

The golden section in the work of Carlo Scarpa: two drawings.

Gianluca Frediani

ORCID 0000-0002-3126-8267

Department of Architecture, University of Ferrara, Ferrara, Italy

Via Quartieri 8, 44121 Ferrara (I)

frg@unife.it

+39 393 3103100

The golden section in the work of Carlo Scarpa: two drawings.

In the theory of architecture, there is probably no more hotly debated and controversial issue than the use of the golden section as a tool for governing the proportions of forms and spaces. In this article, the author shows that the work of the Venetian architect Carlo Scarpa has its roots in the classical theory of proportions. He examines two drawings by Scarpa, demonstrating their application of harmonic proportions to the museum space and the close ties between it and the art works on display. Unlike Le Corbusier, perhaps the most important modern master to have used the golden section in his designs, Scarpa employs this proportional system in a pragmatic and experimental way, applying it only in places of special importance. This is true of the “small masterpieces” gallery in the Gallerie dell’Accademia and of the Main Lecture Theatre at IUAV, again in Venice. Scarpa thus reveals two important principles of his work: that small size is an essential premise for attempting perfection and, more generally, that the architectural project is a matter of visual perception based on the quest for the “right proportion”.

Keywords: Carlo Scarpa; Golden section; Proportions

Introduction

Carlo Scarpa is probably the most famous and important Italian architect of the 20th century. The bibliography¹ on his works is vast and goes well beyond the confines of Europe. His buildings, his drawings, his construction details have been published in architecture books and journals throughout the world. As such, it is difficult to discuss his work as an architect, particularly if the aim is to analyse his thought in depth and to avoid merely repeating the stereotypes that usually emerge from the numerous, mostly celebratory, publications dedicated to him. In these, Scarpa is often presented as a refined artisan, an obsessive sketcher of construction details, or even as a brilliant but solitary artist. Yet if we examine his work with a degree of judicious detachment, we see that all these Romantic descriptions are ultimately clichéd, if not outright misleading. If we go beyond the oversimplification produced by these commonplaces, we begin to perceive the precision of his work and the coherence of his ideas. Though he lived and worked for a long time on an island like Venice, Carlo Scarpa was never an isolated intellectual²; though he enjoyed working in glass, bronze and other costly materials he was never an architect subservient to a wealthy clientele. Rather, Scarpa was a well-rounded artist and architect with an instinctive passion for the beauty of visual perception, which led him to accumulate and combine influences from both European culture and that of the far East, for which he had a deep love³.

Were we to sum up the meaning of his long career as an architect, we should probably say that the only true rule that guided him in the long years of his professional career was an insatiable quest for perfection and beauty. Beauty understood not as the mere display of expensive materials – as was true of his followers after his death – but as the experience of an intimate understanding of objects and of the landscapes in which they

are set. Even today, his forms still seem so unusual because they respond to the deep-seated rules governing his artistic research. As such, the recurrent critique that he was excessively self-referential⁴, repeatedly levelled against his works by critics who were suspicious and perhaps also disorientated when faced with the originality of his works and his enormous number of drawings, seems inappropriate. It was his innate need for precision that forced him to draw every object and every detail with painstaking constancy, in obedience to the old saying *Nulla dies sine linea* (No day without a line). To analyse his work, it is thus fundamental to study his buildings directly but, to an even greater extent, to compare them with his vast corpus of drawings. The ability to study not just his drawings but all of his archive papers⁵ is one of the most important resources for anyone – scholar or amateur – who wishes to enter the world of Scarpa's architecture and explore its complex design processes. The text that follows is based on the study of some sketches and drawings in the attempt to reconstruct the use of geometrical tools and, in particular, the golden section in Scarpa's architectural composition process. The geometrical constructions that appear on Scarpa's drawings are in the architect's own hand; we have simply highlighted them to facilitate their comprehension. Starting from his academic training, we will go on to examine two important project drawings in detail; dating about twenty years apart, they will help us to understand some aspects of the Venetian master's compositional rationale and, above all, the close relationship between his compositional language and the Italian classical tradition.

Discussion

Visiting Scarpa's buildings is an amazing educational experience for any architect: nothing in them is conventional; every solution is tailored to the specific place in which

it is found. Scarpa seems to reject a priori the superficiality of standardized construction details, repeated only out of complacency or laziness, to seek new rules that respect and enhance the properties of the material. These rules are not based on abstract theoretical positions, nor do they derive from an adherence to artistic movements or avant-gardes. Rather, they are principles attained through a constant effort to perfect the form in a highly experimental study conducted on materials, starting from his youthful apprenticeship conducted on the colours and transparencies of glass⁶.

The most stimulating discovery that we can make when studying his works is without doubt that of the connection that exists between the small and the large scale in visual perception. Scarpa draws our gaze towards minute and perfectly carved objects only to allow our gaze to lose itself, as soon as we raise our head, in distant vistas, skilfully captured by unexpected openings and slits in the walls. Scarpa applies this sublime art of vision by virtue of a rigorous study of the exact measure; a research on proportions that does not admit of preconceived positions or facile recipes, and that results from the controlled condensation of memories, sensations and ideas drawn from tradition. Scarpa's compositional rigour is not just an expression of personal inclination, but the product of his classical training in art and architecture at the Accademia in Venice, from which he graduated in 1926. In his final project, the *Project for an embassy overlooking a river*, he employs a fairly rhetorical and elaborate classicizing language, superimposed on a geometrical structure that is in fact simple and rigorous. From this point of view, the most interesting part of his *Project...* is not that shown in the fine presentation drawings, skilfully executed in Indian ink and water colours, but the unembellished preparatory sheets. Here we find, in the margins of the illustrations, some compositional schemes (Fig. 01) telling us that the pompous architectural language was in fact organized on a rigid framework of harmonic proportions governed by precise regulating lines (Fig. 02).

The use of these geometrical instruments to calculate and control the development of the form was, in the schools of art and architecture of the time, a common and long-established practice with its roots in the great tradition of Italian Renaissance and Baroque architecture. What is surprising is the discovery that this rule for composing and controlling the form remained active throughout Scarpa's maturity as a designer, from the masterpieces of the immediate post-War period to his final works of the 1970s. This realization raises the following question: was Carlo Scarpa, the architect enamoured of F. L. Wright to the extent of copying his style in his earliest youthful works, actually a classical architect?

Answering this question in the affirmative serves to debunk some myths and gain a greater understanding of the complexity of his thought. Scarpa was certainly a classical architect if we ascribe to the term "classical", with its wide range of meanings⁷, a reflexive quality based on a constant rapport with the memory and legacy of the past. The power of his formal experimentation derives precisely from this source, firmly rooted in the legacy of tradition. He often described himself as "a Byzantine who had come to Venice via Greece"⁸ and, as is known, on various occasions and in various ways confessed his secret inclination towards the classical tradition⁹. This attraction to antiquity gives us an idea of the extent to which his world of ideas developed in continuity with classical geometrical rules for the composition of forms and spaces. From this point of view, Scarpa's architecture could even be described as emblematic for understanding the enduring influence exerted by the classical tradition on modern architecture, particularly in Italy. Yet the issue, and especially Scarpa's long-standing interest in the golden section, has been singularly neglected in the lengthy and numerous studies on the Venetian master. Even the most recent and wide-ranging critical publications¹⁰ have omitted to discuss it,

though all of Scarpa's closest collaborators were well aware of the architect's use of proportional systems in his work.

There are various reasons why some historians approach studies of harmonic proportions in architecture with suspicion, if not open hostility, and to some extent they are right to do so. But Scarpa is a unique instance. In a recent essay,¹¹ the reader will find a reproduction and analysis of various drawings that prove his interest in the golden section and in regulating lines. Taking it as given that Scarpa long and constantly used these tools for composition and control over the form, then, our intention in these pages is to offer an original comparison of the two drawings, chosen from among the many of his ample design production. The first is a fine illustration (Fig. 03) belonging to the series for the reorganization of the Gallerie dell'Accademia in Venice (1945-1959); the second is a much later drawing (Fig. 04), for the provisional arrangement (1975) of the Main Lecture Hall at IUAV - Istituto Universitario di Architettura, also in Venice. Whilst the former is a well-known sheet that has been cited and published numerous times, the latter is far less studied.

The reason for placing these two drawings side by side and studying them comparatively is connected to the presence, in both cases, of analogous proportional schemes outlined by Scarpa to obtain exact proportions that do not derive directly from the simplification induced by the decimal system but that are indicative of a significant geometrical relationship. The first drawing, made for the Gallerie dell'Accademia, forms part of a long design process described in detail in the aforementioned article, to which I refer the reader especially for the overall principles of the museum project and the configuration of the original space. In this case we are dealing with a small but extremely important space dedicated to the so-called "small masterpieces" of the Venice gallery, in other words precious panel paintings of the early Renaissance. Scarpa created this little room,

lit by a skylight, by joining two pre-existing rooms. At the centre of the space, in place of the demolished wall, is a two-sided panel attached by metal brackets to the side walls. The drawing in question refers to the display on the north side of this double exhibition panel, which hosts two remarkable paintings by Giovanni Bellini (Fig. 05), known as il Giambellino (Venice, ca. 1433 - 1516): the so-called *Martinengo Pietà* (ca. 1505) and the *Virgin and Child with St John the Baptist and a Saint* (before 1504), more commonly known as the *Giovanelli Sacra Conversazione*. These are two horizontal oil paintings on panel, of slightly different size and shape. Scarpa analysed the paintings entrusted to him very attentively, and we find traces of this preliminary work in some sheets with sketches, full of measurements and short annotations. For example, if we examine the sketch for the *Pietà* (Fig. 06) we see the precision with which the architect noted down the overall measurements of the panel (88 x 65.5 cm.), the width of the frame (11 cm.) and the height above the floor of its lower edge (112 cm.). His interest was focused mainly on the geometrical composition of the scene, with the young mother holding her dead son on her lap, set in an ideal landscape that rises up at the horizon. He examines each detail of the painting, sketches the contours of the figures and measures the dimensions of its most significant elements: the distance of the faces of the Virgin and Christ from the edges, the position of Christ's injured hand, the development of the light blue drapery of the hunched-up mother.

Forms and measurements: as he had already done for the *St Jerome and a Donor* (1440 - ca. 1450) by Piero della Francesca (Borgo San Sepolcro, ca. 1416 - 1492), displayed immediately opposite – for which he develops a complex compositional scheme based on the golden section – for these panels by Bellini, too, the Venetian architect attempts to extrapolate an artistic rule from the paintings themselves, to identify a sort of *poetic assonance* allowing him to display the works effectively but, above all, to showcase their

deeper meaning through a subtle game of visual echoes. The geometrical construction of beauty as a tool for aesthetic understanding is the secret objective of his work, because for Scarpa “seeing” meant a profound understanding of the world of forms and the ideas underlying them. His work on the display thus became, I would say almost inevitably, an in-depth research process on the rules of figurative composition and of artistic expression in general.

Let us now return to our drawing to faithfully describe its geometrical construction: Scarpa designs a rectangular double panel, made up of two squares placed one above the other, and of sub-modules that are also square (Fig. 07). He draws the diagonal AC of the square ABCD and that of the half-square EC. Flipping the latter using compasses, he geometrically constructs the golden section ϕ (= 1.618) of the side of the square, at point G. From here he draws the segment GH, which is the principal line of construction and establishes the visual horizon of the museum display. Exactly at this height, he lines up the sorrowful face of the Madonna in the *Pietà* with the fresh and youthful face of the same mother in the panel of the *Giovanelli Sacra Conversazione*. The paintings on display do not have a frame, and it is their coloured backgrounds that detach the works from the surface of the panel and restore their different dimensions to a more balanced visual uniformity.

Again using compasses, the architect draws a succession of circumference arcs above, with their centres alternately at points L and D, so as to obtain a sequence of significant points (3-2-1-0) until he reaches the top of the double square. In the left-hand part of the drawing, though partially cancelled out, we can read other sketched attempts at identifying comparable reference points on which to base the harmonic equilibrium of the overall view. This elegant geometrical construction employs a scale of increasing measures that correspond to the graphic definition of the square roots of the first whole

numbers: point 3 = $\sqrt{1}$, point 2 = $\sqrt{2}$, point 1 = $\sqrt{3}$, point 0 = $\sqrt{4}$. We find a clear illustration (Fig. 08) of this construction in a short essay of the same period¹², also published in English, by the German architect and designer Wolfgang von Wersin (Prag 1882 - Bad Ischl 1976), describing “Orthogons”, in other words the regular quadrilaterals obtained from the aforementioned harmonic relationships, named respectively *Square* (1 : $\sqrt{1}$), *Diagon* (1 : $\sqrt{2}$), *Auron* (1 : ϕ) *Sixton* (1 : $\sqrt{3}$), *Double square* (1 : $\sqrt{4}$), and so on.

Scarpa gives the whole “small masterpieces” gallery in the Venetian Gallerie its dimensions on the basis of ideal geometrical lines, derived from the application of the golden section, to tune this minute, unitary and perfect space like a musical instrument that plays infinitely: a fascinating architectural interpretation of the philosophical concept of the Renaissance microcosm.

That this way of thinking is not just an isolated instance in Scarpa’s work is demonstrated by the second sheet discussed in this study, sketched about twenty years later for the renovation of the Main Lecture Theatre at IUAV in Venice, the university where he taught for many years and that he directed for several. For the detailed description of the project and the historical conditions of the space, I refer readers to an in-depth study currently in press¹³. The drawing shows the transverse section of the Lecture Theatre accompanied by a long series of sketches and marginal notes. The sheet describes the system of beams and cables used to hang, high up, the panels intended to host the works of some well-known contemporary artists (M. Deluigi, E. Vedova, A. Pizzinato, V. Basaglia and A. Gianquinto). The solution adopted for attaching them to the wall, using a structure in steel and brass, is particularly elaborate and interesting but, for our purposes, yet more fascinating is the sparse geometrical scheme shown on the bottom right. Scarpa associates with it some calculations and measurements, among which we see the approximate numerical value of ϕ (= 1.618) or that of the diagonal of the square $\sqrt{2}$ (= 1.41); he also

writes, right in the corner: “Golden Section”. Evidently the geometrical scheme is connected to the dimensions reported on the transverse section at the centre of the sheet. Its overall structure, with the arcs of increasing circumference, resembles what we already saw in the earlier drawing, but more complex (Fig. 09). Scarpa starts by drawing a base square ABCD and its half-square, with the segment EF. He then draws the diagonal of the square AC and that of the half-square EC. Flipping the corresponding diagonal (DB) along the vertical axis, he obtains the value of $\sqrt{2}$ at point 1, if we assume that the side of the square is of unitary size. Then, placing the point of the compasses alternatively at A and D, and then again at A, he constructs a “dynamic” geometrical progression¹⁴ that allows him to determine the significant points 2 ($= \sqrt{3}$), 3 ($= \sqrt{4}$) and 4 ($= \sqrt{5}$). These points mark harmonic proportional heights.

It is probable that this scale of values was not sufficiently ample for his needs; for this reason, Scarpa draws a second sequence of measurements using the same system (Fig. 10), this time starting by flipping the diagonal of the half-square (BF), analogous to EC. He thus obtains the golden ratio of ϕ at point 3', and the following points 2', 1' and 0'. The double scale of harmonic measurements is at last complete and, among these, he underlines I-I', II-II', III-III' and IV-IV'. To these he adds a further measurement V-V' (Fig. 11), obtained by multiplication by the factor ϕ , as reported in the calculation next to it (1.618×130) on the sheet. Having established these measurements, Scarpa begins to look for useful alignments in the transverse section of the Lecture Hall, reported at the centre of the illustration. For example, the support rail on the wall to the left coincides with the measurement established by V-V'. By contrast, the remaining elements do not seem to correspond perfectly to the predetermined scale of measurements; divergences and variations above or below are evident. In what follows we will attempt to explain why.

The start of the numerical and geometrical series described above is very similar to that of the double series, red and blue, by Le Corbusier, illustrated in 1948 in his famous *Modulor*. We should also remember that the Swiss master gave a memorable lecture in Italy, in 1951, on his scale of harmonic measurements as part of the IX Milan Triennale on the theme of *Divina Proportione*¹⁵. In the immediately following years, Scarpa developed the series of project plates (1953-1954) for the “small masterpieces” gallery in the Gallerie dell’Accademia, based on the use of the golden section and of regulating lines. His classical training at the Venice Accademia had taught him to use these tools for proportioning and controlling the form with skill, and to the foundation provided by these academic teachings he probably added the later experiments conducted by Le Corbusier, with whose writings he was familiar¹⁶. However, Scarpa worked autonomously; without relying on Le Corbusier’s double scale he developed his own scale of measurements that he employed on several occasions, eventually arriving at this double series of harmonic measurements. The difference from Le Corbusier’s method lies not just in the procedure by which the scale of proportional measurements is constructed but also in the way it is used. Whilst the Swiss master believes in the universal value of the golden section as an almost divine rule based on the proportions of the human body, Scarpa seems notably more pragmatic and experimental. Unlike the Swiss master, he never uses golden ratios to draw an entire building; he restricts himself to applying his harmonic scale during the initial phase of the work as a rule for proportioning and controlling the form, reserving the right to freely vary the measurements or to abandon them completely if necessary. Indeed, he believes that the perfection underlying harmonic measurements cannot be considered a day-to-day working tool (as Le Corbusier claimed, at least initially) but rather a useful instrument for approximating absolute beauty on those rare occasions in which the architect is able to exert ultimate control over each element. Another difference

from Le Corbusier is that Scarpa did not reveal to anyone, not even his closest collaborators, the proportional system that he had devised and applied; he considered it a personal instrument, calibrated to his own specific needs and in no way a truth to be disseminated to the world. For this reason, Scarpa's proportional drawings are fairly few in number; they appear haphazardly here and there in the mass of his archive materials, but despite this they show remarkable continuity over time, developing almost uninterrupted from the early compositional exercises at the Accademia to his final works. This in itself reveals the Venetian architect's enduring interest in the golden section and more generally in regulating lines as a rule of thought and work.

Conclusion

Ultimately, what emerges from a comparative study of Scarpa's two drawings is the conviction that in the design of space there can be no predetermined compositional rules, but only tools of help in seeking the correct proportions of the elements. Scarpa is an architect accustomed to handling different materials and techniques, and thanks to his varied experience was well-aware of the extent to which factors connected to accident, places or specific needs might influence the final choices made in a project. The golden section offered him an easy way of controlling forms, but the specific problems connected to the characteristics of the place, the properties of the materials, the intensity of light and colours later became superimposed on the perfection of proportional geometrical constructions... In a word, it is the entire perceptive capacity of the human eye that later comes into play, and it is only to it and its complexity that he refers when making the crucial decisions. As is known, his drawings only rarely correspond to the forms actually built because he preferred to work on site, checking the correctness of his decisions directly, even at the price of demolishing and redoing what had just been constructed. It

is for this reason that it is difficult to find works designed by Scarpa whose correspondence with harmonic proportions is clear and obvious; however, this does not mean that proportional measurements and regulating lines are absent from his architecture. As we have already seen in the preliminary sketch for the *Project...* of 1926 they are there beneath the surface, giving substance to the structure of space, and form to that almost mystical numerology that seems apparent particularly in his late projects, such as the Brion Tomb (1969-1978)¹⁷. What Scarpa teaches us in his drawings is one simple rule: that the quest for absolute beauty in architecture is a matter of the rigorous construction of visual perception, of the proportioning of its elements, of research on the correct measure. When, shortly before his death, Louis I. Kahn wrote a short poem addressed to his Italian friend, it was precisely of this beauty that he spoke:

In the work of Carlo Scarpa

'Beauty'

the first sense

Art

the first word

then Wonder

Then the inner realization of 'Form'

The sense of the wholeness of inseparable elements.

Design consults Nature

to give presence to the elements

A work of art makes manifest the wholeness of the 'Form'

a symphony of the selected shapes of the elements.

In the elements

the joint inspires ornament, its celebration.

The detail is the adoration of Nature.

Acknowledgements

This article is based on archival materials consulted at the MAXXI Foundation (Rome), the Carlo Scarpa Centre (Treviso) and the Castelvecchio Museum (Verona). The author wishes to thank A. Brodolini of the University of Florence, for having drawn his attention to the drawing for the renovation of the Main Lecture Theatre at IUAV in Venice, and G. Pietropoli and A. Bagnoli, C. Scarpa's long-term collaborators, for information on the Venetian architect's use of the golden section.

Figure 01 = C. Scarpa, Final academy project (1926), facade overlooking the river.

Figure 02 = C. Scarpa, Final academy project (1926), regulating line.

Figure 03 = C. Scarpa, Gallerie dell'Accademia, "small masterpieces" gallery.

Figure 04 = C. Scarpa, IUAV Main Lecture Theatre

Figure 05 = Gallerie dell'Accademia, "small masterpieces" gallery.

Figure 06 = C. Scarpa, sketch with the Martinengo Pietà

Figure 07 = C. Scarpa, Gallerie dell'Accademia, "small masterpieces" gallery, golden section.

Figure 08 = W. von Wersin, dynamically growing *Orthogons*.

Figure 09 = C. Scarpa, IUAV Main Lecture Theatre, dynamic regulating line.

Figure 10 = C. Scarpa, IUAV Main Lecture Theatre, golden section.

Figure 11 = C. Scarpa, IUAV Main Lecture Theatre, regulating line.

Figure credits

Figure 01 = Fondazione MAXXI, Archivio Carlo Scarpa, Disegni Giovanili, 47961 (detail)

Figure 02 = Fondazione MAXXI, Archivio Carlo Scarpa, Disegni Giovanili, 47961 (detail)

Figure 03 = Fondazione MAXXI, Archivio Carlo Scarpa, Gallerie dell'Accademia, 38482.

Figure 04 = Archivio Museo di Castelvecchio, sr300r.

Figure 05 = Civico Archivio Fotografico, Milano – on deposit from Fondazione BEIC Archivio Paolo Monti, 00142.

Figure 06 = Fondazione MAXXI, Archivio Carlo Scarpa, Gallerie dell'Accademia, 38473.

Figure 07 = Graphic processing by the author on: Fondazione MAXXI, Archivio Carlo Scarpa, Gallerie dell'Accademia, 38482.

Figure 08 = Wolfgang von Wersin, Das Buch vom Rechteck (Ravensburg, Otto Maier Verlag, 1956).

Figure 09 = Graphic processing by the author on: Archivio Museo di Castelvecchio, sr300r.

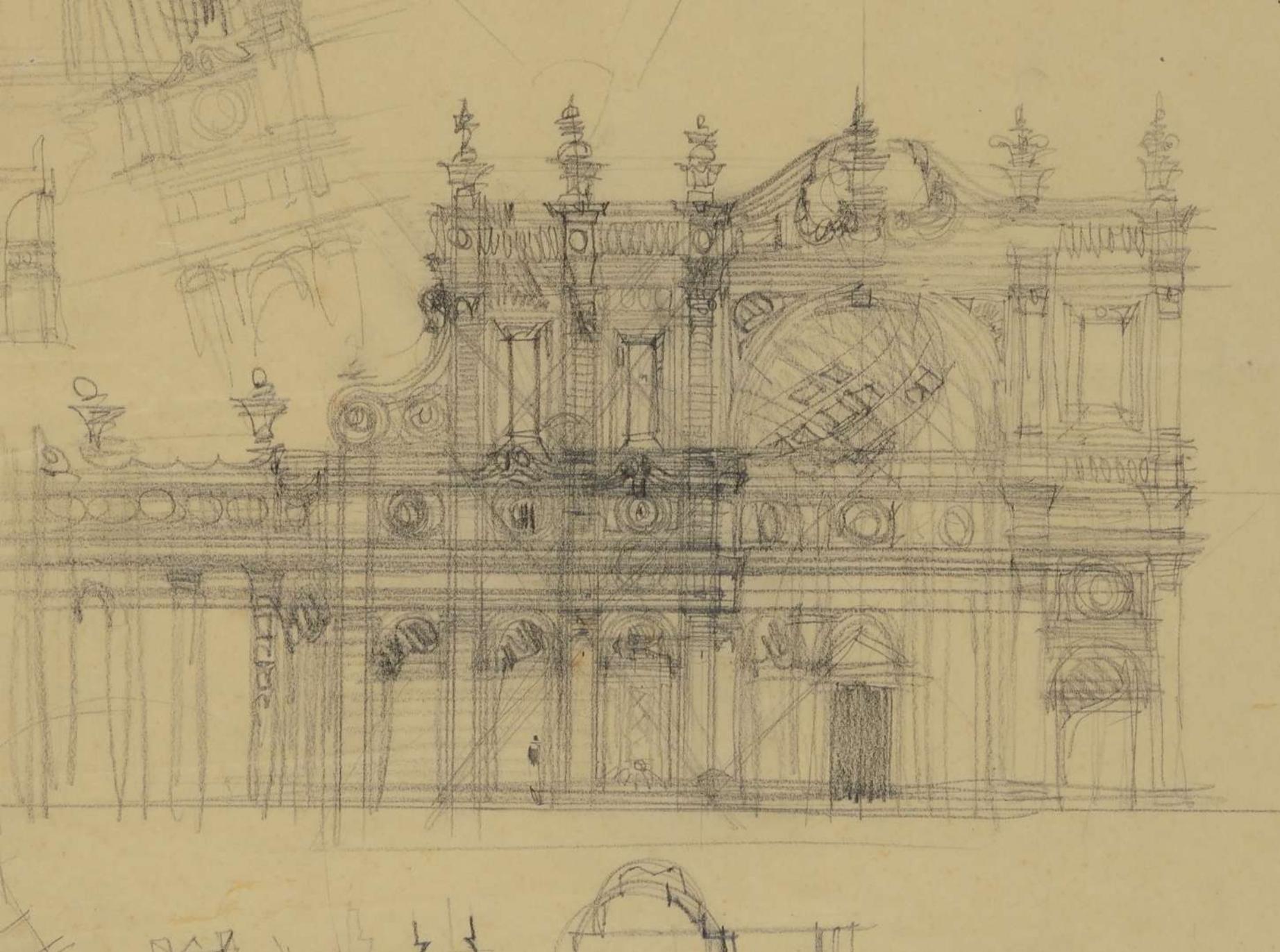
Figure 10 = Graphic processing by the author on: Archivio Museo di Castelvecchio, sr300r.

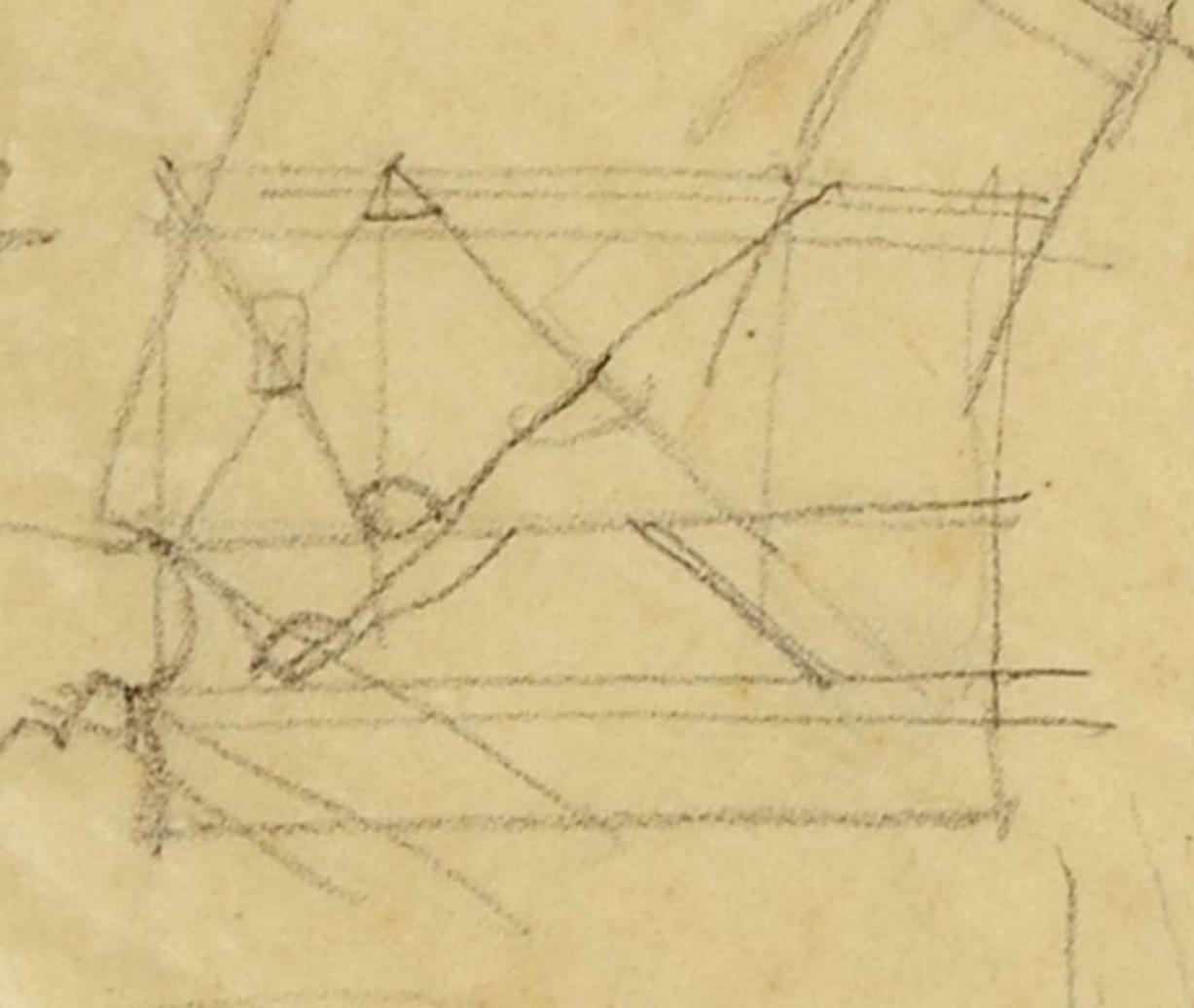
Figure 11 = Graphic processing by the author on: Archivio Museo di Castelvecchio, sr300r.

-
- ¹ F. Dal Co and G. Mazzariol (ed.), *Carlo Scarpa. The complete Works* (New York, Rizzoli, 1984); G. Beltramini, Y. Nakamura (ed.), “Carlo Scarpa 1906-1978”. *A+U, Architecture and Urbanism*, 229 (1989); K. W. Forster and P. Marini (ed.), *Carlo Scarpa. Mostre e Musei 1944-1976. Case e paesaggi 1972-1978* (Milan, Electa, 2000).
- ²² On the rapport between Scarpa, the Venice Biennale and contemporary art see O. Lanzarini, *Carlo Scarpa. L’architetto e le arti* (Venice, Marsilio-Regione Veneto, 2003).
- ³ On the rapport between Scarpa and the East see M. J. K. Pierconti, *Carlo Scarpa e il Giappone* (Milan, Electa, 2007).
- ⁴ P. Buchanan, “Garden of Death & Dreams”. *The Architectural Review*, 1063 (1985), p. 54.
- ⁵ Through its Foundation, MAXXI – Museo nazionale delle Arti del XXI secolo di Roma, has preserved and managed C. Scarpa’s archive since 2001 at its Centro Archivi di Architettura. Some of the files containing his designs are currently held at the CCS - Centro Carlo Scarpa dell’Archivio di Stato di Treviso. Very important archival holdings can still be found at the Museo di Castelvecchio in Verona. Finally, an interesting collection of technical drawings is in the collections of the MAK – Museum für angewandte Kunst in Vienna.
- ⁶ M. Barovier (ed.), *Venetian Glass by Carlo Scarpa: The Venini Company, 1932-1947* (Milan-New York, Skira - Metropolitan Museum of Art). Exhibition Catalog 5 November 2013 - 2 March 2014.
- ⁷ S. Settis, *Futuro del “classico”* (Turin, Einaudi, 2004).
- ⁸ Reported, among others, by G. Tommasi, in a video-interview of 2009 with Alba Di Lieto at the Museo di Castelvecchio di Verona, also available at <http://mediateca.palladiomuseum.org/scarpa/web/videointervista.php?id=6>.
- ⁹ See the text of the Madrid Lecture (1978) reported in the textual apparatus of F. Dal Co and G. Mazzariol (ed.), *Carlo Scarpa. The complete Works* (New York, Rizzoli, 1984).
- ¹⁰ R. McCarter, *Carlo Scarpa* (London, Phaidon, 2013).
- ¹¹ G. Frediani, *Armonia segreta. Carlo Scarpa ed il progetto della forma* (Macerata, Quodlibet, 2019).
- ¹² W. von Wersin, *The Book of Rectangles, Spatial Law and Gestures of The Orthogons Described. The Orthogons Described* (Ravensburg, Otto Maier Verlag, 1956).
- ¹³ A. Brodini, *L’allestimento di Carlo Scarpa per l’aula magna* (1975), in press.
- ¹⁴ The adjective dynamic refers to the theory published in J. Hambidge, *Dynamic Symmetry. The Greek Vase* (New Haven - New York, Yale University Press, 1920).
- ¹⁵ A. C. Cimoli and F. Irace (ed.), *La divina proporzione. Triennale 1951* (Milan, Electa, 2007).

¹⁶ C. Scarpa's library included numerous books by Le Corbusier, including the first editions of *Modulor* (1948) and *Modulor 2* (1955).

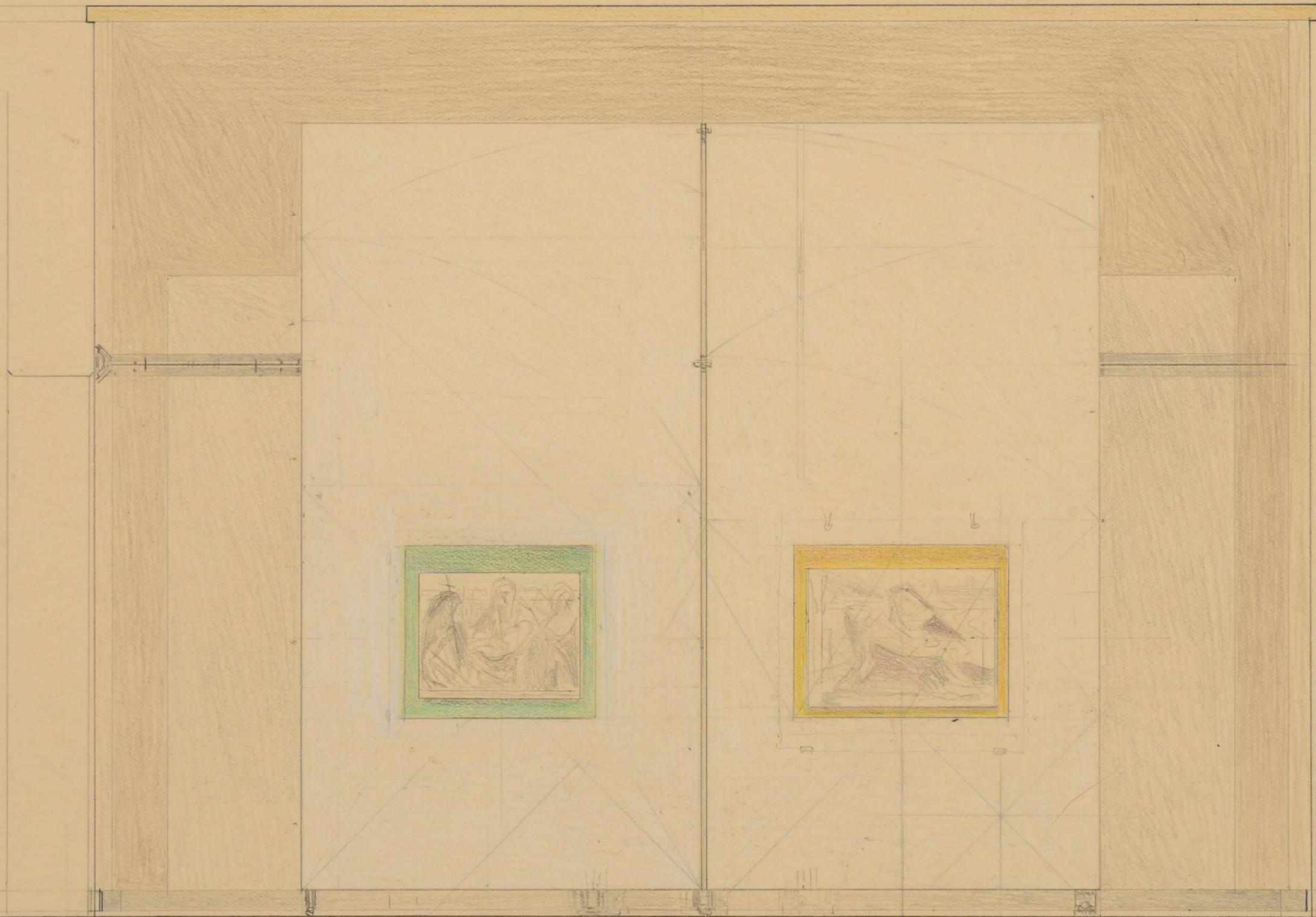
¹⁷ The Brion Tomb is constructed on the basis of increasing modules of the number 11 and some submodules.





5

65 x 90



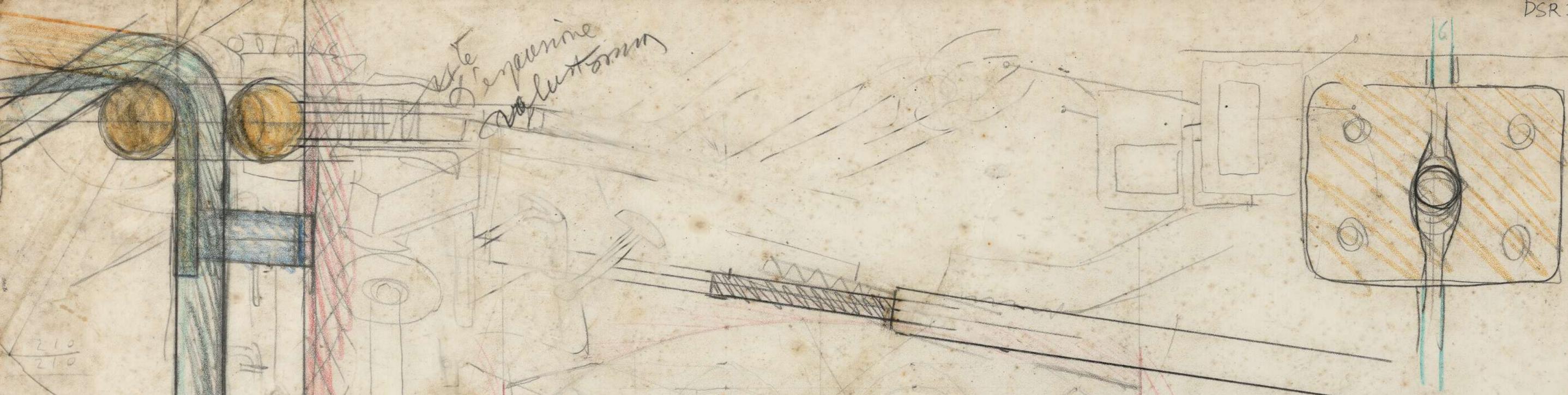
102
 80
 87

alzare un po'
 la "pietra"
 di nuovo...
 il riquadro
 vuole quello
 della 3 figure
 e troppo ampio

↑ 0.79 + (4cm)
 0.56
 4cm

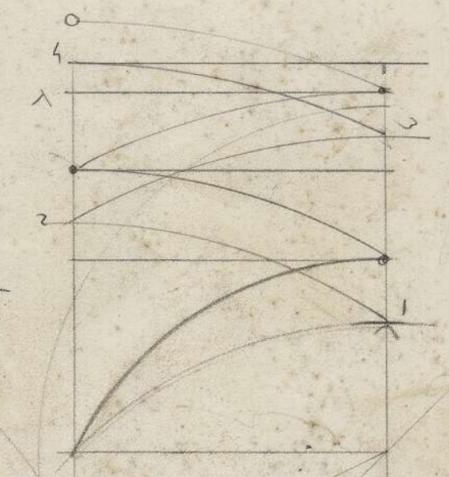
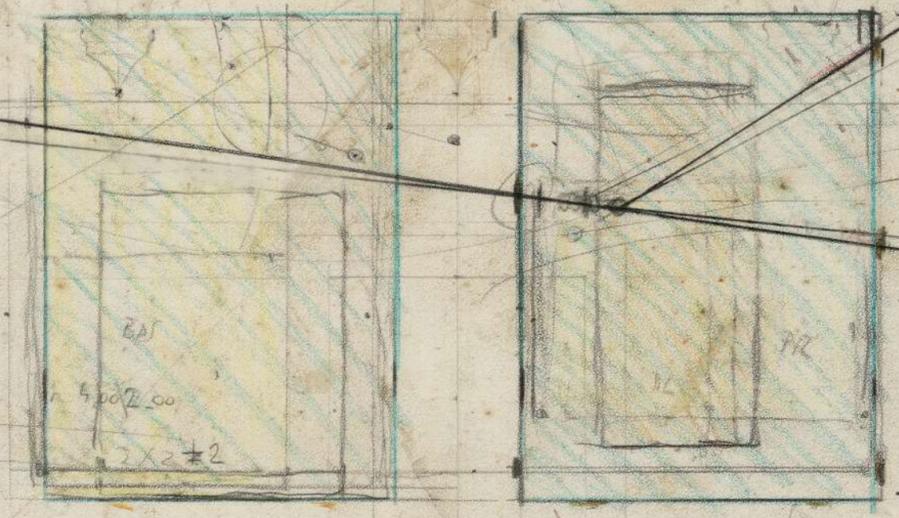
188

ste
D'espérance
no lust arm



210
210

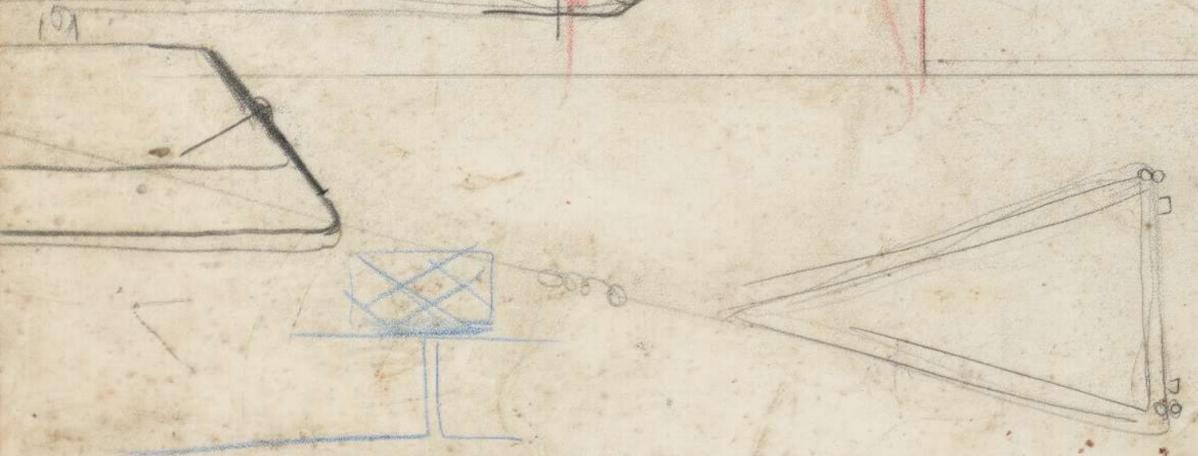
STONE



1518
13

1518
1=141

1. X 1518
byron...

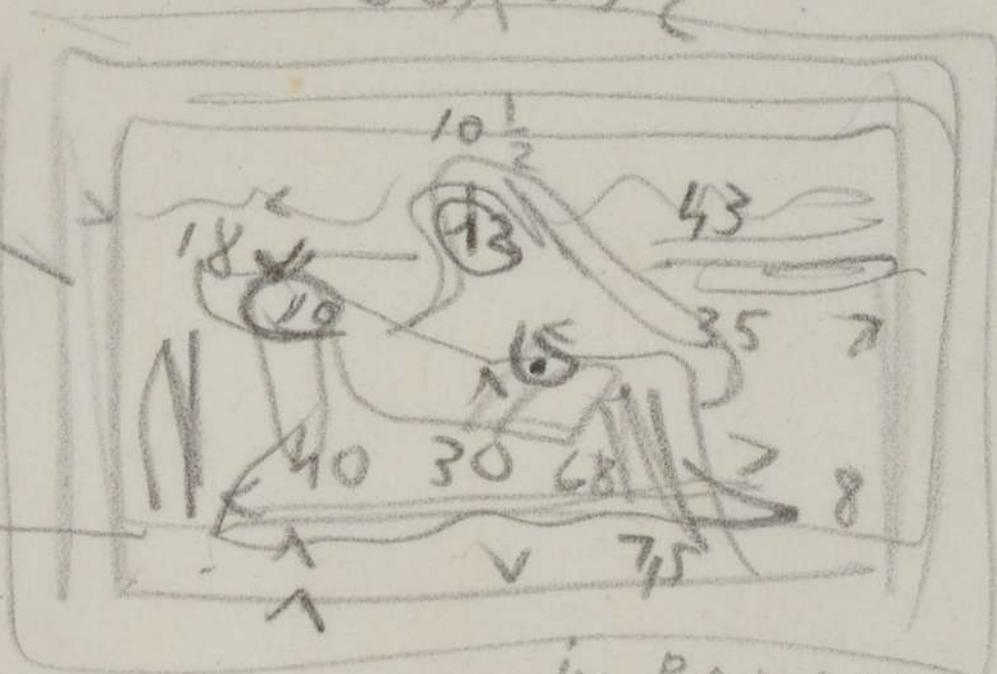


76
7/2



88 X 65 1/2

11

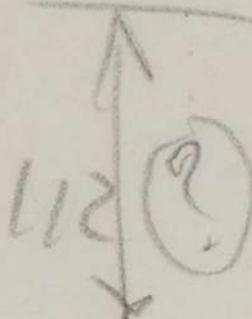


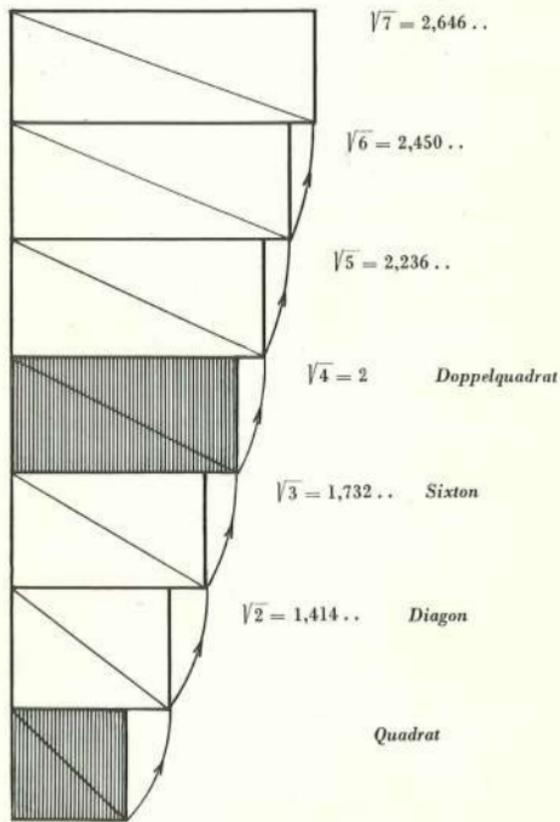
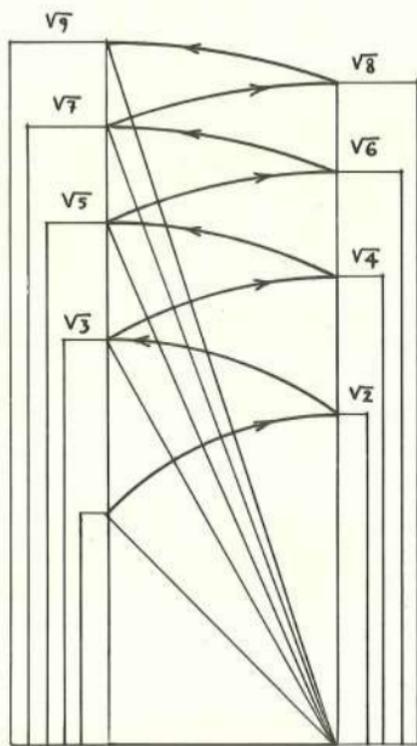
45

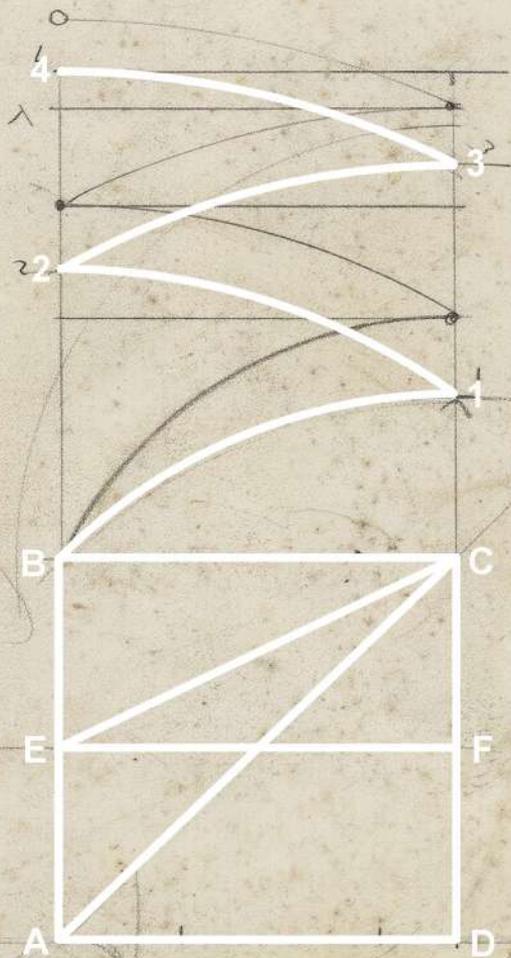
IN PANNELLS

BSC

76 ÷ 97







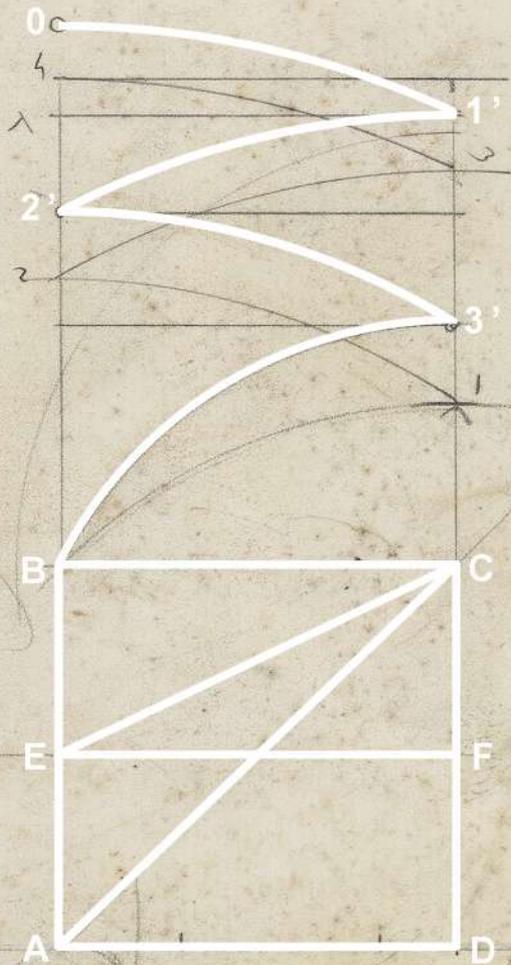
1618
13

4

Handwritten signature or mark

1 = 141

1. x 1618
Japanese Army



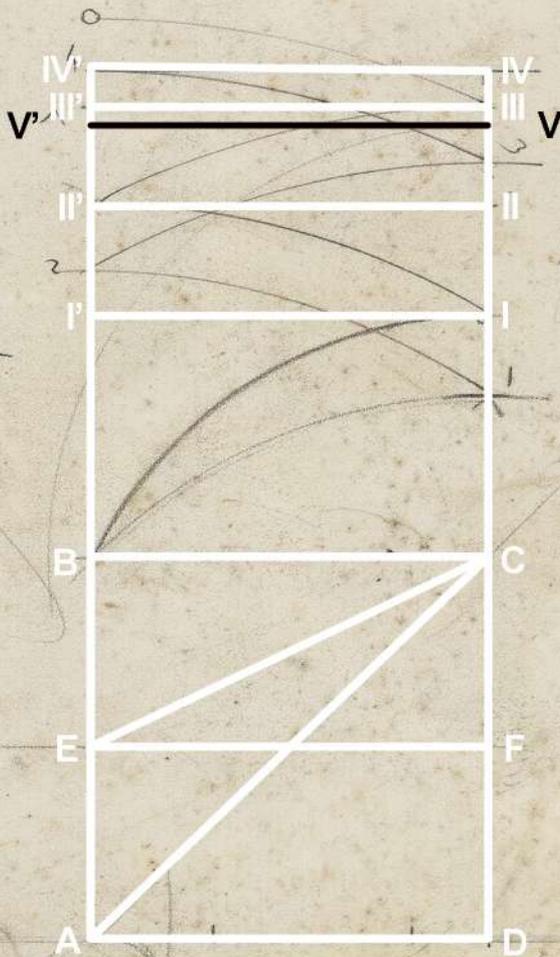
1618
13

4

WZ

1-141

1. x 1618
Japanese Army



$\sqrt{5}$
 1-141

1. x 1618
 Japanese Aweez