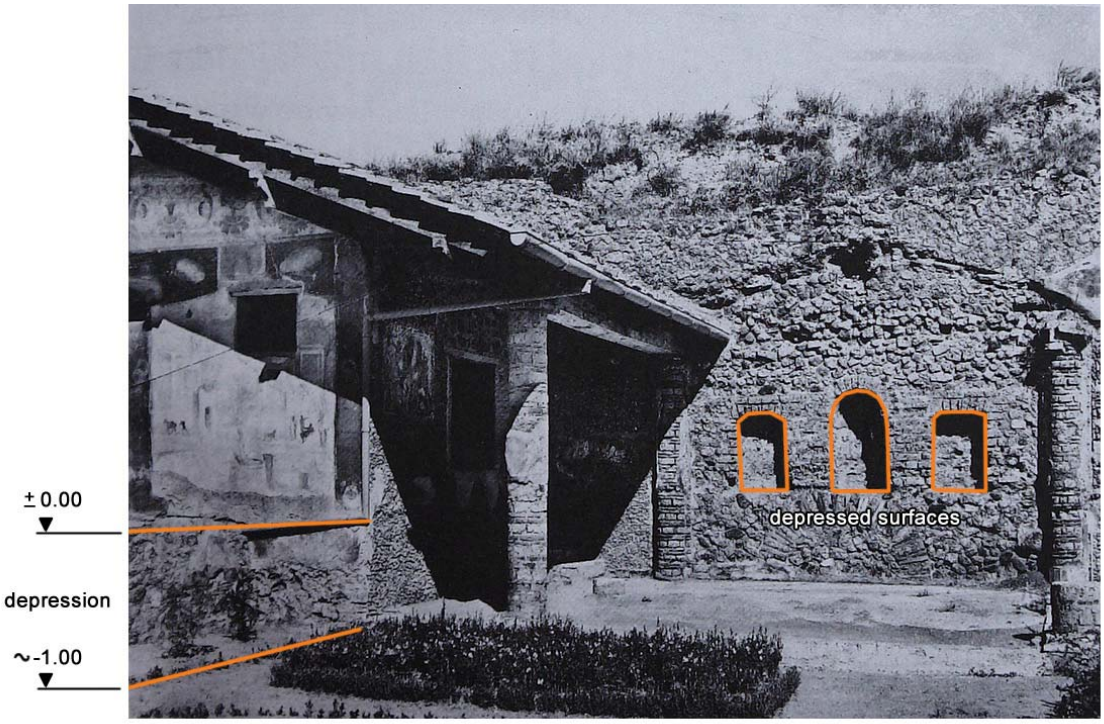


Figure 5.26 The Sunken Garden, House of Apollo (adopted from Zanker, 1998, 159)

The sunken garden had a large circular pool as a secondary sunken design element, at the center. (Fig. 5.27) It was set in a square marble frame, painted blue on the inside and surrounded by marble herms. Four small Corinthian columns ornamented the four corners of the pool into which the water ran down from the water steps. The figure in the center and a flight of marble steps face the north, whereas on the rear wall of the garden three intersecting structures were squeezed together. Against the middle of the north wall was built a squarish pavilion on a platform which is raised with a single step from the garden. The middle structure was open on each side, where four columns and two engaged column supported an architrave. The line of its roof is still visible in the garden wall. Within the pavilion, between the two engaged columns, the garden wall also had three large niches as the vertical depressions for statuettes. (Fig. 5.28) These functioned as surface articulating arrangements that enriched the spatial quality of the garden.

Figure 5.27 The Sunken Garden with its Circular Pool at the Center, House of Apollo (Şeker Ilgın)

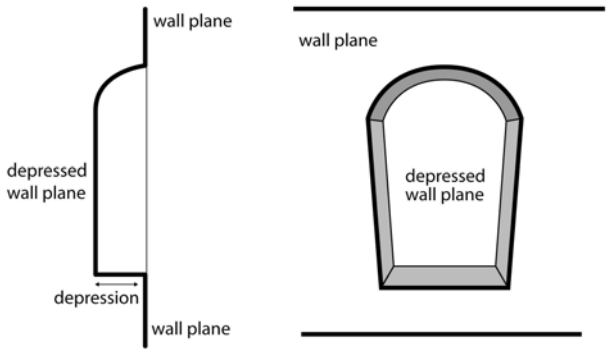


Figure 5.28 The Schematic View of the Niche as the Depressed Wall Plane, House of Apollo (Şeker Ilgın)

To the right of this structure, there were two posts which probably supported a pergola with decks beneath it. In the northwest corner of the sunken garden is one of the main features of the house, a *biclinium* arranged in a separate structure. A door with two steps led to the summer banqueting room, the *biclinium*, which was lit by two windows and contained two alcoves for beds.

The most significant and characteristic spatial organization of the House of Apollo was its sunken garden. The garden was defined by the vertical wall planes of the depression which created a different spatial experience within the boundaries of the house as an interesting secret and surprise. The sunken garden was actually a rare application in the Roman domestic setting. Hence, such spatial organization made the house of Apollo privileged from the other domestic settings in Pompeii.

5.4 The House of the Anchor and the Vertical Expansion

The House of the Anchor was located at Region VI (*insula* x) as in the case of the House of Meleager and the House of Apollo. It had an atrium as well as a grand *peristyle* garden which had a two storey height. (Fig. 5.16) Hence the house is significant for its grand two-storey *peristyle* garden which is also a rare application found in the Roman houses. (Fig. 5.29)

The house was as usual organized in reference to an axial and sequential arrangement started from the street door and ended at the *peristyle* garden. (Fig. 5.30) It had a long and narrow *fauces* that led to the atrium arranged with the standard space-articulating elements; the *impluvium* and the *compluvium*. The atrium was surrounded by a flat wall on one side and rooms around on the remaining three sides. At the rear end of the atrium was the *tablinum*. The *tablinum* had full visual connection with the atrium and the grand *peristyle* garden.

The house was located on a sloping terrain. Hence the garden was reached by a staircase from the atrium. The *peristyle* garden of the House of the Anchor was a

good example for illustrating a different design taste, the creativity and the innovative flexibility of its home owner. (Fig. 5.31) At the time of eruption in Pompeii in A.D. 79, the owner of this house was in the process of constructing a very spacious two-storey *peristyle* that would have replaced the former garden or courtyard; the work however was never completed due to the eruption. The *peristyle* was originally enclosed by a vaulted arcade. Later the arched openings of this arcade were bricked up. The pedestals revealed that the blind arched niches contained statues or ornamental vases as the space-articulating elements. The niches were separated by pilasters which supported the portico above, from which one could enjoy a spectacular view of the garden below.

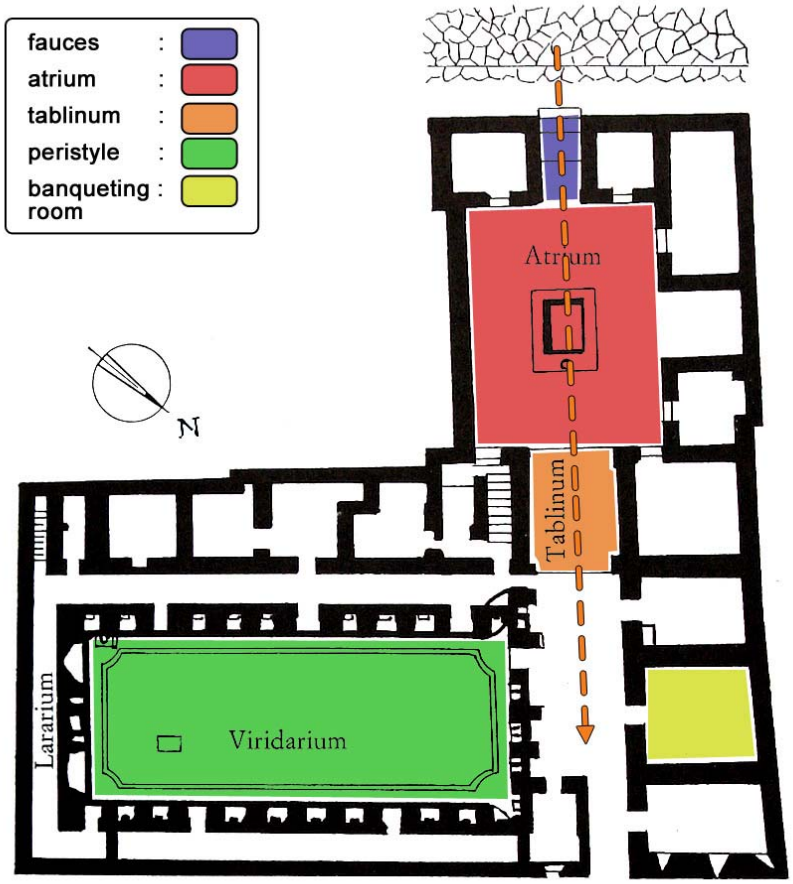


Figure 5.29 The Plan of the House of the Anchor, VI, x
(adopted from Zanker, 1998, 161)

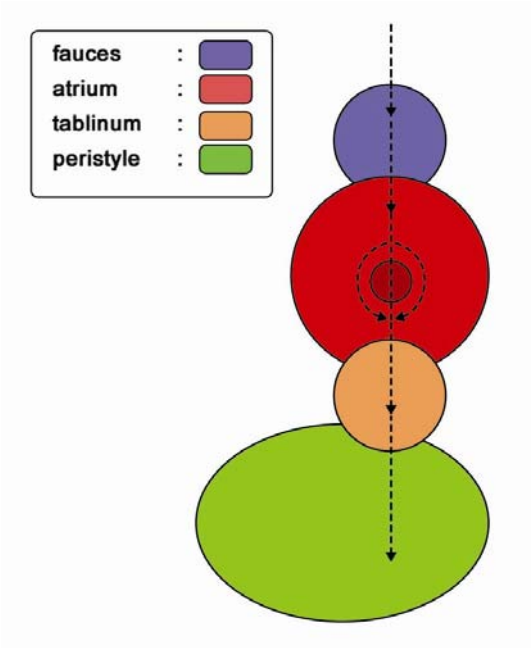


Figure 5.30 The Diagram of the Spatial Organization of the House of the Anchor (Şeker Ilgın)

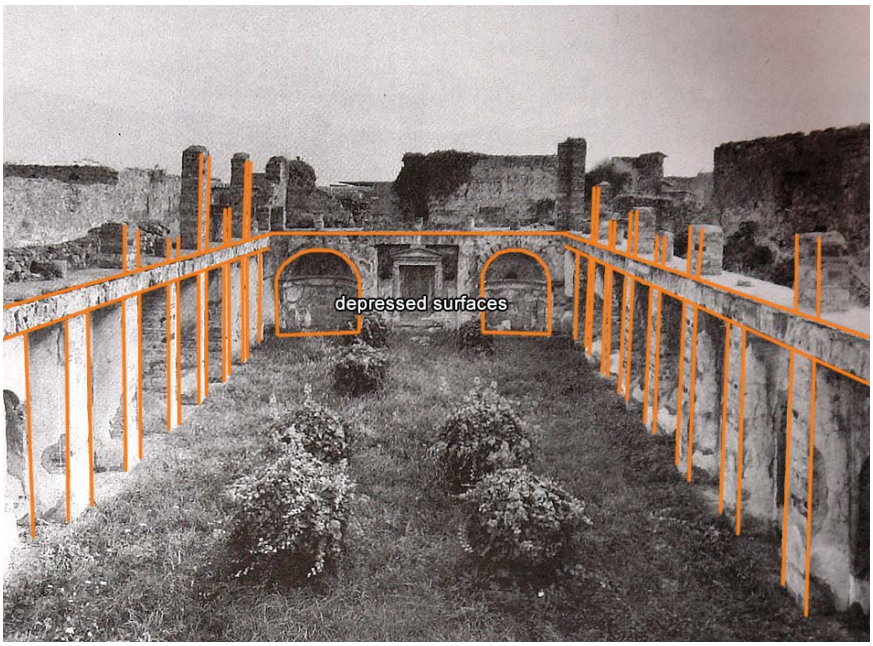


Figure 5.31 The *Peristyle* Garden of the House of the Anchor (adopted from Zanker, 1998, 162)

The *peristyle* then was lined with a series of stout square pillars in the lower storey; these pillars alternated with brick columns on the two long sides in the upper storey; at the far end from the house only round columns were used. These columns as vertical design elements outlined and defined the architectural volume of the garden clearly. Different from the traditional, mostly horizontally stretching, and single-storey gardens, the garden in the House of the Anchor apparently had a more vertically expanding volume. (Fig. 5.32)

The south wall of the garden, with three mosaic niches, was the focal point of the garden. (Fig. 5.33 and 5.34) These niches constituted the depressed wall planes which created further depth and hence enriched the spatial framework. They actually interrupted the continuity of the wall plane but since they were shallow in depth they still could be perceived as an integral part of the surrounding space. In that respect, they did not stand forth as foreign to their background. On the square-headed middle niche was a miniature pedimented temple façade; while on each side of the middle niche was a large and apsed niche that held a fountain figure from which water splashed on each side of the middle niche. (Fig. 35)

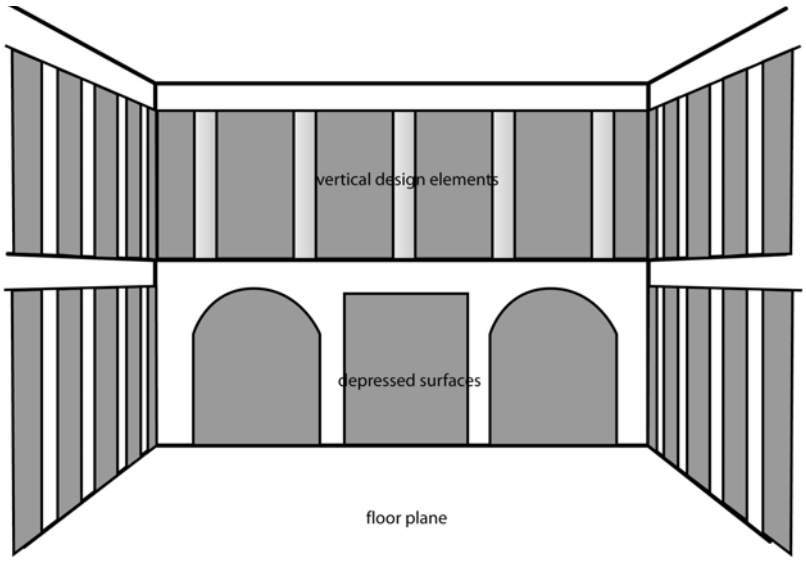


Figure 5.32 The Schematic View of the Two-Storey *Peristyle* Garden, House of the Anchor (Şeker Ilgın)

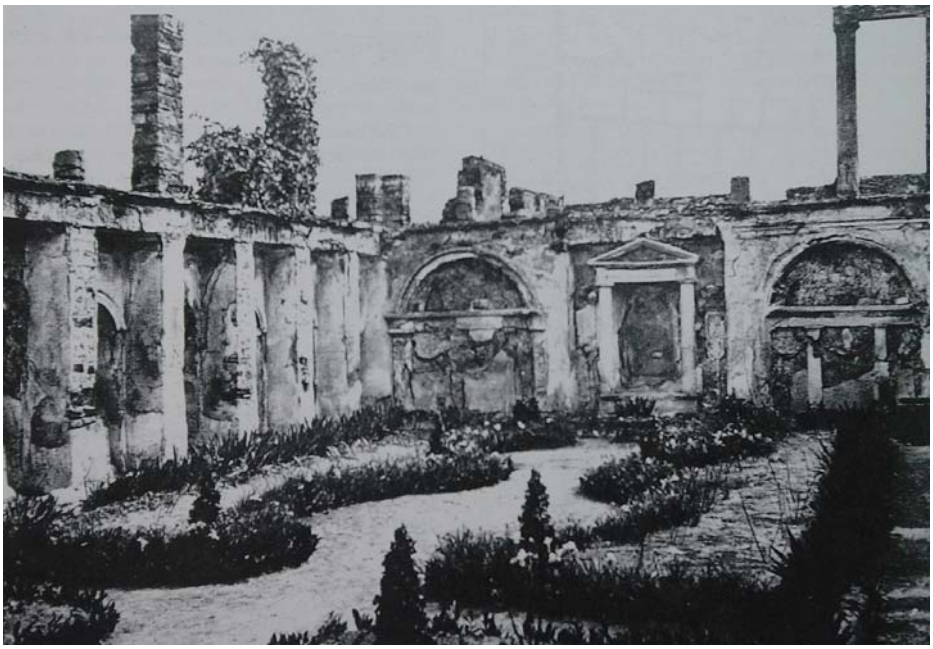


Figure 5.33 The *Peristyle* Garden, House of the Anchor
(Jashemski, 1993, 142)

Figure 5.34 The South Wall of the Garden, House of the Anchor
(Zanker, 1998, plate 11.1)

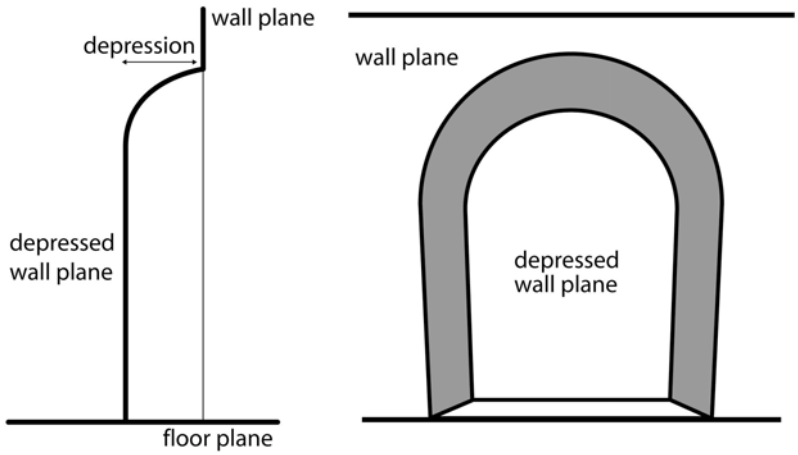


Figure 5.35 The Schematic View of the Niche as the Depressed Wall Plane, House of the Anchor (Şeker Ilgın)

The banqueting room was strategically located off the portico above the garden at the north end and was open, making it possible to enjoy an uninterrupted view towards the fountain façade at the opposite end of the garden.

To sum up, the House of the Anchor was noteworthy for its grand two-storey *peristyle* garden which is as a rare application found in the Roman houses. It certainly represented a different design taste, possibly that of the home owner. This garden was different from the traditional, mostly horizontally stretching, and single-storey Pompeian house gardens. It was perceived as a vertical volume.

The architectural layout and the design elements that made up the spatial composition in these four houses, which constituted the main discussion of this chapter, show the variety in the planning of the atrium type of house. The general architectural layout of these houses illustrates how the atrium houses that are canonically known to have been organized in a similar fashion (such as the sequential and axial arrangement) could actually be diversified by employing the main form-giving and space-articulating design elements in different combinations.

CHAPTER 6

CONCLUSION

Many studies are done on Roman domestic architecture and the Roman house has been studied from various perspectives including social, cultural, archeological and architectural contexts. This study deals with the architectural language of the Roman atrium house by concentrating on two basic design components of architecture: ‘‘form’’ and ‘‘space’’. Form and space constitute the main discussion of the study which focuses on the form-giving and space-defining architectural design elements and principles used in the planning of the Roman atrium house. Hence, the main aim of the study concentrated on examining form and space first in a broader context and then in the case of the Roman atrium houses found in Pompeii in Italy. Pompeii as a well preserved site is a rich source of examples for examining the generic architectural features of the atrium houses.

Architectural design to begin with, is about searching for form which is the external appearance of a clearly defined space, configuration, and the shape of a thing or a person. Form is also the organization, placement or relationships of the basic architectural design elements such as points, lines, planes and volumes.

The main purpose of form is to conceptualize the initial idea of a project by using the design creating tools. Form becomes a significant visual design component in producing the desired massage of a building by the architects. The basic design elements of architectural form are points, lines, planes and volumes and these find their equivalents in the present discussion as columns, walls, ceilings, floors and openings. These design elements, depending on the required spatial end-product can be classified under a hierarchy in the architectural design.

Space, on the other hand, is a significant design component simply defined as the unlimited three dimensional expanses in which all material objects are located and all activities happen. Space as a three dimensional organization needs form-giving and space-defining elements and also other design creating tools and themes such as pattern and sequence in order to create the desired spatiality. Space which is designed by the help of such parameters is generally imagined as ‘‘inside’’ in the architectural design. The present study however discusses space as both being ‘‘outside’’ and ‘‘transitional’’ as well. Space on the other hand, can also be studied as ‘‘conceptual’’, ‘‘physical’’ and ‘‘behavioral’’. All these classifications support the idea that the spatial quality relies on pleasing proportions and relationships which are linked to create a pleasing and satisfying sense of experience of space.

The point, line, plane and volume as corresponding to the architectural design elements of column, wall, floor, ceiling and opening give the essence and shape of form and what is enclosed by this form, space. The column is a vertical form-giving design element which corresponds to a point in a two dimensional representation such as the plan and the vertical line in two or three dimensional graphic representations such as the section and elevation. In terms of human perception a column is also a vertical and linear design element. The plane which constitutes the outer boundary of an artifact is important as the major form-giving design element that creates the type and sense of enclosure, space. It also separates the physical activities and spaces from each other. The planes are often horizontal or vertical; they can be inclined in some cases as well. Three major planar elements in an architectural composition are actually the wall (the vertical plane), the ceiling and the floor (the horizontal planes). The opening as a subtraction from a plane, and usually from a wall plane, is another major form-giving design element which provides a visual and physical link between neighboring spaces. It is also the manipulation done to the space in order to create the desired level of interaction between the space and the surrounding environment.

Form and space created by such architectural design elements became agents for identifying and allocating localities for some culturally significant events in

buildings; a fact valid also for the Roman atrium houses. The disposition and organization of domestic spaces and the applications chosen for forms and spatial articulations were discussed in terms of the above mentioned design tools in the ancient Roman domestic context. Hence, the spatial designs executed in the Roman houses are not only done to accommodate the assigned activity efficiently; they also contributed significantly to the way the house owners displayed their social status, power and wealth not only in terms of the material wealth of decoration but also in the architectural and spatial wealth of their private setting.

In this regard it may be said that the domestic spaces in general, are conceived to show the balance between the utility, luxury and display of power. The spatial organization of a house in this sense conveyed the social, political, economical and cultural messages which clearly revealed the cultural identity of the home owner in the society. Hence the form-giving and space-defining applications seen in the domestic spaces illustrate and clarify this position. The symmetrical axis running from the *fauces* through the atrium to the *peristyle* for example became a key principle in composing the architectural language of the Roman atrium houses. This type of organization helped to manipulate and organize the form-giving and space-defining articulations in relation to a reference and hence to offer variations without losing the essence of the spatial quality in the atrium house and the Roman way of dwelling.

The traditional atrium was a semi-closed space surrounded by walls that were punched with the doors of the surrounding rooms, the ceiling which had a roof opening, the *compluvium* and the floor which received a shallow pool, the *impluvium*. Although it looked like an enclosed space its connections with the sky, the public outside (the street), the private outside (the garden) and the surrounding rooms in both visual and physical terms gave the atrium a permeable quality. The atrium was also a spatial threshold for the *peristyle* and the banqueting rooms located at the rear part of the house. Located in between the entrance and the *peristyle*, the atrium thus can also be defined as a *liminal* space that offered a spatial and visual capturing of the house. In comparison to the spaces found in a typical atrium house,

it was a unique and dynamic space in terms of its architectural design and spatial perception. The atrium was composed by using a number of design elements such as the *compluvium,* a significant amount of subtraction from the center of the ceiling plane; *impluvium,* a depressed floor plane; columns which were the vertical design elements; and further space-defining elements such as the ancestral images, *lararium* and furniture. The subtractions and depressions from the enclosure planes, the columns and alike demonstrate how spatial articulation was done in the atrium. Hence, all the vertical and horizontal surfaces or architectural planes in the atrium became the backbones for such spatial articulations.

As a visually attractive and pleasure-giving spatial volume, the garden was a totally open space to the sky. In the majority of the atrium house, the gardens were located at the back of the main axis. They therefore were the terminus points of the visual and physical access in the house. The form-giving and space-defining articulations were also done, in more alternative ways in the design of the gardens. The Roman gardens which can be interpreted as the tamed versions of the wild nature could be enriched with pools, fountains, statues, garden furniture, fences, paths and planting in ever changing assemblages. Gardens at the same time usually received colonnades but the preferred form was a *peristyle* garden, a garden which was surrounded with porticoes on four sides. Gardens that were surrounded with colonnaded porticoes on two, three or four sides exhibited a spatial perception and perspective of linearly extending row of vertical design elements that gave an impression of a porous enclosure located at the center of the rear area. The colonnade in this composition marked out the garden as a prestigious space. The porous quality of the *peristyle* garden however, was actually different from the one displayed by the atrium. The garden was designed far more porous than the atrium in order to display the center of the garden area as an open installation area of the domestic setting.

Making a small garden appear larger by painting a picture on the colonnade walls was a common practice in ancient Romans. This was a powerful way of utilizing the wall as a plane to make a spatial articulation in the form of color and depth. Besides gardens were appropriate places to play with topography and to arrange further levels

in a house. A sunken garden which is actually a depressed floor arrangement could in this respect, function as a private zone protected from the surveillance of the atrium.

The Roman banqueting room on the other hand was an enclosure. It was usually enclosed by solid surfaces with an opening in the form of a wide doorway only at its entrance façade. It sometimes had openings in the form of windows placed high from the floor level, so that the banqueting room did not lose the quality of being an enclosed space even with its windows; in such cases however the room can also be defined as a ‘‘perforated enclosure’’. The *triclinium* which has couches placed along the three sides of the room was the simple and early form of the Roman banqueting room. It mostly laid off the side off the atrium, close to the *tablinum* in the houses of the Republican period but was moved to the garden area under the Empire. The apsidal banqueting rooms were also popular in the late Imperial domestic architecture. The apse as the new planar design element was not an architectural innovation but was used more frequently in this later period. The open air banqueting rooms also gained significance in the planning of the private setting. These were used to create alternative spatial schemes in the adornment of the gardens.

The Roman banqueting rooms, similar to the atrium and *peristyle*, also received space-articulating design elements such as wall paintings, mosaic pavements and columns which actually constituted the architectural personality of the perforated enclosure. The most significant spatial design principle in the Roman banqueting room however, was the organization of the viewing systems from the positions of the guests. As privileged design criteria, the view from the banqueting room was the expectation of the Roman banqueters. This expectation influenced the architectural layout of the space and the choice of the architectural location of the banqueting rooms in the private setting, as well as its level of opening and orientation. The banqueting room became a bigger volume by being combined with the gardens in visual terms. The door opening of the banqueting room was not only a subtraction from the wall plane to function as an entrance, but also framed the visual viewing system towards the garden.

A group of atrium houses such as the House of Loreius Tiburtinius, the House of Meleager, the House of Apollo and the House of the Anchor are chosen to support and illustrate the discussion. The similarities and differences of these houses in terms of form-giving and space-defining compositions exhibit the varieties and departures from the canonical atrium house design. These houses were designed according to the traditional symmetrical and sequential axis but the spatial articulations they received made them different from many of the atrium houses in Pompeii. The House of Loreius Tiburtinius, for instance, was different for its huge and formally organized garden which was a majestic open court. The House of Meleager had the atrium and the *peristyle* garden side by side but not on the same alignment. This house broke the traditional sequential axis of the house and created a duality of the centers in the domestic setting. The most noteworthy and unusual spatial organization seen in the House of the Apollo was its sunken garden. This garden area was a major depressed volume which reflected the design taste of its owner. The volume of the domestic setting in this house was increased by manipulating the topography. As a more vertically expanding volume, the garden of the House of the Anchor was also different from the traditional, mostly horizontally stretching and single-storey gardens of Pompeii. The house was unique for its grand two-storey *peristyle* garden.

The design of these houses displays the creativity, difference in the design taste and innovative flexibility of their architects and home owners. All these houses were designed to create unique examples and were innovative in terms of plan composition and spatial disposition. The different design schemes might also be seen in the context of how home owners responded to their personal ambitions, preferences and visions in terms of using architectural design as a way of embellishing their private setting. The huge garden of the House of Loreius Tiburtinius, for instance, might symbolize the love of nature and open air of its home owner. Perhaps this house reminded him of his villa and its natural habitat in the countryside. House of the Anchor, on the other hand, could well be an example where the building boundaries limited a horizontal expansion and thus prevented the owner from arranging a large garden to suit his taste; his response to this limitation

was overcome by planning a ‘‘tall’’ garden and hence acquiring an imposing spatial volume perceived vertically.

The recurring plan scheme of the Roman atrium house, as the examples illustrated, did not hinder the home owner from executing different spatial alternatives without losing the essence of the spatial quality of the atrium house. This was made possible by using the same basic form-giving and space-defining elements seen in all the atrium houses in different combinations; points, lines, planes and volumes and their articulations illustrated how innovation could be inserted smoothly into the traditional, thus reflecting personal preferences and choices in modifying and enriching private ‘‘dwelling’’.

BIBLIOGRAPHY

Allison, P. M. (2004), *Pompeian Households: An Analysis of the Material Culture*, Los Angeles: Cotsen Institute of Archeology at University of California.

Anderson, E. B. (1990), Fountains and the Roman Dwelling, Casa Del Torello in Pompeii*, JDL,* 105, 207-236.

Arnheim, R. (1977), *The Dynamics of Architectural Form*, Berkeley, Los Angeles, London: University of California Press.

Barton, I. M. ed. (1996), *Roman Domestic Buildings*, Exeter: University of Exeter Press.

Bek, L. (1983), Questiones Convivales, The Idea of Triclinium and the Staging of Convivial Ceremony from Rome to Byzantium, *Analecta Romane Institute Danici,* 12, 81-107.

Bergmann, B. (2002), 'Art and Nature in the Villa at Oplontis' in T. McGinn, P. Carafa, N. Grummond, B. Bergmann, T. Najbjerg eds., *Pompeian Brothels, Pompeii's Ancient History, Mirrors and Mysteries, Art and Nature at Oplontis and the Herculaneum Basilica,* JRA Supplementary Series, 47, Portsmouth, Rhode, 87-120.

Bradley, K. (1998), 'The Roman Family at Dinner' in I. Nielsen and H. S. Nielsen eds., *Meals in a Social Context: Aspects of the Communal Meal in the Hellenistic and Roman World*, Aarhus: Aarhus University Press, 36-55.

Brothers, A. J. (1996), Urban Housing in I. M. Barton, *Roman Domestic Buildings*, Exeter: University of Exeter Press, 33-63.

Carpiceci, A. C. (1977), *Pompeii: 2000 Years Ago*, Firenze: Bonechi.

Ching, F. D. K. (1979), *Architecture: Form, Space and Order*, New York: Von Nostrand Reinhold.

Clarke, J. R. (1991), *The Houses of Roman Italy, 100 BC-AD 250: Ritual, Space and Decoration*, Berkeley: University of California Press.

Clarke, J. R. (2007), *Roman Life: 100 BC to AD 250*, New York: Abrams.

Conway, H. and Roenisch, R. (2005), *Understanding Architecture: An Introduction to Architecture and Architectural History*, London, New York: Routledge.

Corte, M. D. (1979), *Pompeji: Die Begrabe Stad*, Venezia: Edizione Amedeo Storti.

Çinici, A. (2006), *An Architectural Investigation of Leisure Spaces in the Roman Domestic Context: The Case of Ephesus,* Unpublished M.S. thesis, Ankara: Middle East Technical University.

Çonkır, E. (2005), *Architectural Elaboration of the ''Public'' in the Domestic Architecture of Late Antique Anatolia: Changes and Transformations in the Private Setting*, Unpublished M.A. thesis, Ankara: Middle East Technical University.

Dunbabin, K. M. D. (1991), '*Triclinium* and *Stibadium'* in W. J. Slater ed., *Dining in a Classical Context*, Ann Arbor: The University of Michigan Press, 121-148.

Dunbabin, K. M. D. (2003), *The Roman Banquet: Images of Conviviality*, New York: Cambridge University Press.

Dwyer, E. (1991), 'The Pompeian Atrium House in Theory and Practice' in E. K. Gazda ed., *Roman Art in Private Sphere*, Ann Arbor: The University of Michigan Press, 25-48.

Ellis, S. P. (1991) 'Power, Architecture and Decor: How the Late Roman Aristocrat Appeared to His Guests' in E. K. Gazda ed., *Roman Art in the Private Sphere*, Ann Arbor: The University of Michigan Press, 117-138.

Ellis, S. P. (2000), *Roman Housing*, London: Duckworth.

Farrar, L. (1996), *Gardens of Italy and the Western Provinces of the Roman Empire: From Tempus Reparatum*, Oxford: Tempus Reparatum.

Farrar, L. (2000), *Ancient Roman Gardens*, Stroud: Sutton.

Flower, H. I. (1996), *Ancestor Masks and Aristocratic Power in Roman Culture,* Oxford: Clarendon Press

Foss, P. W. (1997), 'Watchful Lares: Roman Household Organization and the Rituals of Cooking and Eating' in R. Laurence and A. Wallace-Hadrill eds., *Domestic Space in the Roman World: Pompeii and Beyond*, JRA Supplementary Series, 22, Portsmouth, 196-218.

Gargus, J. (1994), *Ideas of Order: A Formal Approach to Architecture*, Iowa: Kendall/Hunt Publishing Company.

Garnsey, P. (1999), *Food and Society in Classical Antiquity*, Cambridge: Cambridge University Press.

Gazda, E. K. ed. (1991), *Roman Art in the Private Sphere*, Ann Arbor: The University of Michigan Press.

George, M. (1998), Elements of the *Peristyle* in Campanian Atria, *JRA*, 11, 82-100.

Hales, S. (2003), *The Roman House and Social Identity*, Cambridge and New York: Cambridge University Press.

Hillier, B. (1984), *The Social Logic of Space*, Cambridge: Cambridge University Press.

Jashemski, W. F. (1979), *The Gardens of Pompeii, Herculaneum, and the Villas Destroyed by Vesuvius*, New Rochelle, New York: Caratzas Brothers Publishers.

Jashemski, W. F. (1993), *The Gardens of Pompeii (Volume 1)*, New Rochelle, New York: Aristide D. Caratzas Publisher.

Jashemski, W. F. (1993), *The Gardens of Pompeii (Volume 2)*, New Rochelle, New York: Aristide D. Caratzas Publisher.

Jashemski, W. F. and Meyer F. G. eds. (2002), *The Natural History of Pompeii*, Cambridge: Cambridge University Press.

Jones, R. and Robinsan, D. (2005), Water, Wealth, and Social Status at Pompeii: The House of the Vestals in the First Century, *AJA*, 109, 695-710.

Jules, F. (1974) *Form/Space and the Language of Architecture*.

Kebric, R. B. (2005), *Roman People*, Boston, Mass: McGraw-Hill.

Laurence, R. (1997), 'Space and Text' in R. Laurence and A. Wallace-Hadrill eds. *Domestic Space in the Roman World: Pompeii and Beyond*, JRA Supplementary Series, 22, Portsmouth, 7-14.

Laurence, R. and Wallace-Hadrill, A. eds. (1997), *Domestic Space in the Roman World: Pompeii and Beyond*, JRA Supplementary Series, 22, Portsmouth.

Lavan, L. and Bowden, W. eds. (2003), *Theory and Practice in Late Antique Archeology*, Leiden: Brill.

Lawson, J. (1950), The Roman Garden, *Greece and Rome,* 19, 97-105.

Ling, R. (1996), *The Insula of the Menander in Pompeii*, Oxford: Clarendon Press.

MacDougall, E. B. and Jashemski, W. F. eds. (1987), *Ancient Roman Villa Gardens*, Washington: Trustees for Harvard University.

Meiss, P. V. (1989), *Elements of Architecture: From Form to Place*, London: Van Nostrand Reinhold.

McGinn, T., Carafa, P., Grummond N., Bergmann, B., Najbjerg, T. eds. (2002), *Pompeian Brothels, Pompeii's Ancient History, Mirrors and Mysteries, Art and Nature at Oplontis and the Herculaneum Basilica*, JRA Supplementary Series, 47, Portsmouth, Rhode.

McKay, A. G. (1998), *Houses, Villas and Palaces in the Roman World*, Baltimore: The Johns Hopkins University Press.

Nielsen, Inge and Nielsen, Hanne S. (1998), *Meals in a Social Context: Aspects of the Communal Meal in the Hellenistic and Roman World*, Aarhus: Aarhus University Press.

Özgenel, L. (2000), *Between Public and Private: Investigating Privacy in the Roman Domestic Context*, Unpublished Ph.D. thesis, Ankara: Middle East Technical University.

Polci, B. (2003), 'Some Aspects of the Transformation of the Roman *Domus* Between Late Antiquity and the Early Middle Ages' in L. Lavan and W. Bowden eds. (2003), *Theory and Practice in Late Antique Archeology*, Leiden: Brill.

Prak, N. L. (1968), *The Language of Architecture*, Paris: Mouton & Company.

Richardson, L. (1988), *Pompeii: An Architectural History*, Baltimore: The Johns Hopkins University Press.

Sennett, R. (1994), *Flesh and Stone: The Body and the City in Western Civilization*, New York, London: W.W. Norton & Company.

Slater, W. J. ed. (1991), *Dining in a Classical Context*, Ann Arbor: The University of Michigan Press.

Snyder, J. C. and Catanese, A. J. (1979), *Introduction to Architecture*, New York, St. Louis, San Francisco: McGraw-Hill Book Company.

Stein, J. ed. (1967), *The Random House Dictionary of the English Language*, New York: Random House.

Vitruvius (1960), *The Ten Books on Architecture*, translated by Morris Hicky Morgan, New York: Dover Publications.

Wallace-Hadrill, A. (1994), *Houses and Society in Pompeii and Herculaneum*, Princeton, New Jersey: Princeton University Press.

Zanker, P. (1998), *Pompeii: Public and Private Life*, Cambridge, Mass: Harvard University Press.

Zevi, B. (1957), *How to Look at Architecture as Space*, New York: Horizon Press.