

Leonardo and the Villa of Charles d'Amboise

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LEONARDO DEVOTED himself to palace and villa typologies in many idealized projects, combining, in the form of an original ensemble, both functionality and geometrical clarity¹. Formed by countless sketches put together in an incoherent manner and fated to remain on paper, they continue to arouse the curiosity of researchers, albeit sorely taxing their patience now and then. The construction and execution of the villa of Charles d'Amboise, Grand Master of France and the king's representative in the capital city of Lombardy, had received authorization². In a letter sent to the Signoria of Florence in December 1506, Amboise, requesting the artist's return to Milan, underlined his skills in the field of architecture:

et volemo confessare che in le prove facte da lui da qualche cosa che li havemo domandato, de disegni et architectura et altre cose pertinenti alla conditione nostra, ha satisfacto cum tale modo, che non solo siamo restati satisfacti de lui, ma ne havemo prehesto admiratione³.

The edifice which Leonardo was about to set to work on was intended for a plot of land situated in the *suburbium* of Milan, probably to the east of the *Porta Orientale* in the old mediaeval wall⁴. In the Albertian sense, he was supposed to combine the proximity of the city, where the Grand Master had official lodgings, with the advantages of country life, by offering a *delizia* apt for recreation, feasts, spectacles, and humanist conversations. The land ran along a water-course called *Fontelunga* (or *Aqualunga*), which, while adding charm to the spot, also simplified the supply of water and the creation of canals and fountains in the gardens. These facts as well as the functional program spurred the architect's imagination, both

artistically and technically. The genesis of the project is illustrated by a dozen sketches which, though swiftly executed, reflect, on Leonardo's part, a switch in priorities and a progressive alignment with the patron's ideas⁵. Notes added by the artist on the same sheet provide explanations about the development of a line of thinking which, likewise, was never followed up⁶.

The Genesis of the Project

• THE FIRST version of the project involves an edifice with a central plan based on the *quincunx*, deriving from the villa at Poggio Reale: an octagonal room at the center is delimited by square corner volumes housing private areas⁷ (see p. 119 "a"). The corner features communicate through porticos formed by three openings, probably arcades set on columns, which lend the façade an elegant levity. A *loggia-vestibulum* calling to mind the villa at Poggio a Caiano leads to the central living room, which would probably have been enhanced by a cupola, giving the building a sacred character⁸. In spite of the amazing popularity enjoyed by this particular typology until the end of the eighteenth century, Charles d'Amboise showed little appreciation of its specific features and, in this particular case, he opted for a linear sequencing of the spaces, in the French tradition⁹. In the following version, represented by another diagrammatic sketch, Leonardo went for a rectangular structure dominated by a room with one-by-two proportions, set between two porticos with five spans (see p. 120 "b").

⁵ Codex Atlanticus, f. 231 r-b [629 b] (Carlo Pedretti, *Leonardo architetto*, Milan, 1978, p. 211; Jean Guillaume, "Léonard et l'architecture", in *Léonard de Vinci ingénieur et architecte*, exhibition catalogue by P. Galluzzi, Montreal, 1987, p. 268; Sabine Frommel, "Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus", in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L, 2006, pp. 266-267).

⁶ According to Jean Guillaume it is not certain that the notes which Leonardo added to this sheet refer to the villa ("Léonard et l'architecture", in *Léonard de Vinci ingénieur et architecte*, exhibition catalogue by P. Galluzzi, Montreal, 1987, p. 268). Given that they occur on the same sheet (Codex Atlanticus, ff. 271 v-a [732 b-v] and 231 r-b [629 b]) which was then cut in two, this hypothesis does not seem convincing to us. (See Carlo Pedretti, *Leonardo architetto*, Milan, 1978, pp. 210-211; Sabine Frommel, "Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus", in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L, 2006, p. 296, note 54 and p. 297, note 58).

⁷ See also the reconstruction by Alberto Carlo Carpiceci, *L'architettura di Leonardo: indagini e ipotesi su tutta l'opera di Leonardo architetto*, Florence, 1978, p. 184 and fig. p. 159

⁸ Sabine Frommel, "Lorenzo il Magnifico, Guiliano da Sangallo e due progetti per ville del Codice Barberiniano", in *Il Principe architetto*, edited by A. Calzona, F.P. Fiore, A. Tenenti, and C. Vasoli, Florence, 2002, pp. 413-454.

⁹ Sabine Frommel, "Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus", in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L, 2006, p. 265.

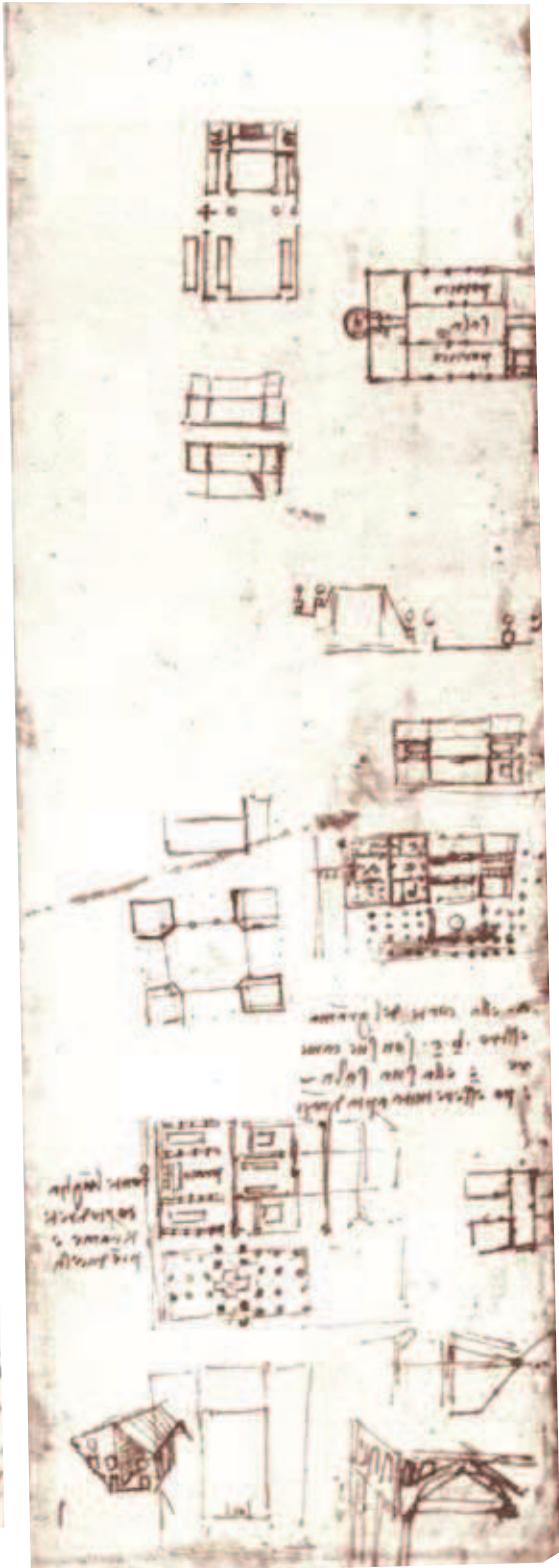
¹ We refer to our article "Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus" in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L (2006), pp. 257-300.

² *Ibid.* This passage contains a bibliographical note summarizing the publications relating to Charles d'Amboise's villa.

³ Quoted from Carlo Pedretti, *Leonardo architetto*, Milan, 1978 (with several reprints up to the present), p. 205. 207. Back in 1481-82, in an memorandum addressed to the Ludovico Sforza (Codex Atlanticus, f. 391 r-a [1082 r]), Leonardo points out his skills in the field of the art of building: "soddisfare in compositione di ediftiui e pubblici e privati" (André Chastel, "Les problèmes de l'architecture de Léonard dans le cadre de ses théories scientifiques" in *Léonard de Vinci ingénieur et architecte*, Montreal exhibition catalogue edited by P. Galluzzi, 1987, p. 195).

⁴ For the siting of the villa see Jean Guillaume, "Léonard et l'architecture", in *Léonard de Vinci ingénieur et architecte*, exhibition catalogue by Paolo Galluzzi, Montreal, 1987, p. 270. I share this hypothesis because it is hard to admit that a villa surrounded by gardens might be situated in the urban setting (cf. Carlo Pedretti, *Leonardo architetto*, Milan, 1978, p. 205).

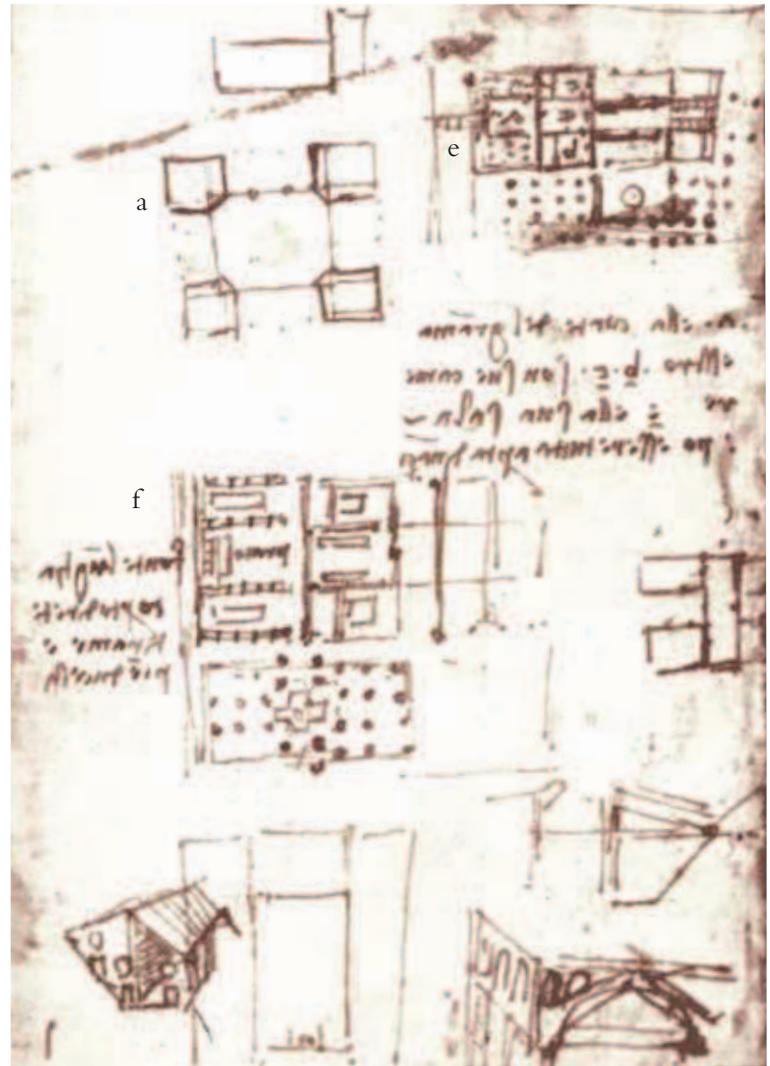
This page contains handwritten text in a cursive script, likely a French manuscript. The text is arranged in several paragraphs, with some lines starting with a large initial letter. The handwriting is dense and somewhat difficult to decipher due to its cursive nature. There are some small diagrams or symbols interspersed within the text, such as a small rectangular box with a horizontal line through it.



Project for the villa of Charles d'Amboise, Codex Atlanticus, ff. 271 v-a [732 b-v] and 231 r-b [629 b].

In broad letters, he included the functions in the spaces: “sala” and “portico”. In order to maintain the dichotomy between the *loggia* and the projecting parts, a distinctive feature of the earlier project, living areas were organized at the extremities, on either side of the large room. One of the diagrammatic sketches, still on the same sheet, seems to represent this kind of three-part façade (see p. 120 “c”), which is not dissimilar to the project for a villa with lantern of 1497, enlarged by a *serliana*¹⁰. A spiral staircase, set against the short wall on the right, was intended to lead to the first floor of Charles d’Amboise’s villa, probably as a mezzanine (see p. 120 “b”). It calls to mind certain ideal projects of Francesco di Giorgio, which greatly interested Leonardo, while at the same time making reference to the typically French stair well¹¹. The narrow corridor on the other side being equally unwelcoming, one of the porticos had to serve as an entrance, in the manner of villas in the circle of Lorenzo de’ Medici – Poggio a Caiano and Poggio Reale¹². Even more evident are the similarities with the sumptuous *loggia-vestibulum* by Baldassarre Peruzzi in the Agostino Chigi palazzo in Rome, the Farnesina, planned in 1505¹³. If Leonardo was indeed present in 1506 in the eternal city, he might well have followed the beginnings of the construction of the wealthy banker’s residence, which perhaps also aroused the curiosity of Charles d’Amboise¹⁴. On either side of the corridors there are four large rectangular rooms, complete with service rooms oriented towards the main façades. If the proportions take the bed into account, featured as it is in one of them, their placement meets the specific nature of a building earmarked for feasts: “tale sala a[verà] due camera per testa [...] a di questo un uscio [...] per li ma [sche]rati”¹⁵.

It would seem that this project turned out to be too modest, and that the patron making the commission wanted something closer



Project for the villa of Charles d’Amboise, CA, f. 231 r-b [629 b] (detail)

to the typology of the palace. Leonardo worked on a new study in which the spiral staircase was replaced by a stairway in the structure accessible from the main hall: two parallel straight flights are brought together by a rectangular landing (see p. 120 “d”). This kind of arrangement reveals other similarities with the Farnesina, where the stairway starts from the dining room. Does this stairway coincide with the development of a second floor? In any event, the flights of stairs entail an extension of the lateral parts which elongates the volume as well as the interior areas. The large room has a ratio close to 1:3, and the oblong surface of the bedchambers involves moving the adjoining rooms to the short sides. The corridor in the opposite part of the staircase has been rethought, though the drawing does not enable us to discern Leonardo’s ideas. The not very felicitous ratios of the large room and the porticos, and the indecisive use of certain parts of the main master building had to invite new ways of approaching the matter. First, Leonardo

¹⁰ Manuscript B (Paris, Institut de France). Sabine Frommel, “Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus”, in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L, 2006, pp. 262-263.

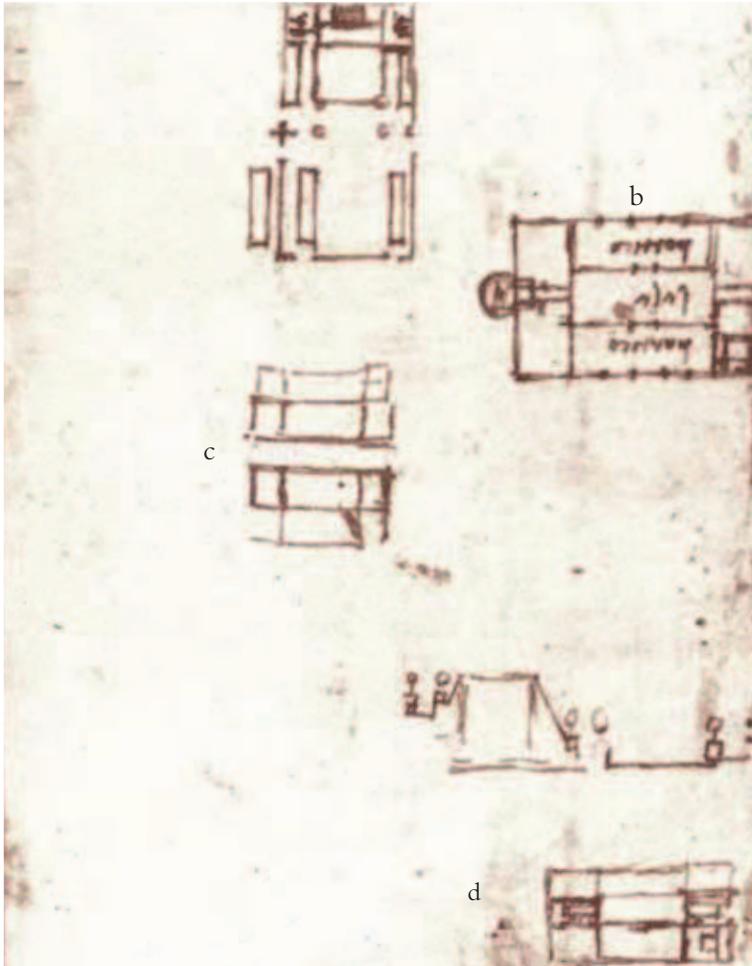
¹¹ Sabine Frommel, “Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus”, in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L, 2006, p. 268.

¹² In 1492 Leonardo would have been able to see the wooden maquette of the Villa at Poggio a Caiano which Giuliano da Sangallo presented to the Sforza court at Vigevano.

¹³ On the Farnesina see *La Villa Farnesina a Roma*, by C.L. Frommel, Modena, 2003; see also Carlo Pedretti, *Leonardo architetto*, Milan, 1978, p. 205.

¹⁴ As for Leonardo’s hypothetical sojourn in the eternal city in 1506, see Carlo Pedretti, “Le ‘magne opere romane’”, in *Leonardo e il leonardismo a Napoli e a Roma*, edited by A. Vezzosi, Florence, 1983, pp. 191-198. Domeninco Laurenza, “Leonardo nella Roma di Leone X”, in *XLIII Lettura Vinciana*, pp. 7-46.

¹⁵ Codex Atlanticus, f. 214 r-b [570 b]; Luigi Firpo, *Leonardo architetto e urbanista*, Turin, 1963, p. 107.



Project for the villa of Charles d'Amboise, CA, f. 231 r-b [629 b] (detail)

turned the sheet, in such a way that the staircase was now on the right (see p. 119 “e”). The lengthwise axis and the noble apartment have greater emphasis because of an arrangement whose functions are conveyed by Leonardo’s annotations, at the bottom of the page: “a è la corte del Gran Maestro, b c sono le sue camera e è la sua sala”¹⁶. After crossing a small rectangular courtyard, the visitor enters a spacious *atrium* with an open façade: “e puo stare tutta aperta dinnanzi”¹⁷. In the opposite part of the building, the staircase takes on a more elegant shape: two parallel rising flights separated by a central passage¹⁸. Adjoining the large room, embellished by weightier proportions, the west *loggia* leads to a rectangular courtyard which, probably bound by low walls, is dominated by a circu-

¹⁶ Codex Atlanticus, f. 231 r-b [629 b] (see Carlo Pedretti, *Leonardo architetto*, Milan, 1978, pp. 210-211).

¹⁷ Sabine Frommel, “Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus”, in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L, 2006, p. 271.

¹⁸ On this staircase see Jean Guillaume, “Léonard et l’architecture”, in *Léonard de Vinci ingénieur et architecte*, exhibition catalogue by P. Galluzzi, Montreal, 1987, pp. 364-365.

lar fountain. In the adjacent areas there is a garden which extends as far as the areas situated on either side of the courtyard in front of the private residence, on the north side. Despite being hasty and diagrammatic, the sketch shows the many different relations that must have existed between the edifice and its surroundings. What emerges is the fact that the form and distribution of the spaces are compatible with the distinctive features of the terrain.

Reconstruction of the definitive version

THE PLAN and the notes added by Leonardo form the basis of our hypothetical reconstruction¹⁹ (p. 118 and p. 119 “e”). The measurements of the main room and the staircase, essential parts of the architectural structure, make it possible to re-create a coherent grid, based on the *braccio* (58.6 cm)²⁰. This kind of gridding is present in many of the Florentine’s ideal projects²¹. Everything points to the fact that the project evolved in the direction of a reduction, which the artist made the most of to develop a canon of more balanced proportions. For the main room, he adopted the ratio 1:2 (12.30 x 6.15 m.): “che verrà essa sala a essere lunga braccia 21 e larga braccia 10 e mezzo, e così starà bene”²². Why did he choose a fractioned number of the *braccio* for the width? Probably because the intercolumniation of the five arcades defined the length of the portico, and because the desired proportion, the double square, obliged him to distance himself from the grid. The measurements for the staircase reveal that the lateral parts have not been spared the reduction: “La scala è larga un braccio e tre quarti, ed è inginocchiata, et tutta insieme giunta è braccia 16 con 32 scalini larghi

¹⁹ Codex Atlanticus, ff. 231 r-b [629 b], 271 v-a [732 b-v] (Carlo Pedretti, *Leonardo architetto*, Milan, 1978, p. 210).

²⁰ This reconstruction is the outcome of a critical review of the one published in our article: Sabine Frommel, “Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus”, in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L, 2006, pp. 266-269. My thanks to Monique Chatenet, Jean Guillaume and Carlo Pedretti for their advice, as well as to Giancarlo De Leo for the digitalized reconstruction. Cf. The graphic reconstructions of Carlo Pedretti, *Leonardo da Vinci. The Royal Palace of Romorantin*, Cambridge Mass., 1972, p. 44; Carlo Pedretti, *Leonardo architetto*, Milan, 1978, p. 210; Alberto Carlo Carpiceci, *L’architettura di Leonardo: indagini e ipotesi su tutta l’opera di Leonardo architetto*, Florence, 1978, fig. 159; Jean Guillaume, “Léonard et l’architecture”, in *Léonard de Vinci ingénieur et architecte*, exhibition catalogue by P. Galluzzi, Montreal, 1987, pp. 265 and 269 ff.

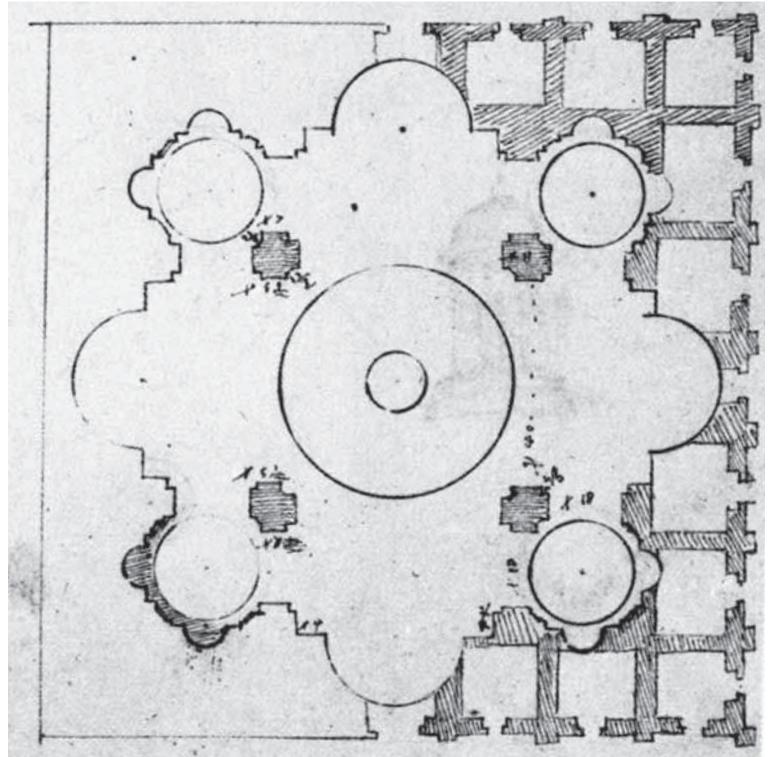
²¹ For example, the palaces and villas of the Codex Atlanticus, f. 324 r [888], in the Institut de France, Ms. B, f. 47 r, in the Institut de France, Ms. K³, f. 36 v/116 v and at Windsor Castle, RL 12591 (“Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus”, in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L, 2006, pp. 258, 261, 278 and 279).

²² Codex Atlanticus, f. 271 v-a [732 b-v] (Carlo Pedretti, *Leonardo architetto*, Milan, 1978, p. 210).

un mezzo braccio e alti un quarto”²³. Each flight of stairs had a length of 4.69 m (16 steps with a width of 29.3 cm) and for the landing Leonardo had recourse once more to the double square, 2 x 4 *braccia* (1.17 x 2.34 m.)²⁴. The landing included, the length of the stairwell reached 5.86 m, i.e. exactly 10 *braccia*. By adding one *braccio* for the two walls, the lateral structures corresponded to about 12 *braccia* (7 m.) and the whole volume to 45 *braccia* (26.37 m.). If we adopt for the porticos a free width of 7 *braccia* (4.10 m.), the main body of the building is incorporated in a rectangle of 28.5 x 44 *braccia* (16.70 x 26.30 m.), which, by way of comparison, is slightly larger than the Villa Lante of Giulio Romano.

The dossier scarcely permits other details, but it is evident that successive interventions altered the coherence of the gridding. So the staircases, the most debated factor of the project, are fairly ill-matched with the grid²⁵. But the process turns out to be typical of the Renaissance and a similar phenomenon can be noted in several projects developed by Bramante, a colleague of Leonardo’s at the Sforza court: the copy of a plan for Santi Celso e Giuliano clearly reveals a recourse to an ideal grid, and discrepancies imposed by the definition of the unusual spaces²⁶.

Pending in-depth research capable of specifying the distinctive features of the terrain, our reconstruction proposes a possible solution. After following the *Fontelunga*, the water course situated to the north of the land, the visitor turns right across a bridge to reach the courtyard in front of Charles d’Amboise’s private residence. Then, dismounting, he heads for the entrance, accessible by way of a few steps. He reaches the *atrium* by the lengthwise axis, a quadrangular space of 10 x 10.5 *braccia* (5.86 x 6.15 m.), which has the twofold function of private entrance and room, linking up with a Venetian arrangement²⁷. Like other Leonardo projects, a *serliana* might have enlarged this transitional area, accentuating its accessibility²⁸. On both sides, the living areas of 10 x 7 *braccia*



Anonymous sixteenth century artist (detail), plan of Santi Celso e Giuliano in Banchi (Florence, GDSU, 1954 Av).

(5.86 x 4.10 m.) consist of two bedchambers and adjoining rooms, these latter oriented towards the lateral façades, like the previous project. The independence of the lord’s apartment is underlined by Leonardo in a description of a room for feasts, also in the *Codex Atlanticus*:

La sala delle feste vole [...] che prima passi dinanti al signore e poi a’ convitati, e sia il cammino in modo che esso possa venire in sala, in modo che non passi dinanzi al popolo più che l’omo si voglia; e sia dall’opposita parte situata, a riscontro al signore, la entrata della sala²⁹.

At receptions and spectacles, the *loggia-vestibulum* of the east wing could offer a solemn setting in which to receive visitors. These latter could enter through the south of the estate, where a walk is laid out in the axis of the building. This kind of distinction between private and public access guaranteed a clear separation of the villa’s two functions, the owner’s privacy and the pomp of social life. Probably covered by vaults with surbased ribs, the *loggia* led to the

plan for the villa surmounted by a lantern held in Ms. I (Institut de France), f. 56 r (Sabine Frommel, “Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus”, in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L, 2006, pp. 262–263).

²⁹ *Codex Atlanticus*, f. 214 r–b [570 b] (Luigi Firpo, *Leonardo architetto e urbanista*, Turin, 1963, p. 107).

²³ *Ibidem*.

²⁴ *Ibidem* “e’l piano della rivolta è largo braccia 2 e lungo braccia 4”. The area of the landing is thus 1.17 x 2.34 m.

²⁵ See for example Institut de France, Ms. K³, f. 36 v/116 v with schematic reconstruction (Sabine Frommel, “Leonardo da Vinci und die Typologie des zentralisierten Wohnbaus”, in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, L, 2006, p. 278).

²⁶ Drawing by an anonymous artist of the sixteenth century held in Florence, GDSU, no. 1954 A v (Stefano Ray, “Il volo di Icaro. Raffaello architettura e cultura”, in *Raffaello architetto*, edited by C.L. Frommel, S. Ray, and M. Tafuri, Milan, 1984, p. 65).

²⁷ Martin Kubelik, *Die Villa im Veneto. Zur typologischen Entwicklung im Quattrocento*, Munich, 1977, pp. 40–46. This arrangement also calls to mind certain suggestions by Leon Battista Alberti.

²⁸ In other projects Leonardo also had recourse to this motif, for example in the



Villa of Charles d'Amboise, hypothetical reconstruction (drawing by Giancarlo De Leo), lateral façade of the north side

main hall, whose height was only 4.68 m (8 *braccia*), where public meetings took place. Fearful of heaviness and melancholy, Leonardo veered from his principle whereby the height should tally with the width of the space:

E farenla alta braccia 8 benché la sua ragion sia l'essere alta quanto larga. Ma a me pare quelle essere malinconiche perché restano oscure in tanta altezza, e le scale vengano poi a essere troppo erte, cioè diritte³⁰.

The vertical development of this large room, created by surbased vaults with lunettes or a wooden ceiling, is in keeping with the discreet size of the bedrooms, the service rooms being surmounted by mezzanines. The transparency between the hall and the porticos, the unexpected apertures, and the exterior outlets, all bear the mark of Leonardo, as is evident, too, in his project for the stables of the Medicis³¹. On the side of the western *loggia*, the courtyard offers a setting fit for spectacles, calling to mind, once more, the Farnesina. A mechanical bird – *ocel della comedia* – mentioned on the back of the sheet, suggests that surprise theat-

³⁰ Codex Atlanticus, f. 271 v-a [732 b-v] (Carlo Pedretti, *Leonardo architetto*, Milan, 1978, pp. 210–211).

³¹ Codex Trivulzianus, ff. 21 v, 27 v and Ms B, ff. 38 v–39 r (Carlo Pedretti, *Leonardo architetto*, Milan, 1978, pp. 258–259).

rical effects awaited visitors³². In this part of the villa, the architecture blends with nature and a delightful garden, which irresistibly draws the eye, forms a grandiose backdrop. It might well have extended as far as another water course to the west of the land.

The flights of the staircase, only one metre in width ($1\frac{3}{4}$ *braccia*), are far from offering a satisfactory solution, even if the steps with a height of 14.56 cm. turn out to be relatively comfortable³³. Covered by tunnel-vaults, the spiral staircase is part of the typologies studied by Leonardo on a sheet held in the Royal Library, which can also be dated to 1506 or thereabouts³⁴. If the flights framing a central passage in the design had to give way to this kind of organization, which was undeniably more commonplace, it was probably for financial reasons. In any event it is hard to imagine the throng of masked persons at a ball, going up and down the steps, as

described by Leonardo in a sheet of the Codex Atlanticus:

e le scale commode, in modo che sieno ampie, in modo che la gente per quelle non abino, urtando l'immascherati, a guastare loro [f]ogge, quando uscissi [quel]la turba d'òmini [insieme] con tali immasche[rati] vole³⁵.

Are the narrow flights of stairs the consequence of a reduction of the scale of the first floor, going back to the beginnings of the

³² Codex Atlanticus, f. 271 r-e [732 b] (Carlo Pedretti, *Leonardo architetto*, Milan, 1978, p. 210).

³³ The 32 steps correspond to 34 treads of 14.56 cm., equal to a height of 4.95 m. 25 cm. thus remain for the height of the ceiling.

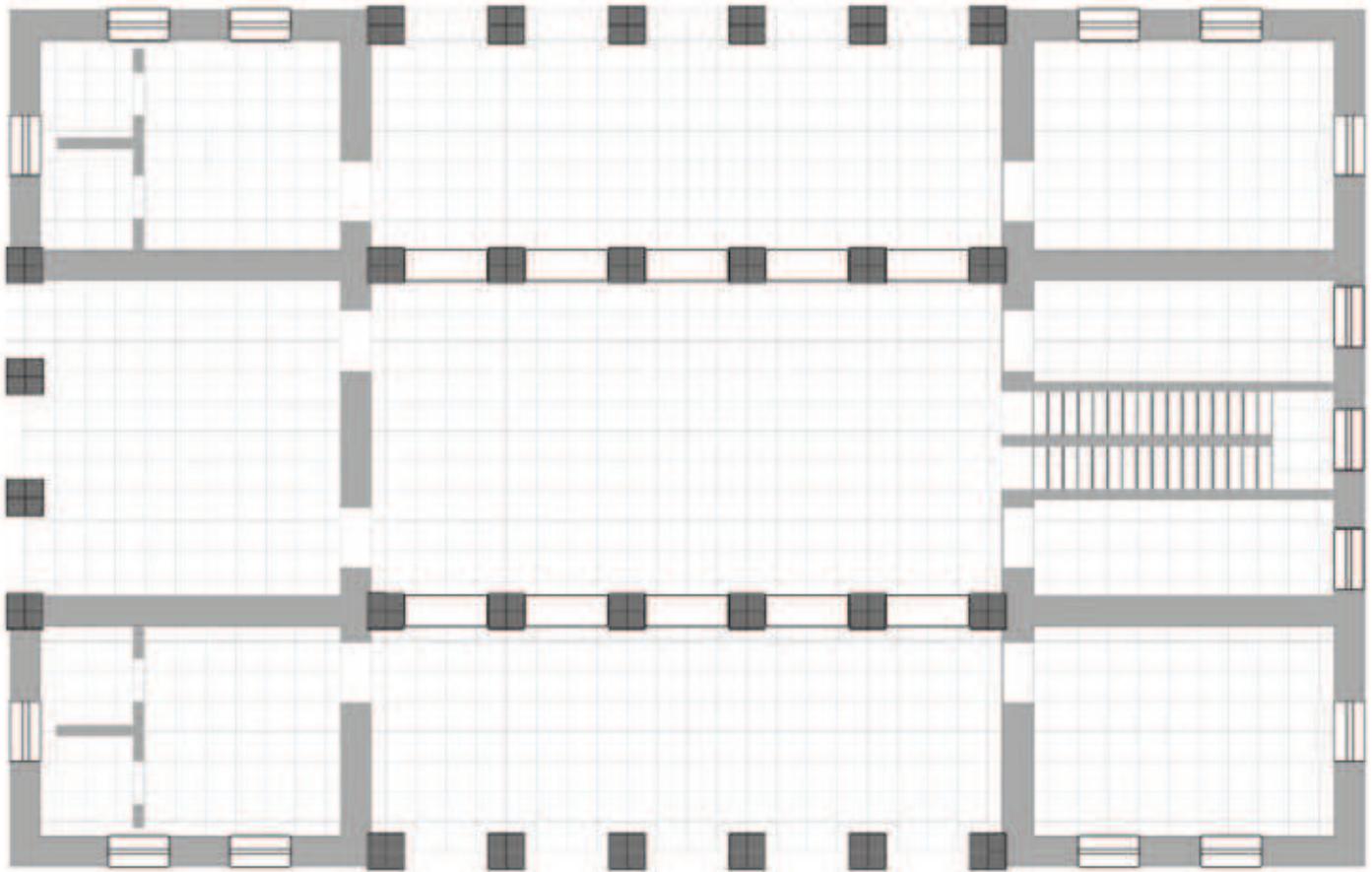
³⁴ RL 12592 r, see Jean Guillaume, "Léonard et l'architecture", in *Léonard de Vinci ingénieur et architecte*, exhibition catalogue by P. Galluzzi, Montreal, 1987, p. 265.

³⁵ Codex Atlanticus, f. 214 r-b [570 b] (Luigi Firpo, *Leonardo architetto e urbanista*, Turin, 1963, p. 107).

On the face in page:

Villa of Charles d'Amboise, hypothetical reconstruction (drawing by Giancarlo De Leo), façade of the east and west sides

Villa of Charles d'Amboise, hypothetical reconstruction (drawing by Giancarlo De Leo), planimetric diagram of the ground floor with geometrical grid

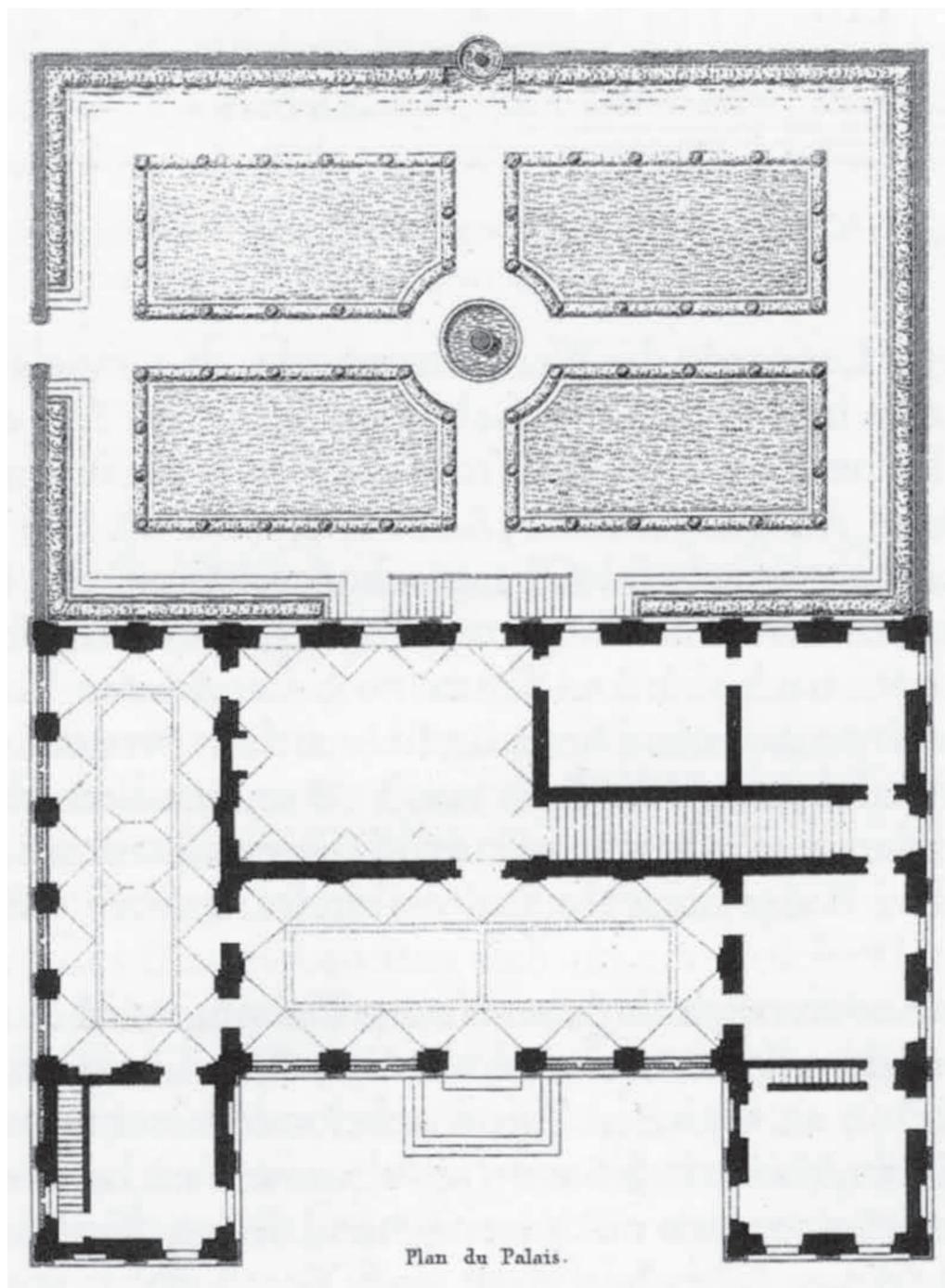


original line of thinking? The Florentine's notes make no mention thereof. Whatever the case may be, a winter apartment and bedchambers for visitors might have been located here and, in analogy with the ground floor, *loggias* could offer areas protected from bad weather, and enjoying a sweeping view of the garden³⁶.

Even more hypothetical is the reconstruction of the façades. If Leonardo used as a basis the geometrical grid of the plan, the intercolumniation of the arcades is equal to 4 *braccia* (2.34 m.), their height 8 (4.68 m.), with a 1:2 ratio. Many ideal projects reflect the artist's liking of arcaded porticos³⁷. The main parts of the building housing the bedchambers are illuminated by three windows, two on the façades and just one for the service room on the lateral side. In our reconstruction we have adopted the typology used by Baldassarre Peruzzi at the Farnesina. Where the window basements are concerned, a moulded cordon emphasizes the horizontal continuity. The exterior appearance seems to be determined by a well-balanced relation between the wall and the openings and, unlike the Farnesina, Leonardo dispenses with contrasting projecting elements, in order to stress the compact nature of the volume. And if Peruzzi at times sacrifices symmetry for functionality – the uneven rhythm of the apertures in the lateral façades of the Farnesina attests to this – the villa of Charles d'Amboise shows that the two parameters can end up in perfect syntony. We know nothing about the materials, but the economy of the site suggests the use of brick, covered with roughcast, rendering, or paint.

³⁶ The Renaissance is not short of examples of such superpositions, like the loggia of Nicolò V at the Vatican where each level offered areas adapted to different climatic conditions.

³⁷ For example Manuscript B (Institut de France), among the studies of urbanism and canal systems, ff. 37 v, 16 r, 36 r (Luigi Firpo, *Leonardo architetto e urbanista*, Turin, 1963, pp. 71-77).



Baldassarre Peruzzi, Farnesina, plan (Paul Letarouilly)

The edifice and its surroundings

THE GARDENS must have extended to the north and west of the building. In front of the private access, rectangular compartments planted with trees frame the square courtyard, which would one day have partly obscured the façade. Two sketches refer to the garden situated in front of the western *loggia* which, divided into different sectors, is furnished with tables and benches (p. 119, “e” and “f”). The sheet in the Codex Atlanticus of-

fers a detailed description which complements the data in the drawing³⁸. In this delightful Eden, the artist's imagination is guided by the creation of extraordinary climatic conditions. Windmills would produce air at any moment in the hot summer months; they also raise the water to flow in the channels to the center of the tables, to keep wine cool. A network of canals, some very narrow (half a *braccio*) criss-crosses the garden, providing irrigation for orange trees and cedars. These latter, quite sensitive to the northerly climate, enjoy special care thanks to the warm water fountains that operate in winter. Pipes bring water both inside and outside; fountains surprise passers-by and give them an agreeable feeling of coolness: "per tutto le parte di sotto salterà l'acqua allo in su, e cosi fara a posta di chi vorrà bagnare sotto alle femmine o altri di chi li passerà"³⁹. A subtle network of branches stretched above the garden contains birds of various breeds, in large numbers. The different musical instruments activated by the mill mix with the birdsong in a microcosm scented by the perfume of flowers, cedars and lemon trees. So as to maintain a perfect harmony, Leonardo advised avoiding aggressive fish – eels, pike and tench. Last of all, he was interested in the practical aspects: for the water to remain limpid, the fountains must be regularly cleared of grass, and the fish fed with it. The whole thing is conceived like a total work of art where architecture and nature combine in a wondrous scenario calling on ancient paradigms⁴⁰. If this arrangement is part of the great Italian tradition of the garden since the fifteenth century, the ingenious nature of the machines probably adds an innovative aspect which would reach its high point in the latter half of the sixteenth century, in particular at the Villa Lante in Bagnaia, and the Villa d'Este.

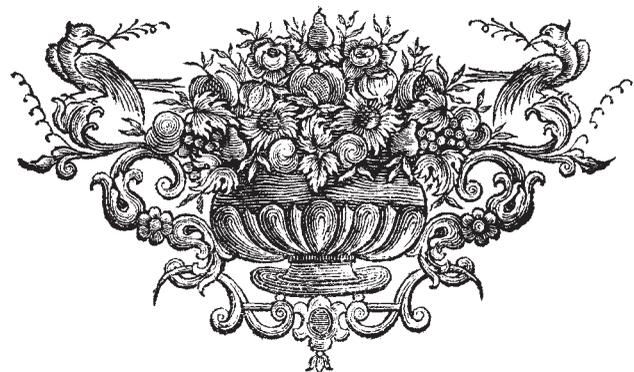
We do not know why the project for Charles d'Amboise's villa was not executed. Did the Grand Master fail to acquire the land? Did the costs exceed the planned budget? In any event, the annotations about the garden, like those referring to the building, seem to come after the drawing: they probably sum up the parts over which the artist and his patron were in agreement once the study was finished. Whatever the case may be, the sketches permit us to follow the genesis of the thinking and discern Leonardo's methods of architectural composition. Even if some factors in our recon-

struction are still shadowy, in particular the shift between the last vision drawn and the annotations, it does shed light on the dominant factors of his conceptual approach. As with other architects of his day and age, Leonardo tries to reconcile a geometrical grid, the basis of the spatial and static coordination, with an individual treatment of the spaces.

The project for the Charles d'Amboise villa was the result of a human encounter, based on an exchange not only between patron and artist, but also between Italian and French tradition. If the villa had been built, it would have represented one of the first witnesses to such a synthesis. This latter conveys Leonardo's flexibility, and his capacity to appropriate his patron's ideas – a quality that he also showed in about 1497 – in the project for the Villa Guisardi, where he translated into plan form the ideas which the client had launched on the page⁴¹.

Striking aspects are his openmindedness, his talent when it came to adopting the models of other architects by assimilating them in a different context. With functionality remaining his essential parameter, he managed to make architecture and nature converge, along with private areas and social life, rigid grid and supple treatment, in a whole composed in the manner of a natural organism.

⁴¹ Codex Atlanticus, f. 158 r-a, v-a [426 r-v], c. 1497. These are Leonardo's plans for a house or palace drawn on a sheet containing the specifications by its anonymous patron as first discussed by Gerolamo Calvi, *I manoscritti di Leonardo da Vinci dal punto di vista cronologico, storico e biografico*, Bologna, 1925, pp. 170-172, and then referred by Carlo Pedretti, *Leonardo da Vinci. The Royal Palace at Romorantin*, Cambridge, Mass., 1972, pp. 16-23, to a house to be built for Mariolo de' Guiscardi in Milan. See also, by the same author, *Leonardo architetto*, Milan, 1978, pp. 72-73. This early Leonardo project is curiously omitted by Firpo (1963) and Guillaume (1987).



Giovanni Poleni, *Exercitationes vitruvianae tertiae*,
Padova, 1741, p. 256

³⁸ Codex Atlanticus, f. 271 v-a [732 b-v] (Carlo Pedretti, *Leonardo architetto*, Milan, 1978, pp. 210-211).

³⁹ *Ibidem*.

⁴⁰ Jean Guillaume, "Léonard et l'architecture", in *Léonard de Vinci ingénieur et architecte*, exhibition catalogue by P. Galluzzi, Montreal, 1987, p. 269.