

## **Architecture as talisman: The hidden links between Vitruvius' theatre and Palladio's villa «Rotonda»**

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Giulio Camillo Delminio, one of the most renowned men of the first half of the XVI century in Venice, became famous all over Europe for having constructed and actually built a wooden theatre with the purpose of improving the power of memory. This theatre was full of various «images of memory», such as «interior talismans», well illustrated by Frances Yates in her beautiful book *The Art of Memory*.

Following the magic treatise *Picatrix*, the talisman becomes an object into which one infuses life, not only by means of magic rituals, but also, as in the ancient example of Egyptian sculpture, through the meticulous application of exact geometrical and mathematical proportions.

Thus, the wooden theatre, into which the images of the memory were placed, was itself a talisman; built following the proportions of Vitruvius' theatre, it was a real and proper talisman of the world, a «building» with such a shape and geometric relationships that the magnificence of the whole life of the Universe was infused into it.

Vitruvius' theatre, in fact, created a vast amount of interest in Venice throughout the XVI century, starting with Alvise Cornaro and Falconetto to Barbaro and Palladio, and culminated in the Palladian project for the «Teatro Olimpico» at Vicenza.

In this paper we present an analysis of Palladio's masterpiece villa «Rotonda», starting from the basis of an original investigation regarding the significance of the Vitruvian theatre. This analysis is based upon

other classical authors, such as Ptolemy, with the aim of clarifying the most profound analogies one encounters in the «De Architectura»: astronomical and astrological, mathematical, geometrical and musical analogies.

Surprisingly enough investigation regarding the profound significance of geometry emanating from the Vitruvian theatre provides us with a key in finally explaining —adopting a unitary method— and solving the enigma of the whole system of dimensions and reciprocal ratios among the various rooms comprising the villa, including the circular central room.

Moreover this study provides us with other meanings in addition to those concerning the single building considered. Thus it is actually proved that the same musical basis of proportions sets both the ratios between the dimensions of small integer numbers (which are fundamental in musical consonances) and the geometries of the regular polygons inscribed in a circle, «modulated» by the number of sides.

Finally, an interpretation is proposed which surpasses the denial of importance of irrational ratios in the architectural proportions of the Renaissance. This opinion was a principal thesis in the fundamental essay *Architectural Principles in the Age of Humanism* by the great historian and critic Rudolf Wittkower. Moreover, the two aspects indicated by the same Wittkower, leading architectural theory of

the Renaissance, are now unified. In fact the common musical analogy appears to be the same root of circular geometries and simple proportions.

#### VITRUVIUS' ANALOGICAL THEATRE

Of the twelve chapters contained by the fifth book of the Vitruvius' *De Architectura*, dedicated to public places and buildings, at least seven (from 3 to 9) are dedicated to the theatre; among these, two deal with musical themes for the most part, while the remainder make constant references to this subject. The particular attention given to the theatre is justified by its being a perfect example of the concept which Vitruvius has of architecture. According to this conception a building reaches perfection when it appears to be *epiphany* of nature, in a signification to which contribute the sphere of knowledge, together with that of religious sentiment. As an instrument of knowledge throughout the world, in addition to its position occupied in that of man, construction permits the understanding and representation of nature.

Vitruvius demonstrates his own agreement with the tradition of expressing the concept of an idea, which is not just beautiful but perfect. Therefore, both beautiful (*venustas*) and true (*firmitas* and *utilitas*). On these grounds, the importance of *ratiocinatio*, and paying tribute to the ancient scholars and scientists who made it their task to hand down their discoveries in writing, is understandable.

In this context the theatre becomes a place where the nature of sound is revealed: of a physical and sensorial nature together with a cosmic and metaphysical nature. The established rules concerning the inclination angles of the cavea, the height of the walls of the *praecinctiones* and the acoustic instruments (*echeia*) apparatus situate the sensitive nature of sound inwards with regard to the architectural epiphany of the cosmic nature of sound, which generates the formative geometry of the theatre. The mathematical and musical *ratio* regards both the overall geometry of the building and the arrangement of the acoustic instruments (*echeia*) whose value consists in its naturalness: «Ergo veteres architecti naturae vestigia persecuti indagacionibus vocis scandentis theatrorum perfecerunt gradationes, et quaesierunt per canonicam mathematicorum et musicam rationem, ut, quaecumque vox esset in

scaena, clarior et suavior ad spectatorum perveniret aures» (Vitruvius, V. 3).

That the nature of harmonies, which regulate the theatre plan, is precisely cosmic is confirmed in the ninth book (Vitruvius, IX. 1) where the description concerning the division of the sun rays from one zodiacal sign to the others concords with the *trigonals* (triangles) which form the geometric base of the plan for a Roman theatre. That it is metaphysical is proven, once again in the ninth book, by the invocation of a divine intellect to explain the structure of the Universe (Vitruvius, IX. 11). If the *echeia* and the twelve zodiacal points, which dissect the theatre plan, respectively reflect the physical and metaphysical aspect of the sound, their chord is total when we consider that it is the same range of musical notes (the perfect system constituted by two octaves) which covers the *echeia* apparatus and the zodiacal circle articulated according to the twelve tones upon which the Greek perfect musical system is extended.

Only in a building considered as a complete epiphany of sound is it possible for man to definitively take his place, with his poetry and song, so that this poetry and song enter into complete resonance with the theatre space, make it vibrate with its own life. But as this space also represents the figure of the cosmic nature of sound, of the musical structure of the world, man, defining and being in tune with its own sonorous nature, the voice and the song, also defines his own position in the world.

This is the sense of the imaginative synthesis focusing upon the comparison between theatre and the musical instrument—in this case an instrument of expression rather than one of knowledge: «Uti enim organa aeneis lamminis aut corneis echeiois ad chordarum sonitum claritatem perficiuntur, sic theatrorum per harmonicen ad augendam vocem ratiocinationes ab antiquis sunt constitutae» (Vitruvius, V. 3).

#### THE HARMONIES OF THE CIRCLE

The plan of the Roman type of theatre provides for the inscription, in a circle, of four equilateral triangles, so that the apex lies upon the circumference at equal distances, one from the other (Figure 1).

As a comment regarding geometric construction it is stated: « . . . quibus [scil. trigonis] etiam in duodecim

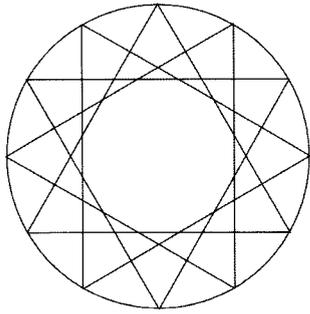


Figure 1  
Generative plan of the Roman theatre according to Vitruvius.

signorum caelestium astrologi ex musica convenientia astrorum ratiocinantur» (Vitruvius, V. 6).

This brief passage should be considered in relation to that disclosed in I. 1, where it is stated: «Similiter cum astrologis et musicis est disputatio communis de sympathia stellarum et symphoniarum, in quadratis et trigonis, diatessaron et diapente, . . . » (Vitruvius, I. 1).

There are numerous ideas and problems which refer to these few lines of *De Architectura*; almost a glimmer opening upon a vast and articulated galaxy of thoughts and conceptions, which represented a common patrimony for various cultures, despite diverging differences, both in time and space.

The first matter to be clarified is the nature of the relationship between the geometric constructions of

the theatre, the zodiacal constellations and the musical intervals. The comparison between the first two points is comparatively simple: the most evident analogy is that the theatre plan makes room for twelve apexes —the number of the zodiacal signs. In order to continue we require the assistance of an ancient astrological source: the complete affinity between the two diagrams can be found referring to Ptolemy's *Tetrabiblos*, a work dedicated to the astrological predictions of the great astronomer of the II Sec. A.D. Although post-Vitruvius, this work amounts to the total sum of ancient astrology and contains, in systematic form, the elements of the «immense . . . literature which, throughout the centuries, from the beginnings of Hellenism to the decline of Greek-Roman antiquity, have assisted the cause of astrology» (Boll, Bezold and Gundel 1977, 39).

Chapter I. 14 of Ptolemy's *Tetrabiblos* is dedicated to the aspects of zodiacal signs (*radiationes, suschematizomena* or *schematismoi*), i.e. to one of the various types of affinity or reciprocal relationships between the signs. In order to understand how these aspects arise, we must consider the twelve constellations equidistant on a circumference. The simplest aspect is the opposition, in other words two signs connected by a diameter; the others are the trigonal, three signs to three apexes of an equilateral triangle (Figure 2); the tetragonal, four signs on four apexes on a square (Figure 3); the sextile, six signs on the apexes of a hexagon (Figure 4).

It is evident that the geometric plan of the Roman theatre is the same as that of the trigonals.

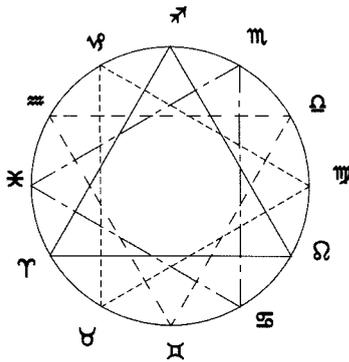


Figure 2  
The trigonals

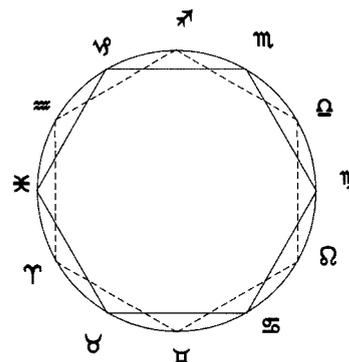


Figure 3  
The tetragonals

The central point is the relationship between this geometry and the musical intervals. For this reason it is necessary to illustrate the third point of the analogical series made up of, respectively, polygons, inscribed upon the circle, astrological aspects and musical intervals. It is Ptolemy who, once again, provides us with an exhaustive and elegant theorisation in his treatise on harmony (*Ptolomaeus Armonikōn Biblīa Γ*, III. 9), in which he compares consonances to the relationship between the zodiacal signs. In order to establish the comparison the circle is divided into twelve equal parts which, for our purposes, we will refer to as degrees —as twelve is the common minimum multiple of three and four. The small whole numbers express the harmony intervals. The zodiacal aspects are the opposition, the trigonal, the tetragonal and the sextile, corresponding, respectively, to the diameter, the triangle, the square and the hexagon: to clarify all of this the diagram below (Figure 5) demonstrates the figures relative to the aspects.

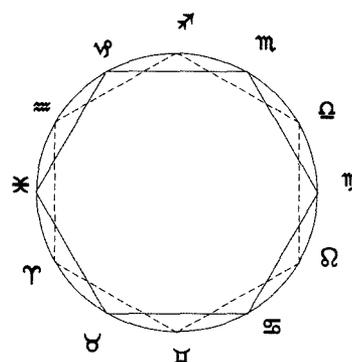
The Table 1 refers to the above diagram as a brief indication of how many degrees each arch, which sub-tends the sides of the polygons, measures: more precisely, the four letters (ABCD) indicate the whole circle, the three letters indicate arches greater than 180 degrees and AB indicates the semi-circle, while the two letter combinations indicate the arches corresponding to only one side:

Table 1

The whole circle ABCD	12
ABD	9
ABC	8
AB	6
AC	4
AD	3

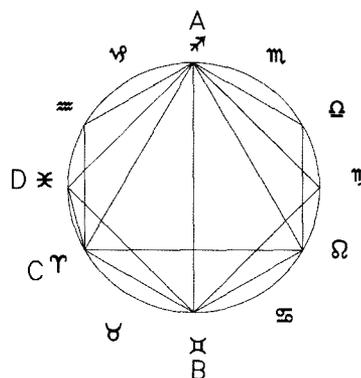
From the numbers indicated above it is possible deduce all the relationships which produce the harmonies as classified by Ptolemy.

In addition to the real and proper harmonies it is interesting to note how the tone is also integrated corresponding to the 9/8 relationship.

Figure 4  
The sextiles

As can be seen, this treatment provides us with an insight into a kind of musical mathematics with regard to the circle, where deeper investigation of the relationships between intervals and geometrics appears to go beyond purely astrological objectives. However, after general examination Ptolemy returns to the aspects, in order to explain the same correspondence between the triangles and the fifths and between the squares and fourths, precisely referred to by Vitruvius (« . . . in quadratis et trigonis, diatessaron et diapente . . . »):

Therefore, according to the same classifications [those referred to in the table above], the fifth corresponds to the

Figure 5  
The geometry of the aspects

triangle, the fourth to the square and the tone to the twelfth part of the circle. In fact the ratio between the circle and the semi-circle AB is the double ratio [1:2, octave], the ratio between the semi-circle and the arch sub-tended at the side AC of the triangle is the 2:3 ratio [fifth], whereas the ratio between the same arch sub-tended at the side of the triangle and the arch sub-tended at the side AD of the square is the 3:4ratio [the fourth]. (Ptolomaeus *Αρμονικῶν Βιβλία Γ*, III. 9)

All things considered, the triangle corresponds to the fifth as it is in this relationship with the semi-circle which, in turn, is at the eighth with the circle, whereas the square corresponds to the fourth because it is in this relationship with the triangle. Vitruvio bears witness, then, to the antiquity of these relationships which date back to at least a few centuries before Ptolemy.

The significance of the division of the circle is declared by Ptolemy using these words: «Nature, therefore, divided the zodiac into twelve according to reason, as it also formed the two octaves of the perfect system of twelve tones and the tone closest to the twelfth part of the circle» (Ptolomaeus *Αρμονικῶν Βιβλία Γ*, III. 9).

Therefore, the double octave contains twelve tones, and the tone can be compared to the side of the dodecagon. The division of the double octave into twelve throws light on the true nature of the musical analogy of the circle. Still referring to the *Harmonica* (Ptolomaeus *Αρμονικῶν Βιβλία Γ*, III. 8), the twelve signs of the zodiac are, in fact, placed, first, along a line representing the two octaves, with Libra in the centre corresponding to the «mese» musical tone (first octave) and with Aries corresponding to the two outermost musical tones, the longest and the highest (Figure 6).

Then the two extremes of this line coincide, generating a circle: the zodiac circle reproduced related to the fifteen notes of the Greek perfect musical system, corresponding to the twelve tones of the double octave (Figure 7).

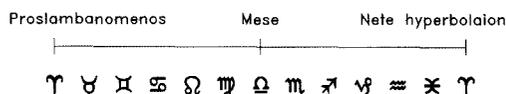


Figure 6

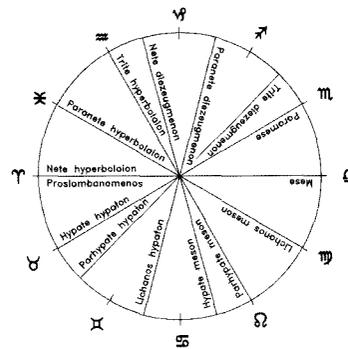


Figure 7

The nature of the analogy is, therefore, evident: the circle is no more than a Pythagorean cord, whose extremes coincide, the divisions of the circle are equivalent to the partitions of the monochord and these generate the same relationships.

After all, as Barbaro states in his comments to Vitruvio, «the arithmetic rules, then, are those which create the unity between music and astrology, due to a common proportion» (Barbaro 1584, 24).

The nature of the relationship between geometry and sounds provides us, therefore, with a basic mathematical aspect but, in addition to this, and perhaps exactly for this reason, there are also other analogies to be considered; this comes as no surprise once touched upon by the astrological environment, a type of speculation which, as Warburg said, «allies . . . two spiritual powers, completely heterogeneous . . . mathematics . . . and the power of demons» (Warburg 1966, 331–332).

Another interesting implication of the astrological trigonals regards the link between these, the cardinal points and the winds. This aspect concurs, as will be seen, with a harmonic and complete interpretation of the analogies decipherable in the plan of Palladio's «Villa Rotonda».

Ptolemy, in the *Τετραβιβλος*, classifies trigonals according to their direction. On the assumption of this classification they are the domiciles of the planets in their various signs. In fact this coupling of trigonals and cardinal points should concord with the traditional identification of Jupiter with the north, Venus with the south, Saturn with the east and Mars with the west. The identification of the trigonals with

the cardinal points is then averaged out from the domicile of the planets formed by the signs which compose each trigonal. In order to identify the trigonals let us refer to the following graph: the first trigonal is composed of Aries, Leo and Sagittarius, the second by Tauruse, Virgo and Capricorn, the third Gemini, Libra and Acquarius and the fourth Cancer, Scorpio and Pisces (Figure 8).

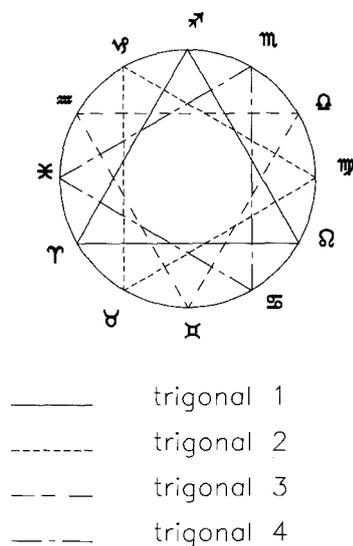


Figure 8

In order to understand Ptolemy's thinking we should follow what he says concerning the first trigonal: «This trigonal is prevalently north orientated for the governing part concerning Jupiter, which is prolific and blustery like the north wind. To be also domiciled with Mars the trigonal suffers a combination of western winds . . . » (Ptolomaeus *Tetrabiblos*, I. 19) Therefore, it is the affinity among the planets, together with the various winds, which determine the direction. Essentially the wind directions are the same of those of the cardinal points. The directions which Ptolemy associates with the four trigonals are demonstrated below (Figure 9).

It is natural, at this point to make a comparison between these additional analogies, which originate from the same background as the musical ones, and

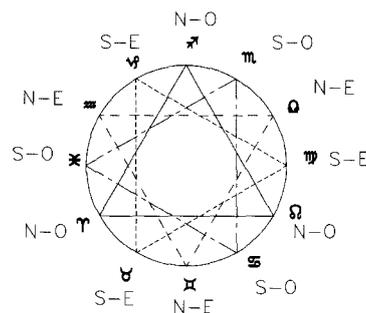


Figure 9

the urbanistic precepts provided by Vitruvius in the first book, on the basis of which an extensive and extremely detailed theory of the winds is expressed. This comparison acquires even more importance if we consider a passage contained in the ninth book of *De Architectura*. Expounding the variations concerning the sun's course with regard to the succession of the zodiacal signs, Vitruvius mentions, while speaking of the Pisces constellation, the name of a wind: «Ab aquarium cum ingressus est in pisces favonio flante, scorpionis comparat aequalem cursum» (Vitruvius *De Architectura*, IX. 3).

The reference to the name of a wind is particularly significant: in a context, which to our modern thinking appears to be completely alien, the emphasis upon «favonio flante» (west wind) is evidence of how natural astronomical references were during Vitruvius' epoch. The Favonius, equivalent to the Greek ζεφυρος, is the westerly wind linked to Pisces, not through the domicile planet Jupiter (north) but through the affinity of the trigonal, as Mars (west) has its domicile in Scorpio, which belongs, as does Pisces, to the fourth trigonal. This brief indication makes it possible to discern a unitary horizon, which passes from the first book of *De Architectura* (the urbanistic indications, cardinal points and winds) to the ninth book (the sun, which radiates light throughout the Universe following triangular geometries and, again, the winds and cardinal points related to the zodiac), passing to the fifth book (the geometrical constructions of theatres and their astrological and musical connections).

**VITRUVIUS' THEATRE AND PALLADIO'S  
VILLA «ROTONDA»**

The theatre, in particular the renewal of the old theatre described by Vitruvius, was considered to be a characteristic trait of Venetian Renaissance culture by the great historian Frances Yates. It is interesting that a historian of Culture should make such a declaration rather than a «simple» architectural historian. The reason for this is the coincidence of the motives which Venetian culture borrows from the previous Florentine elaboration of Marsilio Ficino and Pico della Mirandola, with significant extracts from the Vitruvian treatment of the theatre.

This centrality of the Vitruvian theatre has also been examined in modern architectural historiography: the Vitruvian matrix of the Odeo Cornaro, designed by Faconetto for Alvise Cornaro, was, in fact, examined in addition to that of the «Teatro Olimpico» by Palladio (Magagnato 1992). The most profound influence of the Vitruvian theatre upon Venetian Renaissance is, however, perhaps, that indicated by Frances Yates, i.e., that which emanated from the Theatre of Memory by Giulio Camillo Delminio. This theatre, which was also actually constructed, was conceived as a mnemotechnical support in a philosophical and magical (in Renaissance terms) sense.

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Following the magic treatise *Picatrix*, the talisman becomes an object into which one infuses life, not only by means of magic rituals, but also, as in the ancient example of Egyptian sculpture, through the meticulous application of exact geometrical and mathematical proportions.

Thus, the wooden theatre, into which the images of the memory were placed, was itself a talisman; built following the proportions of Vitruvius' theatre, it was a real and proper talisman of the world, a «building» with such a shape and geometric relationships that the magnificence of the whole life of the Universe was infused into it.

The point to be considered as essential in the creation of a talisman is, therefore, its proportional structure. The study of proportions referred to in the designs illustrating the Four Books by Palladio was

effectively a fundamental guide for his exegetists, from Briseux to Wittkower.

In the extremely important modern essay regarding Palladio, *Architectural Principles in the age of Humanism*, by Rudolf Wittkower, many of Palladio's villas are analysed interpreting the relationship between the dimensions of the rooms in light of the proportional means of various type, both essentially musical or simply geometrical or arithmetical, but referring exclusively to rational relationships between small integer numbers, which represent the length of the various dimensions on the plan of the rooms which make up the building.

For instance, in the overall proportion of Villa Barbaro at Maser, the fourteen assumes a coherent role if one interprets it, according to Wittkower, as the arithmetic mean of two other dimensions measured from the numbers 12 and 16. For this derivation, however, there is not a direct musical analogy. Nevertheless, the proportions of the Maser villa referred to in the *Quattro Libri*, are presented, in this light, as a perfectly co-ordinated joint combination. There exist, however, in the Palladian treatment, other plans where dimensions of fourteen feet are not compared to the other two terms of the proportional arithmetic ternary. We could, therefore, consider a repertory of measurements which spans the entirety of Palladio's projects, as if a sole proportional co-ordinated the architect's entire collection of works and where the explanation of each particular proportion lies. If, on an ideal level, this assessment is ultimately close to the truth, it is, in reality, both laborious and futile to draw conclusions with regard to these particular applications as consequences of a theorem. For the dimension of fourteen feet it is possible to note how, in more than one case, it is close to the dimension of 20 feet. This causes one to think of an implied relationship of the diagonal to the side of the square. This relationship is, moreover, among the seven suggested in the first of the *Quattro Libri* for the measuring of the rooms.

The impression could arise, then, that certain relationships, even though numerically incommensurate, are, nevertheless, the result of simple operations, as Palladio himself preferred (in the First Book the simplicity is exalted) and, further, that these themselves express the will of harmonic creation.

If it is possible to examine the nature—in the true numerical and geometrical sense—of the

proportional which provides the measurement of fourteen feet (as well as that of thirteen and seventeen) in many designs of the Palladian treatise, it is necessary to completely dispense with the numerical commensurability and the dilemma between geometry and numbers if we wish to present an interpretation which consolidates, into one unique description, the harmonic-musical analogy and significance which come into evidence during the critical acclaim bestowed upon this monument: Villa Almerigo, referred to as «La Rotonda».

In more general terms of the accepted evaluation we can cite two references. Using the words of Camillo Semenzato: «The Rotonda . . . can be considered as the most emblematic expression» of Palladio's art, «it is an exemplary paradigmatic building, so as to combine all the fundamental aspects of the Palladian problem». On the other hand he also emphasises the «exceptional character, which, under all aspects, is exactly that of the Rotonda».

The exceptionality is in its type: «The Rotonda escapes . . . completely from the classical typology of the farmhouse-villa». Palladio does not place it, in the *Quattro Libri*, in the category of the villas but in that of the palaces.

Therefore, the critical position is that between the emblematic and the exceptional and this double reference appears, however, to be contradictory. The exceptionality, then, is not only present in the typological disparity among the most frequented of country and suburban villas; the geometry and organisation are exceptional. At first the various numbers appear to be irreducibly irregular which, in the design referred to in the treatise, determine the proportions and reciprocal relationships of the rooms. Only a few of these can, in fact, be interpreted with commensurable relationships of the musical analogy and proportional means. The discrepancy between the actual villa constructed and that designed in the treatise is also particular (Figure10); regarding today's accepted opinion the designs of the treatise signified the «emblematic and theoretical», i.e. were a sort of ideal model for buildings. All of this, then, justifies their importance rather than their actual measures when analysing Palladio's «architectural principals».

The exceptionality of the «Rotonda» is translated into the interpretation of a villa-temple, deriving from the stateliness of the dome, in addition to some of the

most exploited sources of the classical temple. In all of this one perceives, undoubtedly, a suggestion of the Pantheon, consolidated by the testimony of Inigo Jones referring to the eye on the open sky existing in his time in place of the lantern, which is both in the treatise and in the present state of the construction.

There are also references to the Roman shrines from the republican era at Tivoli and Preneste. Palladio, in one of his drawings, re-constructs the shrine at Preneste: as a coronation of the shrine there is the framework of a building comparable to the «Rotonda». The shrine also presents another suggestion which links sacredness and architectural theory relative to, even if non-exclusively, the temple-type. The presence of exedra and cavea areas indicate that theatrical space and religious buildings are parts of a single sacred area. The intrinsic sacredness of the ancient theatre encourages, then, the suggestion of an interpretation of the «Rotonda», which is a comparison to the richness of retort and conceptual overlapping, seen by means of the Vitruvian treatment of the theatre. From this comparison we will discover how a joint description is formed from the various observations posed concerning villa «Almerigo».

The numbers which appear on the plan referred to in the *Quattro Libri* (Figure10) will be our guide with regard to this research. If we assume that the fundamental task of proportioning for a plan characterised by the centrality of a circle had to be, for Palladio, that of co-ordination, harmonisation between the dimensions of the circle and the adjoining rooms on the orthogonal side, one will be struck by the fact that the measurement of 26 feet, which constitutes the largest dimension of the four main rooms corresponding to the four edges of the building, is the length of the side of the equilateral triangle inscribed in the circle of a diameter of 30, which is, in fact, the central circular room.

These four rooms appear, in effect, to correspond to the four equilateral triangles inscribed in the circle, which constitute the basic figure of Vitruvius' (Roman) theatre. The allusion becomes analogy when we consider the orientation of the villa and remember what has previously been stated regarding the symbolic connections between the four astrological trigonals, the winds and the four cardinal points. Each zodiacal trigonal is coupled with a cardinal point in ancient astrology; this coupling is determined by the

dominant wind under the main signs (i.e. in the months governed by those signs) of the trigonals.

With regard to the «Rotonda» we can note — almost as if it were an anomaly— how the cardinal points correspond to the edges and not to the fronts: however, «this orientation is too perfect to be purely casual» (Semenzato 1990). If each of the larger rooms refers to a trigonal it is evident that it is actually the edges where the rooms meet which necessarily point towards the cardinal directions. The justification of the orientation «at the edges» was seen as being correct as a response to the wind direction: «The strongest of the dominant winds in the region comes from the north-east and it was considered better to place it in opposition to an edge rather than a front» (Semenzato 1990). This is a practical justification (moreover, a facade at north-east corresponds, whereas to ancient astrological thinking winds, trigonals and the cardinal points are identical).

The hidden presence —submerged— of the geometries in the ancient theatre becomes even more sensitive if we also consider the other dimensions of the rooms. The main areas, at the angles of the villa, take as co-ordinates the measurements of 26 and 15 feet. Fifteen is, then, the larger dimension of the rooms flanking the corridors, which lead to the circular space, while the smaller dimension is eleven (Figure 10). As fifteen is the radius of the central circle, the larger rooms are constituted by proportions which express the harmony of the circle with the triangle inscribed within it; it is impossible not to grasp the precise musical sense of this connection after having examined the Ptolemaic analogies of regular polygons inscribed upon a circle.

As for the dimensions of the smaller rooms (Figure 10), 15 and 11 give us the sum of 26. The division of the larger side of the rooms at the angle of these two unequal parts is also very simple, obtainable from the figure of the four triangles inscribed upon the circle. In fact, the intersection of the two corresponding sides pertaining to two consecutive triangles divides the sides in question exactly according to those proportions.

Essentially, the construction of the four triangles inscribed in the circle appear to harmoniously support not only the relationships between the central room and the main rectangular rooms, but also the relationships and the passage, through the smaller

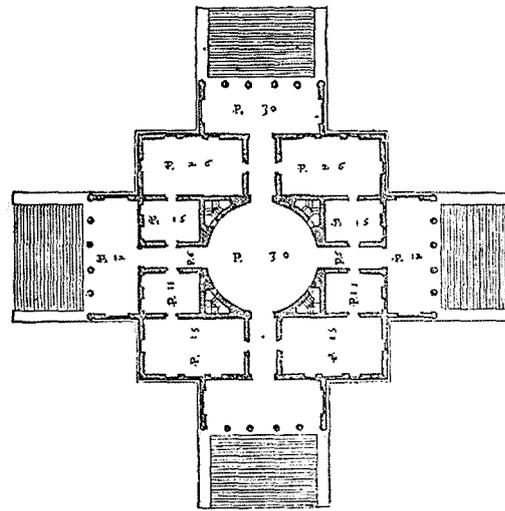


Figure 10  
Rotonda's plan from *Quattro Libri*

rooms, between the four adjacent rooms: one passes from one room to another through smaller rooms which average out the relationships between the larger rooms in the same way in which the intersections of the sides of the triangles average out the relationships of the triangles among themselves.

The numbers 12 and 16 are also introduced into this coherent square: the four trigonals, in fact, subdivide into twelve parts (adjoining the apexes one obtains a dodecagon). So it is also possible to discern an allusion to temporal universality: this aspect is, moreover, obvious (also) when dealing with astrological analogies.

The interpretation emanating from the numbers of the treatise also corresponds with other various aspects of the villa and the description given by Palladio himself. The musical relationships, which the central circle intuits in the adjoining rooms are such that the relationship between 15 and 26 can also be read as in that between the inscribed equilateral triangle and the hexagon (whose side, equal to the edge of the circle is exactly 15): this relationship corresponds, musically, to an octave. This irradiation of harmonious relationships of the circular room to the other rooms is in accordance with the

consecration of the central room as the locality of the Muses and of music.

Finally, Palladio's own words confirm these considerations. In the description of Villa Almerigo, contained in the *Quattro Libri* an explicit reference to the theatre appears:

The site is one of the most agreeable and delightful to be found, due to its position above a hillock of extremely easy access, which looks over the Bacchiglione, a navigable river, on one side and which is surrounded by other pleasant hills —giving the idea of a *very large theatre*— cultivated with excellent and abundant fruits and vines . . .

It has been observed that «the term Theatre, from the Greek θεωρομαι “contemplate”, is dear to 15th century literature and refers to the ample visual aspect provided by the hills» (Assunto 1990). Used by Palladio, however, we can assume that it offers more significance than that generally expected from a literary *topos*. The necessity arises, spontaneously, at this point for us to refer to Palladio's familiarity with the Vitruvian treatment of the theatre and, in an even more conclusive manner, with regard to the conceptual merit of this model relative to his «Teatro Olimpico» in Vicenza.

If the musical and astrological analogies of the ancient theatre extend from the building to nature, extending even further across a cosmic dimension, revealing, in this way, its own harmonious character of a «grand theatre», the sentiment contained in the words used by Palladio to describe his work appear to follow a contrary path: construction is concentration, resonance in a restricted space within that natural «grand theatre»; it is the intensification of a force field which embraces and governs both terrestrial nature —the landscape— and mathematical, geometrical and musical nature, which expresses

itself on a cosmic scale, it is the «talisman» of the world.

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