

The Hall of the Months of the Palace Schifanoia (Ferrara 1469-70)

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1. Introduction

The letter of *Francesco del Cossa Borso d'Este* dated March 25th 1470 remains to be the most important document in determining date and authorship of the painting program of *Schifanoia*.¹

The missive mentions the name of *Pellegrino Prisciani*, a man of great authority during the second half of the fifteenth century in the city of Ferrara.

No direct and exhaustive documents exist on *Prisciani's* actual competence in the field of astrology. A book that probably once existed, "*Libro azzurro*", today unfortunately not found, in which seemed to gather numerous reports and many of his astrological observations. *Eleonora d'Este* talks about this book in a letter sent to *Francesco Gonzaga* on July 25th 1488.

The most renowned statements of his thought on astrology are contained in two different letters. The most known one was addressed to *Isabella d'Este* dated August 15th MDIX² "[...]; it shall be considered the marvellous power of the conjunction between *Caput Draconis* and the star of Jupiter." In this missive he cites *Pietro d'Abano*, speaking about the possibility in "placating" the stars and bringing them in our favour premised by proper prayers. This astronomic event occurred, according to *Prisciani's* prediction, the XVIII of August.

An analogous prediction was stated in a letter dated October 26th 1487, addressed to the mother of *Isabella*, *Eleonora d'Aragona*, consort of *Ercole I d'Este*. The two events actually occurred in the dates and in the instants seed by *Prisciani*.

It is important in underline that the phenomenon is purely abstract and mathematical. In fact in both cases one seen the passage of Jupiter on the moon ascending knot without any spectacular conjunction with the lunar star.

Prisciani's interest in astronomic knowledge and the ability, with which physical-mathematical data are managed, are clearly highlighted in his only astronomic essay, *l'Ortopasca*³, reaching our days in form of a manuscript, treating

¹In A. Warburg, *Arte italiana e astrologia internazionale nel Palazzo di Schifanoia a Ferrara*, in: M. Bertozzi, *La tirannia degli a stri. Gli affreschi astrologici di Palazzo Schifanoia*, Ed. Sillabe, Livorno 1999, p.92.

²A. Luzio, R. Renier, *La coltura e le relazioni letterarie di Isabella d'Este Gonzaga*; a cura di Simone Albonico; Nuova ed., Milano, Sylvestre Bonnard, 2006 XXXVII, p. 140.

³Modena, Library Estense, αX. I. 6 (=lat. 466) carte da 1r a 13v.

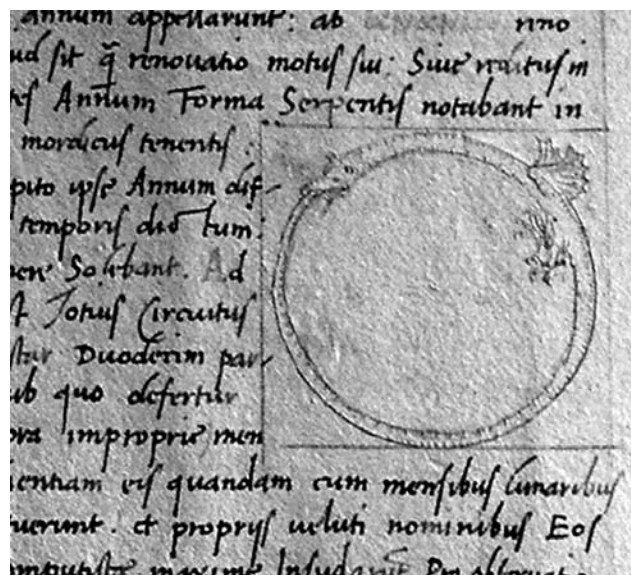


Figure 1. Pellegrino Prisciani, the image of “urobuo” the snake symbol of the time, *Ortopasca* Modena, Library Estense, ?X. I. 6 (=lat. 466) 1r a 13v.

the topic on the lunar cycle motions with extreme rigor and accurate calculations (fig.1).⁴

During the governments of *Lionello*, *Borso* and *Ercole*, astronomy and astrology in the court of Ferrara covered a role of great interest like in other Italian Renaissance courts, circumstances largely illustrated in different specialized studies.⁵ The research concerning this famous painting exhibition arrangement, especially the iconographic type, has strongly contributed to the development of these cultural *ferrarese* aspects.

Starting from the studies of Warburg⁶, it has been demonstrated in the painting program the presents of a precise line of the historical astrology. Belonging to this are the *Astronomicum* of Manlio⁷ and the magic medieval and

⁴A. Rotondo, *Pellegrino Prisciani (1435 ca.-1518)*, in “Rinascimento”, a. 11, n. 1 (giu. 1960), pp. 69-110.

⁵D. Bini (edited by), *Astrologia: arte e cultura in età rinascimentale, art and culture in the Renaissance*, Il bulino, Modena 1996, pp. 38-42; C. Vasoli, *La cultura delle corti*, Cappelli, Bologna 1980, pp. 129-158.

⁶A. Warburg, *Op. cit.*, p. 92; M. Bertozzi (edited by), *Aby Warburg e le metamorfosi degli antichi dei*, F. C. Panini, Modena 2002.

⁷The Poem, in five books, constitutes the first complete work on astrology reaching our days. Very little news is known on the author. He probably lived during the period of *Augusto* and *Tiberio* e died around 22 a.C. The work was edited in a critical edition in two volumes: Marcus Manilius, *Il poema degli astri*, translation by R. Scarcia, commentary by R. Scarcia, E. Flores, S. Feraboli, Milan, Mondadori, vol. I 1996, vol. II 2001.

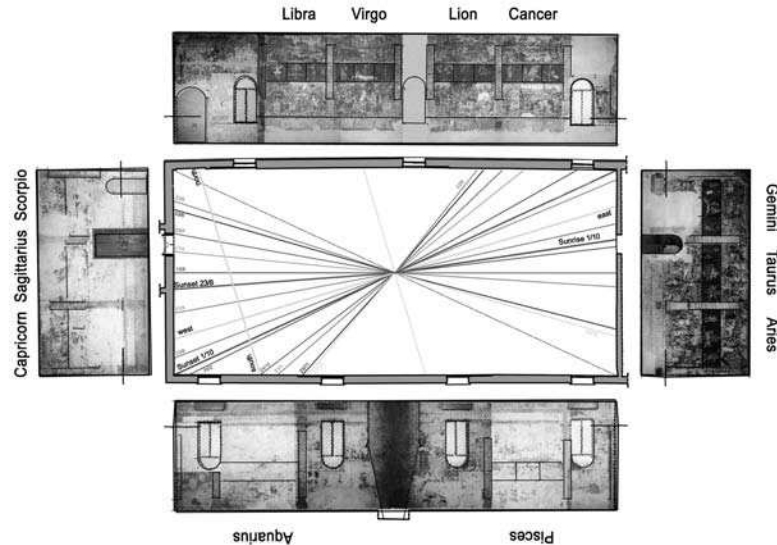


Figure 2. The survey of the Hall of the Months (Ferrara 1469-70). It is possible to read: the asymmetrical position of the 12 signs in relationship to the architectural space qualities; the main entrance door positioned in front of the month of January (zodiac sign Acquarius, protects Giunone); the dimensional differences among some signs and the relating wall paintings.

Picatrix's⁸ renaissance tradition. In this part, great importance is attributed to the constellations, and to their mythical images, visual representation and splendor.

The *tolemaica* astrology,⁹ however, has an empirical nature, instead utilizes strictly mathematical methodologies. The *Tolomeo* zodiac is a circular corona, a geometric construction and not a real constellation band. "Coherently, despite of some uncertainties, the zodiac signs [...] are not seen as mythical animals or divine allegories, like they are seen in *Manlio*. They identify decisively a geometric space subdivision, the *dodecatemorie*, while their class distinction and relationship aspects are determined by a geometric method based on the respective angular distances".¹⁰

⁸The Arab manuscript, written around the second half of the XIth century in Spain, was translated in Castilian from Alfonso X in 1256. The Latin translation propagated in Europe. P. A. Rossi (edited by), *Picatrix: dalla versione latina del Ghayat al-hakim*, translated by D. Arecco, Mimesis, Milan 1999 (The work is attributed to: al-Magriti Maslamah ibn Ahmad).

⁹C. Tolomeo, *Le previsioni astrologiche (Tetrabiblos)*, edited by S. Feraboli, Fondazione Lorenzo Valla, Arnoldo mondadori editore, Rocca San Casciano 1998.

¹⁰O. Pompeo Faracovi, *Scritto negli astri. L'astrologia nella cultura dell'Occidente*, Marsilio 1996, pp. 128-129.

2. The main Questions

Different interpretative hypotheses, today still being analyzed, have investigated several aspects of the iconographic program. Among these I recall here (fig.2):

-the *asymmetrical position* of the 12 signs in relationship to the architectural space qualities: 3 can be found on the east wall; 4 on the north wall; 3 on the west wall (paintings no longer existing); 2 on the south wall (paintings no longer existing). This arrangement creates a perceptive fruition very different from the one produced by the classical astrological subdivision of the celestial space in twelve sectors each of 30°. From an astrological point of view, the canonical opposition is also not respected among the sign couples (Aries/Libra, Taurus/Scorpio, Gemini/Sagittarius, Cancer/Capricorn, Leo/Aquarius, Virgo/Pisces);

-*main entrance door*,¹¹ positioned in front of the month of January (zodiac sign Acquarius, protects Giunone). It is known, however, that the astronomic year begins with the sign of Aries on March 21st. On this day the sun passes through the ecliptic point γ presenting a declination equal to 0°. Different and manifold were the possible reasons that generated this specific path exhibition of the wall paintings;¹²

-*dimensional differences* among some signs and the relating wall paintings: the Aquarius sign, in fact, is about $\frac{1}{3}$ bigger than the others, as well as the Pisces sign, but dimensionally slightly smaller. The creator's precise intentionality in giving a greater importance to the Aquarius is highlighted by the decisive cut of one of the pilaster, which defines the architectural space, painted exactly on the portion of the fresco devoted to this sign.

3. From the Survey to a critical Interpretation

The survey was conducted using direct and digital procedures. The direct procedure was utilized for the ground floor plan concerning the outdoor spaces and the access rooms of the Salon located on the first floor. A digital survey procedure was conducted in support of the direct one, supplying numerous control points. Instead the Salon was topographically measured, after having defined a grid of points on the painting and architectural apparatus (fig.3).¹³

¹¹On the ancient functionality of this space see S. Ghironi, F. Baroni, *Note storiche su Palazzo Schifanoia*, in "Atti e memorie della Deputazione Prov. Ferrarese di Storia Patria, Serie III, Vol. XXI, pp. 97-170. For the most recent interpretations see also S. Settis, W. Cupperi (edited by) *Il Palazzo Schifanoia a Ferrara*, Panini, Modena 2007.

¹²See the considerations in: M. Bertozzi, *La tirannia degli astri*. Op. cit., p. 37.

¹³The survey restitution is in the scale of 1:50. The topographic support and survey of the salon generated 528 control points using a Total Station. The architects that collaborated in this phase are: G. Galvani (surveying instrument), M. Cecchinato, C. Villani, G. Tammiso, E. Minghini (direct survey). Some students of the Course *Rilievo dell'Architettura 1*, A.Y.

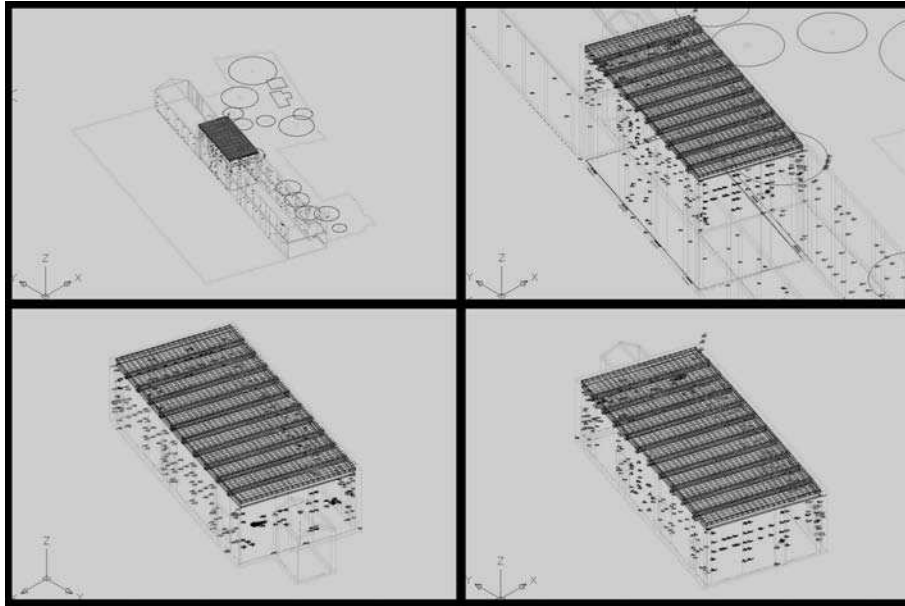


Figure 3. The survey restitution is in the scale of 1:50. The topographic support and survey of the salon generated 528 control points using a Total Station.

It was on the basis of the topographic survey, that gave also the possibility in orienting correctly the position of the building, in confronting it with the sun location and elaborating a three-dimensional virtual model of the building related to the research. The virtual model was imported in a rendering program and the orthophotos were attached to the internal wall surfaces of the wall painting exhibition. It shall be seen afterwards how we tried to simulate an internal natural light illumination that can be considered similar to the one created by the true sunlight, using always the same software and holding count of the orientation of the model, and the site latitude and longitude.

A metrological and geometric type of analysis was conducted on the *Sala dei Mesi* (Hall of the Months), that investigated the plan measurements which guided the authors for the room dimensioning and painting apparatus arrangement. From the architectural survey and building orientation emerge some inedited considerations concerning the alignments and the arrangement of the frescos

Borso d'Este was born on Thursday August 24th at horam XXII under the Virgo sign (*Chronicon estense*),¹⁴ the third-born of a couple of lovers: *Stella de*

2005-06 had also contributed to the direct survey regarding the external spaces and ground floor plan. I would like to thank the city of Ferrara in allowing me to measure this prestigious building and the DIAPREM of Ferrara.

¹⁴M. Torboli, *Il duca Borso d'Este e la politica delle immagini nella Ferrara del Quattrocento*, Cartografica Ferrara 2007, p. 9; G.Bertoni, E.Vicini (edited by), *Chronicon Estense cum additamentis...*, in *Rerum italicarum Scriptores*, XV, III, Città di Castello 1908. Also *Borsias di Tito Vespasiano Strozzi* confirms the date August 24th: when Virgo sends away the Leo

Tolomei and *Nicolò III d'Este*. Date and time of his birth have been published recently.

These are the most significant dates of his life:

-October 1st 1450, at the hour XX enters Ferrara as *Leonello's* successor;¹⁵

-May 18th 1452, designated from the emperor *Federico III* Duke of Modena and Reggio and count of Rovigo;¹⁶

-May 16th 1459, Pope *Pio II* is at Ferrara in the monastery of Sant'Antonio: *Borso* gives him the keys of the city;¹⁷

-June 24th 1461, the Carthusian monks enter the new Carthusian monastery of Ferrara with a solemn feast;¹⁸

-December 9th 1468, *Federico III* passes through Ferrara;¹⁹

-January 27th-February 2nd 1469, *Federico III*, on the return from Rome, stays at Ferrara;²⁰

-April 14th 1471, *Borso* is at Rome for the designation of Duke of Ferrara (occured after the hour III).²¹

4. The Ascendant of *Borso*

The utilization of several astrological softwares gave the possibility of finding the birth chart of the Duke *Borso*, associated by tradition the date and time of his birth that were passed on in the years. Leaving this type of studies to the historians of astrology, it has been deduced, however, that *Borso* was born under the Sign of the Virgo with ascendant Aquarius, which is the sign positioned directly in front of the main entry door and the one with the largest

from the sky: W. Ludwig (edited by), *Die Borsias des Tito Strozzi*, Munchen 1977. Giraldis instead indicates August 15th 1413 as the date of birth: *Commentario delle cose di Ferrara, et de' principi da Este, di m. Giouambattista Giraldis gentilhuomo ferrarese*, Venezia 1556, p.94. According to Pardi's calculations, *Borso* was probably born on August 24th 1413 and died between the 19th and 20th of August 1471. G. Pardi (edited by), *Diario ferrarese dall'anno 1409 sino al 1502 di autori incerti*, Zanichelli, Bologna 1928-1933, note 9-10, p 72.

¹⁵G. Pardi, *Op. cit.*, p 33. The direction of the sun to the sunset of October 1st 1450 corresponds to the diagonal of the Hall.

¹⁶*Federico* allows *Borso* to bring the black imperial two headed eagle on a golden background, united to the *estense's* one, with the crown. Pardi and Muratori recall the date May 18th, festivity of the Ascension. Pardi, *Op. cit.*, p. 35, L.A. Muratori, *Delle antichità estensi continuazione, o sia Parte seconda, composta e dedicata all'altezza serenissima di Francesco 3. duca di Modena, Reggio, Mirandola &c. da Lodovico Antonio Muratori suo bibliotecario*. In Modena nella Stamperia Ducale, 1740, pp. 199-201.

¹⁷Muratori, *Op.cit.*, p.215.

¹⁸*Ibidem*, p. 218.

¹⁹*Ibidem*, p. 221.

²⁰*Ibidem*, pp. 221-222.

²¹*Ibidem*, p. 223.



Figure 4. 3D modeling: the sun path in the area dedicated to *Borso* on the day October 1st of the XVth century. In that date the figure of the duke is illuminated more times by a strip of light. Such scenographic effects could be opportunely highlighted just by choosing which of the internal shutters should open.

dimensions.²² Such result leaves out the system of domification that *Prisciani* or a court astrologer could have used at that time (*Campano* or *Regiomontano*).

This data is currently being studied, but considered of great interest by *Marco Bertozzi*, a Warburg e Schifanoia scholar, because it could lead to new research concerning the still unexplored fields of the tropic zodiac and the *tolemaica* astrology, and defining the painting program of the *Salone dei Mesi* of *Schifanoia*.

The research investigated the paths of the “sunspots” projected from the windows on the painted surfaces, analyzing which instants of certain days of the year become highlighted particular figures or scenes. This procedure was computed for all the starting dates of the zodiac signs in the century when *Borso* had lived and on the most significant dates of the duke’s life (August 24th or August 15th, October 1st and May 18th), generating a total of 16 animations.²³ Since the rendering program didn’t allow inserting dates before 1700, recent dates were selected such that they presented the same exact solar declination of the ancient ones investigated. The results have been submitted to various verifications and accurate controls, utilizing solar ephemeris calculation pro-

²²Such result leaves out the system of domification that *Prisciani* or a court astrologer could have used at that time. I would like to thank Laura Malinverni for the consultancy given on this part and on the parts of astrology regarding the renaissance, as well as O.Pompeo Faracovi for the consultancy on the Lunar Nodes, here not illustrated.

²³The work was done in collaboration with I. Ascari and F. Tollari, students of the Faculty of Architecture of Ferrara, and with Arch. M. Cecchinato.

grams (azimuth and sun height). To confirm this gnomonic computer programs were also used and applied to the plan sketches of the salon. The procedures used during the research can be summarized as in the following: modelling and rendering, geometry projection and calculus of positional astronomy (spherical trigonometry).

The height difference between windows and wall paintings is such that the frescoes illuminate only during the first minutes of the morning in the “warm” months (March, April, May, June, July, August for the west side of the room) and during the last instants of the sunset in the “cold” months (September, October, November, December, January, February for the east side). The zodiac signs and the above doyens are never illuminated in a meaningful way. The image shown here illustrates the sun path in the area dedicated to *Borso* on the day October 1st of the XVth century. On that date, the figure of the duke is illuminated many times by a strip of light. Such scenographic effects could be opportunely highlighted just by choosing which of the internal shutters should open. The room, in fact, is furnished with an obscuring system that reproduces on the external surfaces parts of the frescos, allowing even when the shutter is opened, a visual continuity of the painting exhibition, considered evidently important.