

The works of Tintoretto: sewn, designed, patched and cut

The uncertainty of canvas measurements

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In honour and memory of Joyce Plesters (1927-1996)

«It was sheer wickedness to cut pictures with the intention to make them symmetrically match with others in the galleries! [...] The artist considers his painting as a unity within its material limits and in close relation to their size; it is only for him to design its borders. No framer should therefore be authorised to interfere with its shape».

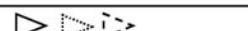
Jacob Burckhardt¹

MOST ART HISTORIANS AND CURATORS TEND TO LOOK UPON the objects of their studies as they are handed down by tradition. The *status quo* of the mobile works of art on textile support –generally on canvas²– remains undisputed; their conclusions are based on the measurements as they have come down on us. Minor losses along the borders will be accepted. In these areas the fabric is most highly susceptible to time and corrosion because its folds were hammered on a wooden support or *telaio*. Thus, the size of a picture would often shrink gradually until a relining, strip-lining or new mounting became necessary or the placing within a gallery called for a change in size. These changes are often overlooked and only come to light when the object is brought into a laboratory for close study or restoration where it will be examined by x-rays, infrared light and the latest electronic devices.

Having become mobile, the pictures of the late Renaissance and Baroque era suffered especially from a tampering with their sizes. Aspects like their extensive priming, depths in perspectives or horizons, rich chiaroscuro, predominance of landscape, stronger emphasis on corporeality and the enormous growth in size, had the effect of reducing the discipline in treating the canvas as an untouchable whole. The changes were due to a large number of causes: the emergence of large representative collections, the manner and mania of symmetrical hanging, the serial mass production of carved and gilded frames –whose complex construction ruled out any later adjustments. The carefree manner of the middle classes

who began to buy works of art without any worries about quality. Bankruptcies were followed by auction sales and estates were sold offering pictures at discount prices (for example Rembrandt in the Netherlands), the scattering of unified collections all over the world (for example the art treasures of the Gonzaga in Mantua), the fragile economy following upon wars, epidemics, starvation as in the case of the 30-years war, the dissolution of monasteries and churches damaging the standards of value for works of art. Further reasons like foreign trade, art theft, and a distinct increase in art production were responsible for the losses that a work of art suffered. Whenever conservation, transport, or re-framing became necessary or a change in their value as decoration or object of fashion occurred, the measurements of pictures were tampered with. The re-evaluation of religious objects as profane exhibits changed the way they were treated by the owner, the modes of their presentation, often even their meaning or significance. If parts of the picture seemed superfluous, disturbing or ideologically incorrect, they were cut, painted over or enlarged either because there was a carved frame ready at hand or a gap on the walls of a picture gallery had to be filled.

In his valuable study *«Venezia scomparsa»*³ Alvisè Zorzi has demonstrated how the squandering and scattering of the Venetian patrimony after the decline of the *Serenissima* led to the most appalling consequences to Venetian art, the original home of painting on canvas from the 17th to the 19th century.

	picture border line
	reconstruct edges
	uncertain / false / later joints
	seams / selvedge
	evident half / diagonal divisions / quartering
	actually readable structures / perspectives
	significant / spiritual connections / remarkable elements
	«piedi-» / «bracci-» subdivisions
	«golden section» divisions
	hidden elements / underpaint / x-ray proves
	begin / end of real / false / virtual seams
	begin / end of evident / actual divisions
	marker of piedi-measurements
	marker for door hinge / shutter element
	apocryphal / modern filling area
	canvas bale / weaving direction (N = normal/ plain weave S = twill)
	navel point
	horizontal line / eye-level
	spiritual / «energetic» centre / cross nail
	origin / centre point of radiation

1. Graphic reference

Thousands of pictures were dismantled, rolled up, folded or cut to pieces and were sent to travel over mountains and oceans, stored on covered wagons in the heat of summer or the damp of winter, stocked in the salty bilge of ships, in mice-infested counting-houses, in abandoned monasteries or attics, so that their future owners found them almost ruined.

The dissolution of churches and monasteries damaged Venetian altar pieces especially. The work of the scissors was facilitated by the poor conditions of the materials which were already corroded by adverse climatic situations or neglect. Particularly the fabric along the borders –considered less important but corroded first– did not survive the strenuous transfer into a new environment.

However, the outrages of the 20th century must not be concealed. Instead of being gently preserved, works of art often had to suffer from many adverse influences. Among

these are the revival of art trading and the profession of restoring after the world wars with their destruction, the increase of art robbery, the new booming museum tourism causing pictures to be sent on lengthy touring exhibitions, a reawakened interest in the lives of individual artists, in the latest sensational restorations, attributions and discoveries, as well as clamorous sponsoring and marketing. A mania arose for impregnating, flattening and relining⁴ pictures as a preventive measure to make them thus supposedly easy-care and fit for transport, an obsession with new technologies speeding up the process of treating pictures in restoration studios. Treatments with high and low pressure produced a frenzy in the brains of «picture surgeons» who were obsessed with the latest technologies to a degree that their operations were used as a *l'art pour l'art* principle, and the modest demands of the pictures for care were forgotten. Everywhere

testimonies of great historic value for the development of painting were destroyed by knives and scissors in the course of decades. First, the frayed stretching borders perforated by rusty nails were removed, then the replacement of the original stretching frames ruled out any possibility of dendro-chronological, physiological and typological analysis. In order to obtain smooth surfaces and a perfect backside for relining all original evidence provided by a long tradition of weaving and sewing was exterminated. It is only with great difficulty that an x-ray can make us discern the remnants of flattened seams whereas individual mono or bifilar curves, the characteristic width of folds and even the flat-rolled selvages are irretrievably lost to further research.

The numbers of «pendants» are legion, which were destined to go separate ways to the extent that they cannot be recognised as belonging together because their size and their state of preservation make them look completely different. In the absence of definite historical evidence, their virtual connection can only be proved by a close analysis of materials and colours. An examination of canvases, the characteristic of fibres and threads, of weaving techniques and the peculiarities of seams, of their originally intended functional shapes (e.g. altars, wall covers, *sopraporte*) and above all the economic and financial conditions of the *bottega* would in most cases enable us to draw valid conclusions concerning the tradition of a workshop, the probability of an author, the possibility of sequences in a serial production or even to establish the date of a work. Unfortunately, only first attempts at such an analysis have been carried out, and we should mention and remember the meticulous examinations of Joyce Plesters who would never tire of completing her painstaking analyses of single objects with detailed information about technical procedures of the workshop.

Today, such informations should be standard for all descriptions of paintings in art history. Even the simple diagram of the canvas, the vertical and horizontal direction, the straight, the patterns of cutting and sewing, the selvages, folds, patched pieces, all these provide valuable clues to exclude possible authors or sometimes even to identify an author.

Modern documentation of restorations, especially Italian reports including the innumerable *mostre di restauro*, rarely provide specific information about the modes of weaving. Contemporary investigation seldom permits us to form a sound judgement: flattened surfaces, filling material and retouching blind our eyes. It is only from old monochromes or badly lit photos that we can catch a glimpse of the conditions prior to the intervention of art restorers. It is a well-known fact that their final photographic documentation by extremely reflected light will invariably produce an impression of flawlessness. In conclusion, editors and photographers must be subjected to criticism for publishing

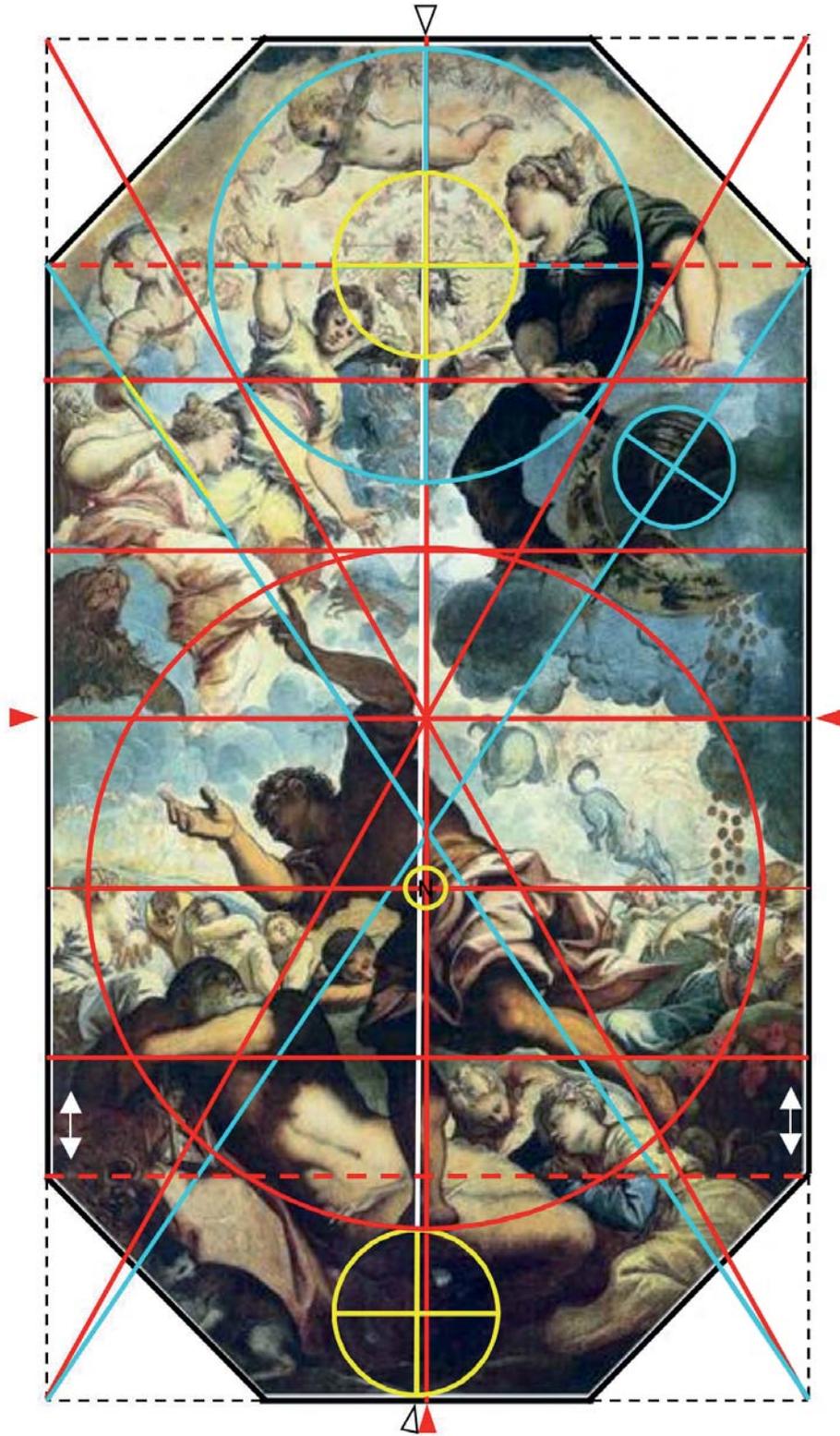
arbitrarily cut or twisted photos. Such distorted images do not damage the originals, but they render life difficult for art restorers and historians because they distort their judgement on size, proportion and composition.

The last argument caused again the greatest obstacle to my present essay. Now let us turn to Tintoretto.

In the works of Tintoretto, his colours, painting materials, grounding, priming, varnishing, drawing and the famous *pentimenti* were subject to thorough analysis, whereas fabric composition and seaming only attracted modest attention because of the complexity of the questions and many irritating contradictions. Depending on the circumstances of a private or public secular *mitologia*, a *pala d'altare*, a decoration of a *scuola* like San Rocco, the results are extremely diverse. Once we find the canvas seaming diligently geared to the composition, another time we find desperate patching as if the even smallest scraps of fabric had to be used up, next time we find quality, thickness and design of weave in conformity, next time right and left twill weave, broad and narrow herringbone pattern and threads of various thickness seem to be mixed arbitrarily. It remains to be analysed if these variations are due to the economic situation, any negligence of the team of artists, the volume of trade, the liquid assets of the workshop or the particular patron. For all that, a comparison of intact and mutilated pictures could be facilitated by the fortunate circumstance that innumerable compositions of Tintoretto are still unharmed and unquestionably *in situ*.

The reconstruction drawings shown in my presentation (fig. 1)⁵ are open to criticism because we do not know whether the conditions regarding the mounting (for example of altars), framing, space disposition (for example *laterali*), accidental mutilation etc. unexpectedly changed between the commission, planning, execution and delivery of a painting. Small paintings were sometimes mounted on a support by the artist himself, a change of size could already occur in the studio. External *piedi*-measurements are not necessarily reflected by the geometrical outlines. The information on missing parts is based on the smallest common denominator of proportion and simple principles of division used by artisans. All fashionable speculation about «Golden Sections» or even esoteric proportions of any kind is ruled out, although if it could be of certain importance. Only compelling reasons permitted to suggest circular constructions, they were always available for proof by guideline and compasses. The representation of all paintings by using identical standards of size and proportion remains a wish for the future. As Joyce Plesters once demonstrated in a pioneering study: the comparison of the real sizes provides a decisive key for a creative understanding of the works of art.

The sewing of canvas was a laborious job requiring utmost precision and profound knowledge of tensions and weights.



2. Jacopo Tintoretto, *The dreams of Mankind*, Detroit, Institute of Arts; N/N 427 x 217 cm (434,4 x 226 cm ? 12,5 x 6,5 piedi)

The shape of canvas had to be as rectangular as possible and for aesthetic reasons remain largely invisible. Above all, the production had to practise thrift, i.e. the amount of work and the visual interference of the seams had to be delicately balanced against the composition of the picture. Profound knowledge of the qualities of fabrics and their suppliers in the uneasy times of the 16th century was as important for profession and reputation as that of the painting materials proper. The mere mounting of the canvas was of crucial importance for the composition of a painting and its future destiny.

The sewing of selvages was a necessity because the seams were not only durable and inconspicuous but also straight, so that they caused only minimal disturbance for the eyes. In addition, twill canvas woven either in normal rectangular or in diagonal patterns could easily be stitched together by simple or double loops overcasting the selvages. Seams along the perpendicular weft needed a folded edge of cut: mostly they were a little buckled, slightly curved and were therefore placed in areas near the borders⁶ as can be seen in innumerable cases of paintings of several centuries.

The interactions between the assembly of canvas, the Venetian measure system of *piedi* and *bracci*, and the artistic composition with its iconographic implications were certainly taken for granted by the artist. The combination of material and of abstract conditions enabled a continuous development of extracting, evolving or integrating steps in the process of creating the work. Only such an interaction can account for the intimate relations that exist between eye-levels, navel-zones, highlighted folds of garments, axis of flying angels, crossing lines of action, up-and-down-movements and the decisive hinges in the network of measurements, either metrical or originally based on the *piedi*.

It has been commonly noticed, that seams are generally parallel to the longer edge of the painting. When we compare related compositions like the horizontal sized *Birth of Saint John* in the Petersburg Hermitage and the vertical sized *Birth of Mary* in San Zaccaria, we can see that the central group has simply been reversed. The *horizontal* seam in the middle of the first painting runs through the neck of the Baptist as baby but it is deliberately placed below the close group of women, whereas the *vertical* seam of the second runs through the space between the protagonists. Such observations lead to the assumption that the joining of the canvas and the composition of the figures were processes closely co-ordinated.

The ceiling painting once decorating a bedchamber in the casa Barbo in Venice called *The Dreams of Mankind* (fig. 2), today in the Institute of Arts at Detroit, shows a perfectly straight middle seam of nearly esoteric significance. This definitely philosophical and astrological composition follows a central mainline situated literally and symbolically between heaven and earth. Apart from the position of the central seam

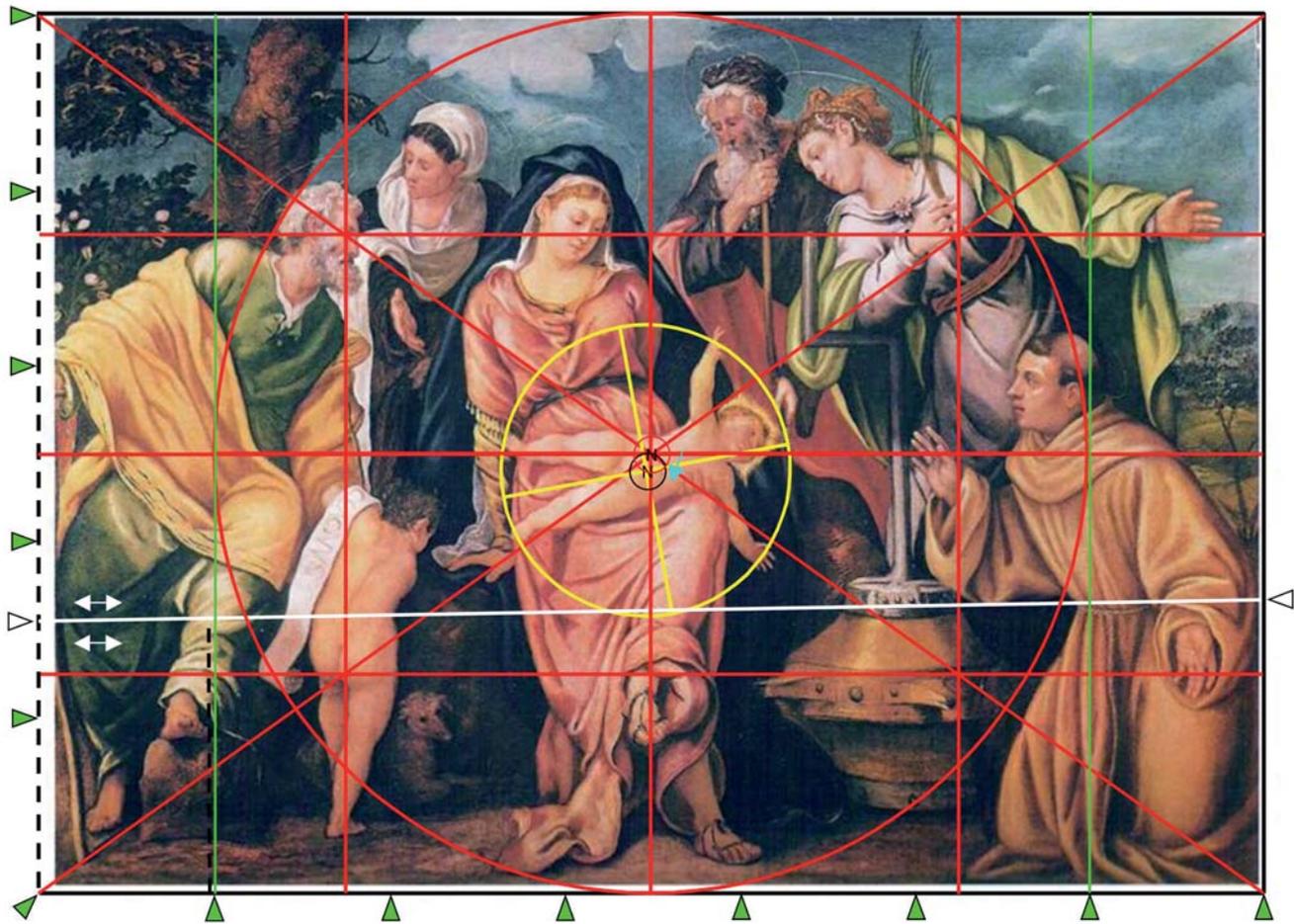
several circular figures, divisions and circular arches surround sections of heaven and particularly the male figure balancing on the crystal globe. In a similar way most of Tintoretto's early works on canvas are arranged around a visual centre line like the *Disputà* in Milan or the seemingly archaic *Presentazione* of the Carmini, and are therefore evolved on central perspectives.

And in the meantime well-known radiography and raking light photo of the *Adultera Chigi* taken in 1964 led to an understanding of the gradual evolution of the painting I presented again in 2007. The Florentine *Entrata in Gerusalemme* is based on a related structure and was perhaps intended as a *companion piece* of almost identical height. In this period the vanishing point moves more and more out of the centre of the image, as can be seen in *Salomo and the Queen of Sheba* in Venice, Chenonçeau and Greenville, in the *Adultera* in Amsterdam and others. In these cases normal woven tissue was used in bales of tree *piedi* width, which mostly take up the *upper* part of the composition.

The *Adultera* at Dresden shows the quintessence of this evolution: a horizontal centred seam connects two normal lengths. The floor tiles, the left arm and the eloquent gesture of Christ dissimulate the track of seam, which is taken up by the eyelevel of the kneeling beggar on the left. At the same time the eye level of the standing figures are co-ordinated with the focal perspective, while the ultra white *empty* tunic of the disputant just overhead the clearing scripture on the floor forms the centre of the composition – a *summa* of well considered planning.

Recently Michael Matile demonstrated that the *Lavanda dei Piedi* (a typical *laterale*, not before 1550), formerly in San Marcuola and today showpiece of the Prado Museum could not have been a real *pendant* to the famous *Ultima Cena* (dated 1547). This is also supported by the difference of quality and assembly of the used canvas: The Prado-version and the version in Newcastle upon Tyne are nearly identical in size and consist of two complete horizontal normal woven strips of three *piedi veneziani* (= approximate 1 m) *below* and a remaining strip *above* whose seam discreetly crosses the zone of architecture and the sky. The smaller *Lavanda* in Toronto, (presumably cut somewhat on the upper border) *precedes* those two paintings. Here, the horizontal seam uses the line of tiles on the terraced floor in the background and the back edge of the table for dissimulation. In the even smaller *Lavanda* of Wilton House Tintoretto tested the same structure *before*, but not yet co-ordinating the perspective with a classical archway like in Toronto, where this idea appears *in nuce*.

The disposition of space in the Prado *Lavanda* can obviously not have depended on the room of the church as it is today and even less on its somewhat antiquated strictly centred opposite, the *Cena*. Its sophisticated perspective construction as shown before in the *Adultera Chigi* with octagonal «*Serlian*» tiles in the foreground is designed on simple *braccio*-units (69.5



3. Jacopo Tintoretto, *Sacra Conversazione Molin*, New York, Berry Hill Galleries; S/S 171,5 x 234,8 cm (173,7 x 243 ? 5 x 7 piedi)

cm or two *piedi*). The *Ultima Cena*, by contrast, still uses a simple chess-board pattern of round *piedi* measures with an external vanishing point. The compositional caesura between the two works of San Marcuola certainly marks a turning point in Tintoretto's artistic development: the crisis can be observed immediately in the evolution of the *Adultere*.

TWILL

Tintoretto's early work is –apart from the use of wooden panels– mostly characterised by the simple and cheap fabric of rectangular weave that serves as a support of his initially small format paintings. However, the earliest use of *diagonally* woven and more resistant twill fabric goes back to the signed and dated *Sacra Conversazione Molin* (fig. 3) of 1540, whose size and careful priming suggest a discriminating patron. The upper length of the material still measures 117cm of the twill standard width of 120 cm, the seam crosses unobtrusively the waist of

Saint Francis and the axle of Saint Catharine's wheel; the proportions of the canvas follow the classical 5 x 7 *piedi*. Remarkable features are simple divisions in quarters and a circular composition encompassing the heads of all saints. Most conspicuous, however, is the absolutely central position of the navel of the child, which was slightly displaced only during the ultimate painting action.

Countless *ignudi* especially of the infant Jesus shed light on the magic of the umbilical-point that fascinated the master for the design of many compositions. The same is true for the eye level of the protagonists, bare breasts, gestures triggering action, beams and nails of the cross, horizontal lines, «empty» centres, concentric circles, diagonal lines which –apart from simple divisions in halves and quarters– play an important part in the structural grid of a painting.

The *Ultima Cena* of San Marcuola mentioned before, still faintly related to the Dresden *Adultere*, contain a complete horizontal *upper* twill length, because by applying a strip, the

seam would have crossed through the zone of the apostles' faces. Consequently, the seam crossing the calves of *Fides*⁸ and *Caritas* uses the second line of the tiled floor for dissimulation. Today this upper twill length measures only 117.2 cm thus suggesting, that the upper border has lost at least 5 cm during the scenic manipulations in the 18th century. The tightly compressed proportion of the upper part, compared to the somewhat empty foreground conclude that even a small additional strip with the continuation of the rudimental architecture might have been intended, just as in the traditional *Cene* of a Santacroce, Bonifacio, Bordone and Bassano even of Titian in the Escorial.

The suggestive *pala* from the Incurabili with «S. Ursula travelling with her companions» (about 1554) in S. Lazzaro dei Mendicanti is made of a twill length in the middle (122 cm) and joint lengths of various sizes at the sides. A single seam in middle would have been possible but it would have disturbed the flow of composition too much: the geometric division in the middle of the picture takes the navel of the flying angel as starting point, and then leads from the mast of the ship to the slightly inclined bishop's crosier. A cutting of the picture on all sides is to be assumed, especially because of the surprisingly flat curve of the apse, contribution to a baroque altar format.

The large *Purificazione di Maria* (of 1554-1555; at the Accademia) is made of two horizontal identical lengths of twill (117/122 cm) with minimal losses at the borders and a proportion of 7 x 9 *pedi*. The border of the altar cloth dissimulates the seam, the front edge of altar serves as vertical division. The events are highlighted by an exact grid of quarters and diagonal divisions. Even the emblem of the cooper's (*botteri*), a barrel, is placed in the real middle.

The more finely grained herringbone twill of the *Temptation of St. Anthony* in San Trovaso (ca. 1577) has a seam in the middle crossing the thumb of Christ's right hand. The twill length on the right hand side had originally been complete and this accounts for the lost centimetres on the right. On the left hand side we must also assume that parts are missing.

The *laterale* of the *Ultima Cena* which is still in the chapel of the Holy Sacrament in the same church, but placed on the wrong wall, shows a distinct seam in the middle at the ear level of the sleeping St. John. This seam connects two lengths of twill, indicating a cut on the upper edge.

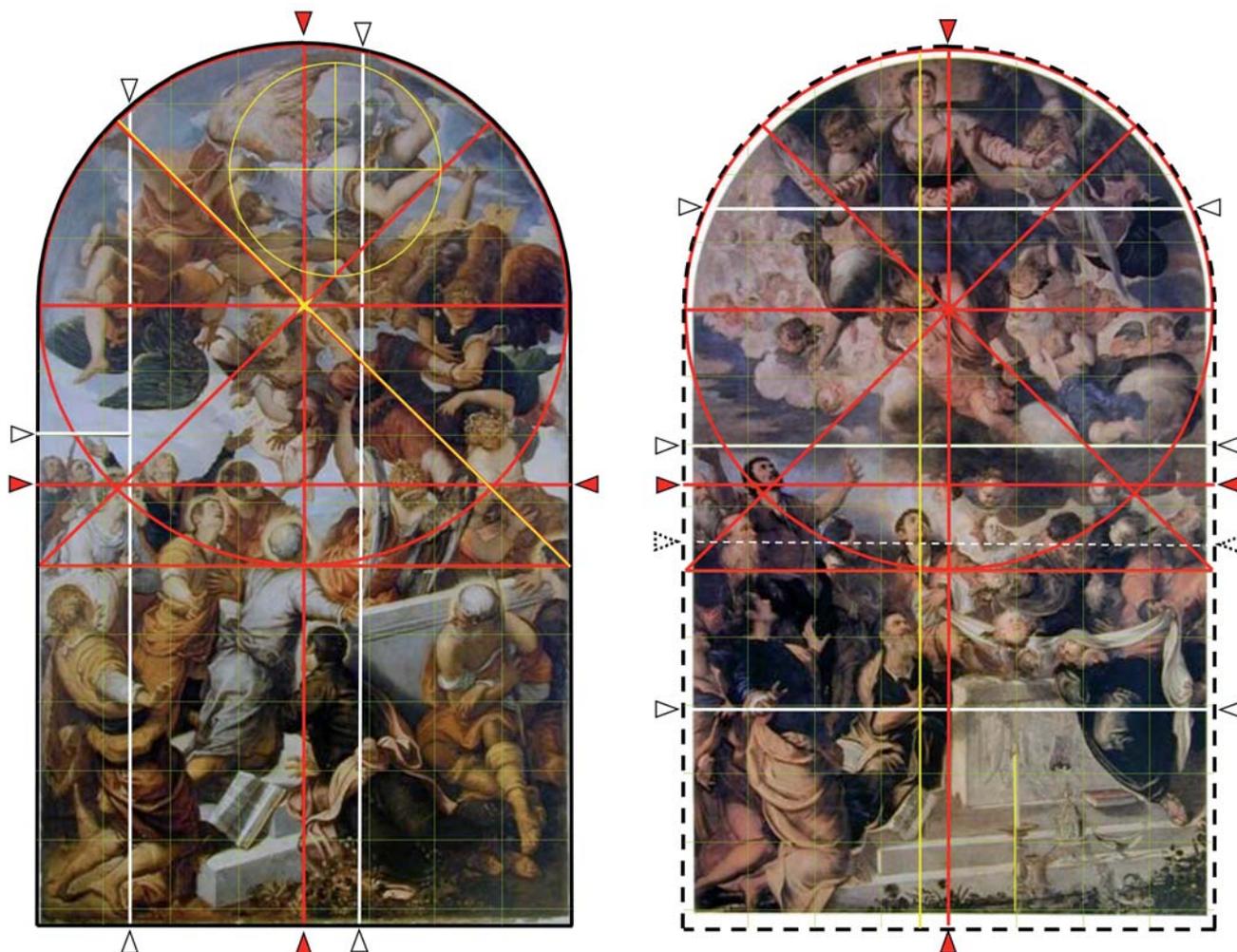
The *dossale di banco* of the confraternity of the Holy Sacrament in San Polo, the other charitable *Ultima Cena* of about 1574, is still at its original place and shows no particular losses at the borders. The fabric of this canvas is unusual: a strong herringbone twill in two horizontal lengths measuring approximately a meter and a five times subdivided strip at the top border of 30 cm (left running twill). This kind of twill will later become one of the standard fabrics in the Scuola Grande di San Rocco.

MIXED FABRICS AND PATCHWORK

Joyce Plesters closely analysed the patchwork of the opposite *laterale* from San Trovaso, the *Lavanda* today in London. The bottom twill length covers the whole painting, whereas four vertical lengths make up the upper part. Three of those were originally intact while the one on the left was a remaining piece. Seen from the uncommon use of tissue (comparable to the San Polo *Cena* seen above), this composition could be dated to the mid-sixties of the century.

In 1977 the same author published her report on the restoring of the paintings in the choir of Madonna dell'Orto. For the first time she drew attention to the problems of providing canvas for paintings of such gigantic dimensions. To our surprise, she discovered that the weaves and the strength of fabric could be different for the same painting, as it could already be observed in the works of Paris Bordone. Obviously, it was only after all the material of the workshop was used up, that a changeover to regular standard lengths of the same weave took place. The application of strips or vertical patches in the upper parts, keeping a safe distance to the eyes of the spectators, was the rule, as our examples demonstrated. Normal weaves measured about 1 metre, twill, herringbone and diamond weaves about 120 centimetres, the lengths of fabric were arranged parallel to the longer edge, and as they were butt-jointed the seams were almost invisible. Original or later added patches of fabric are less regular and smooth because at least one of the parts had to be folded or stitched more tightly. As we could see, irregular sizes often ended in a narrow lateral strip («Presentation of the Mould for the Golden Calf», on both sides of the five strips measuring 110 to 115 cm). Thus, a precious, almost invisible selvage could be saved from going to waste on the rough nails of the wooden support. In other places, we can see that lengths of material of different width and weaves were mixed in order to «match» in size, so the *Last Judgement* (widths of 120, 120, 115, 116, 110 cm). Joyce Plesters had already noticed in 1976 that the gigantic simultaneously completed pendants of this church are made of different qualities of fabric (coarse thick twill / loosely woven coarse plain fabric) Why that is so, has not been explained yet, but it seems probable that the «Presentation of the Calf Model» with its close-up view of numerous portraits demanded a finer fabric. Whereas the «Giudizio» with the exuberantly whirling gestures of the universal cataclysm could also be regarded from far. The portraits of the donors of the Contarini family are inserted into that painting on a tissue of much finer weave.

The paintings of the Old Testament cycle for the Scuola della Trinità (1550-1553; in the Accademia) present the earliest example of a mixture of normal and twill canvas. A twill length of about 113 cm, which has presumably been cut, once makes up the *upper* half and twice the *lower* half of the painting. The



4. Jacopo Tintoretto, *Ascension of the Virgin Mary*, Bamberg, Obere Pfarre; S/S/S/S, (new) 452 x 278 cm (13 x 8 *pie*dì)
 Jacopo Tintoretto, *Ascension of the Virgin Mary*, Venice, Gesuiti, S/S/S/S 435 x 269 cm (— ? 452 x 278 cm)

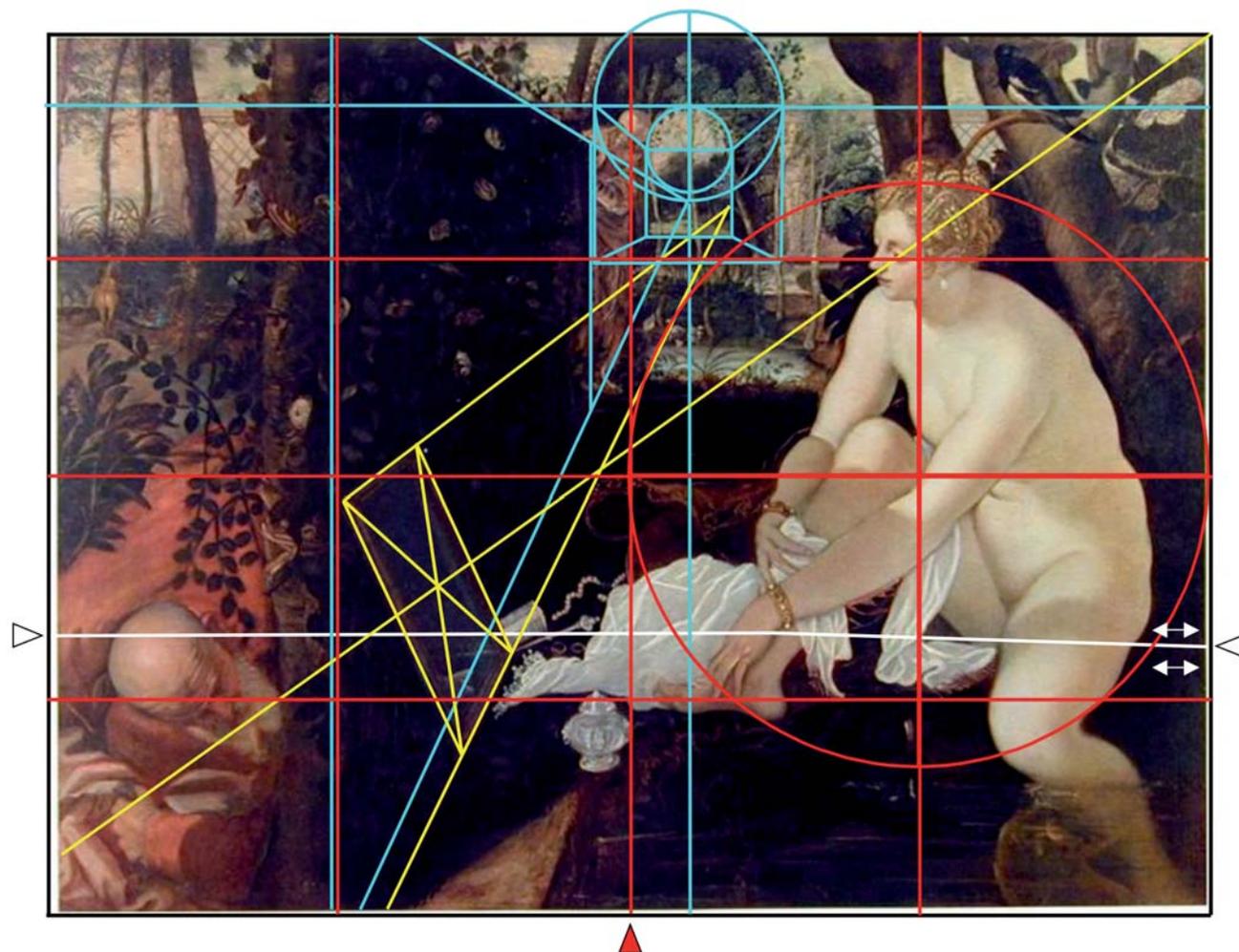
position of the seam was only advantageous for the composition of the *first* image of the series. Furnishing a minor *scuola* seems to have become a minor feat for Tintoretto's workmanship, but the seams still correspond with geometrical lines of division.

According to the latest restoration report (M. Volpin), the *Pala Resurrection of Christ* in San Cassiano (1565) is made of two vertical twill lengths (the middle one all but orthogonal!) and a normal one (98/117/15 cm). This seems to be a somewhat anaesthetic patchwork, but in that way, two selvages could be united.

As early as in the middle of the fifties Tintoretto painted the large *Crucifixion* for the Scuola del Santissimo Sacramento in San Severo (at the Accademia). In this painting, we find surprisingly narrow horizontal pieces of different fabrics not

corresponding to any of the common sizes (50/47/106/8 cm). Obviously, left over pieces were used for an inexpensive painting for a poorer *scuola*. This procedure was later also used for the rich Scuola Grande di San Rocco as Plesters and Lazzarini have demonstrated. In the famous two-storied scenery of the *Adoration of the Shepherds* the middle part is patched of numerous little pieces of canvas. Also in the narrow upright *pendants* of identical size (12 x 6 *pie*dì) in the *Sala inferiore*, showing *The Two Marys*, twill fabric with slightly curved and dissimilar proportions (119 cm) is mostly horizontal in direction, but once a narrow vertical seam crosses exactly through the head of the lonely protagonist.

Tintoretto's four paintings showing allegories of the state, the *Mythologies* for the Atrio Quadrato of the Palazzo Ducale were important commissions calling for the prominent jury of



5. Jacopo Tintoretto, *Susanna and the Elders*, Vienna, Kunsthistorisches Museum; N/N 146,6 x 193,6 cm

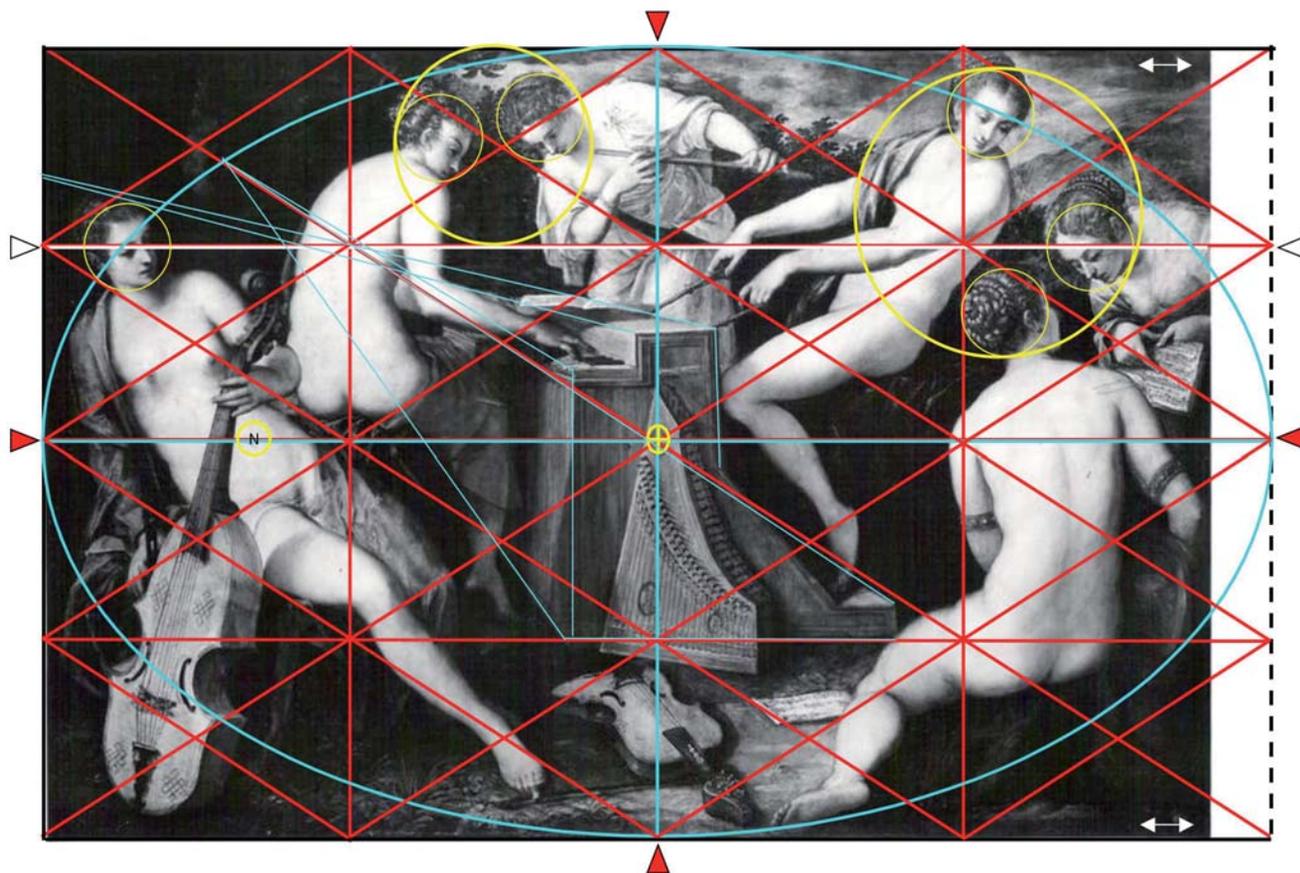
Veronese and Palma Giovane. It is surprising to find some very inhomogeneous and curved pieces of canvas with 2 up to 4 patches. In 1576, the *bottega* seems to have worked independently with little regard for the master's ambition, while in the 1550's Tintoretto had still been so keen on raising craftsmanship, economy, social responsibility and artistic virtuosity to a common higher level.

INTERACTION OF SIZES, SEWING AND COMPOSITION

The Michelangelo-inspired *Pala di San Marziale* of 1548-1549 is 181 cm (or formerly 191 cm) wide, so one simple vertical seam joining two normal lengths of fabric in the middle would have been enough, but on the other hand, such a central seam would have interfered with the powerful figure of Saint Martial. By

diligently turning the heads of the Saints Peter and Paul into opposite directions, Tintoretto avoided crossing the lateral seams on each side.

In 1988, the size of the Bamberg *Ascension of the Virgin Mary* was redesigned (fig. 4). The more precise reconstruction of the vertical canvas lengths produced new insight into the iconographic idea of the «*Unio mystica*». It has not been enough noticed that the canvas and the seam-characteristics of the two paintings are amazingly similar, the *Ascension* in Bamberg and the *Judgement* in Tintoretto's favourite church Madonna dell'Orto; both use the same heavy twill fabric and double stitched seams. Compared with the Bamberg version, the *Ascension of the Virgin Mary* in the Gesuiti-church is almost *identical* in size and twill fabric. This cannot be pure coincidence, it is more likely that both versions were made for



6. Jacopo Tintoretto, *Concerto delle Ore e Grazie or Il Senario*, Dresden, Gemäldegalerie; N/N 142 x 214 cm (- 139 x -? 225 cm ? 4 x 6,5 *piedi*)

the same altar. Although the «Veronesian» *pala* in Venice is less vertically oriented and therefore the canvas is arranged horizontally.

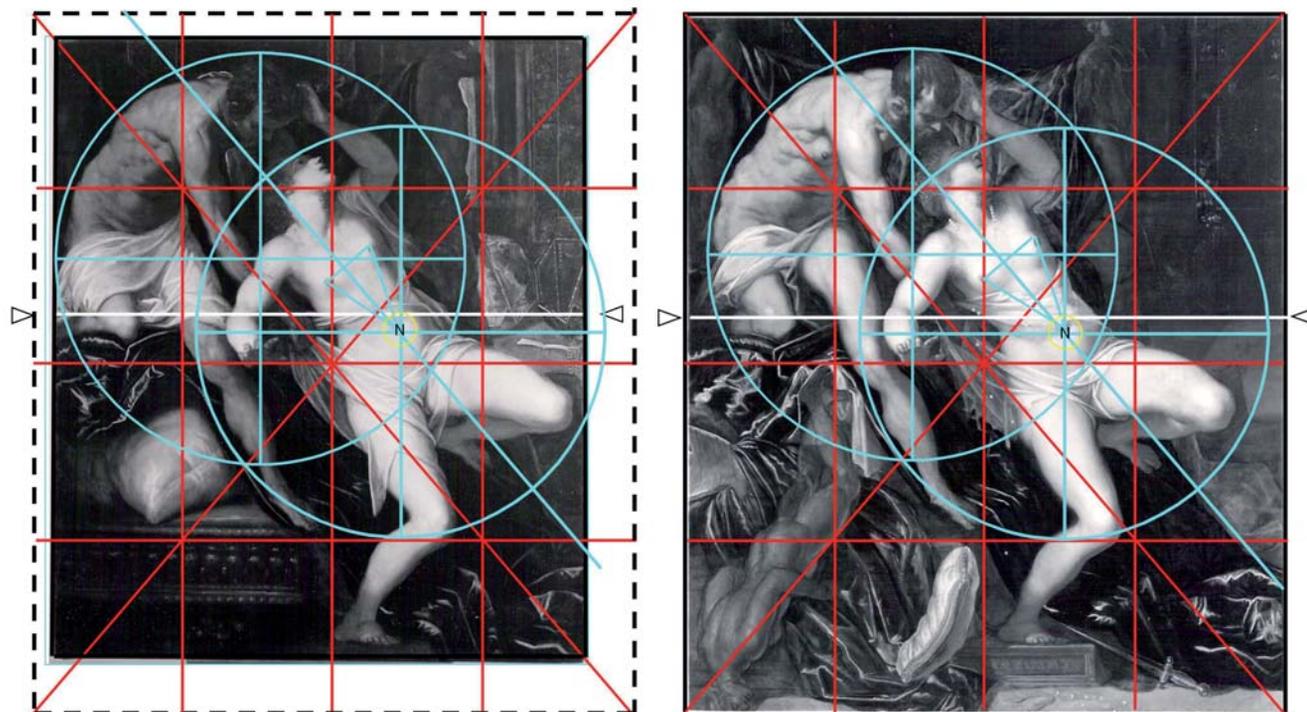
It should be seriously reconsidered, that the technical economy and the organisation of Tintoretto's *bottega* must be seen in close interdependence with facts like the beginning of commissions for large-size paintings about 1547 and with his house acquisition and moving to the Rio della Sensa in close vicinity to the Madonna dell'Orto.

In the Dresden *Rescue of Arsinoë* composition and fabric cut are also in harmony: the lower part of the painting is made up by a normal length, whose diagonal defines the axis of the boat. A second length of one *piede* (36.4 cm) follows, whose *upper seam* forms the horizon of the sea. The uppermost strip and the lateral borders have probably been slightly cut, because a former size of 5,5 x 6,5 *piedi* seems likely. The centre of composition and circles from and to the edges of the painting obviously influenced the curving of the figure of Arsinoë.

The London altarpiece *St. George Kills the Dragon* of the 1550's is likewise built upon a geometrical structure. The

middle window of the castle provides the circle of the apse and crosses in its lower circular arc through the central navel of the dead young man of whom we conserve the exactly squared preparation drawing in Paris. As can be seen often in Tintoretto's works, the navel forms the centre of a further circle, whose arc shapes the slant of the tree and the body of the princess –together with diagonals from the lateral edges of the painting to the centre of the lower edge. In this case, Tintoretto used a complete *seamless* very finely textured length of canvas of three *piedi* and primed it diligently with gypsum as in the times of the wooden panels of earlier generations.

The fabric of the *Pala* with the *Crucifixion* of the Gesuati of 1563-1565 consists of a normal woven vertical length (3 *piedi*) on the left and two more narrow pieces at the sides, a horizontal seam is placed somewhat below the middle of the painting. A seam in the centre would have interfered with the central crossbeam and the crucified Christ. The circular composition is absolutely exact: apse, navel of Christ and the nailed foot are part of the circular arc as well as the valley and the curve of the women's bodies. Despite the enlargement of



7. Jacopo Tintoretto, *Tarquinius and Lucrezia*, 1: location unknown (possibly destroyed); N/N 158 x 135 cm;
2: Chicago, Art Institute; N/N 175,3 x 151,8 cm (173,75 x 156,4 ? 5 x 4,5 p)

the altar, the painting itself retains its original measures (of 8.5 x 5 *piedi*).

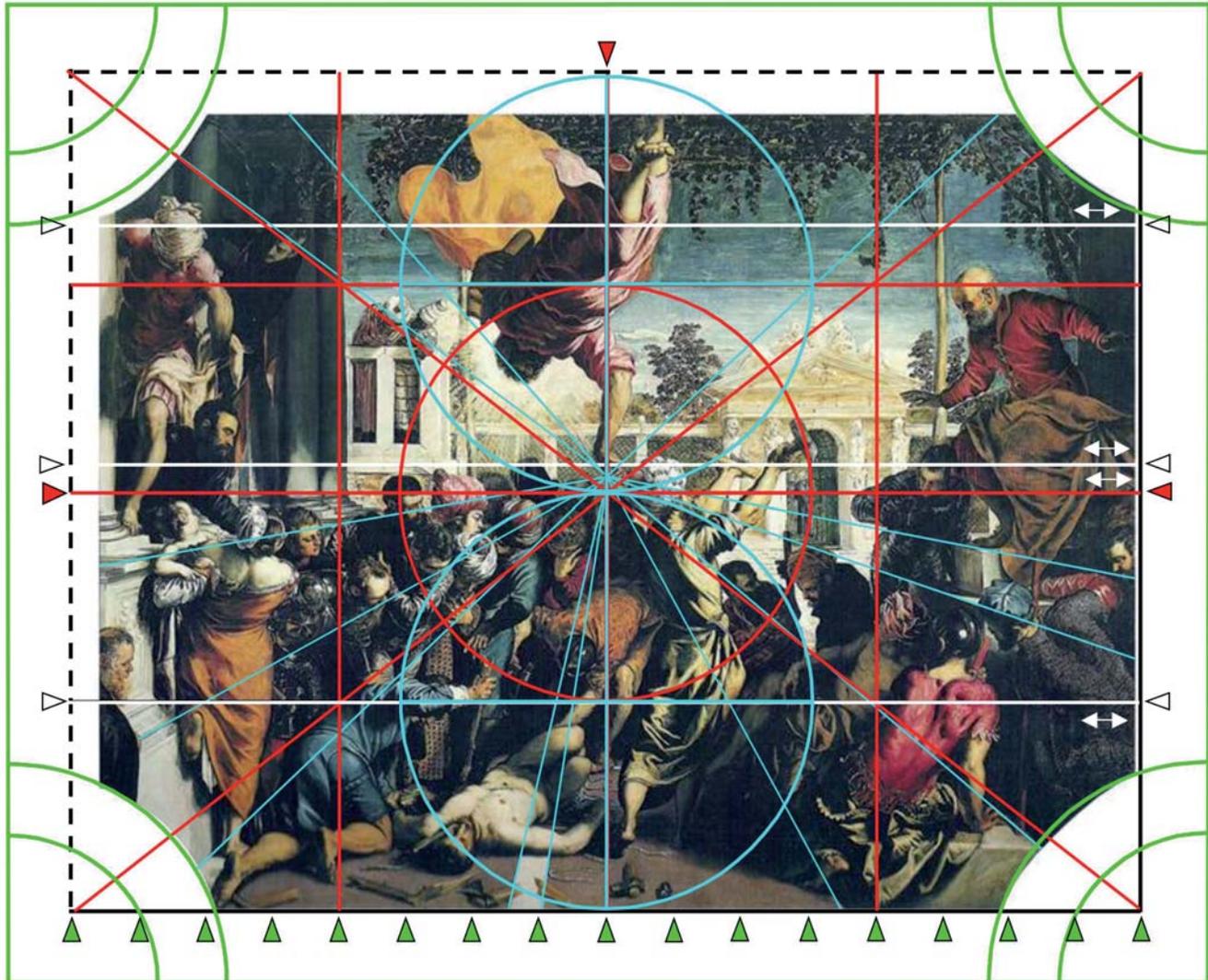
The *Susanna* (fig. 5) at Vienna is made of normal woven canvas and has a horizontal seam of the common 3-*piedi*-length in the lower third (ca. 46 cm from lower edge), so that the seam could not cross over the breast of the naked beauty. It is only the indiscreet peeping observer who ducks his head under the seam line. The mirror is deliberately excluded from the almost central perspective and works as a visual agent directed towards Susanna's sight.

The *Narcissus* of the Galleria Colonna in Rome is identical in size and therefore sometimes seen as related, but it is characterised by a rather anachronistic horizontal seam in the middle, under which the head of the youth is bowed in the lower third. In this way the «Echo-apse» of the ruin in the background takes the middle position between seam and vertical division and expresses a dominant *audible* motif. This opens the question whether the two pieces were in fact part of a cabinet decoration visualising the five senses. In my opinion the juxtaposition of a secular mythological topic with one of the Old Testament separate *Narcissus* and *Susanna* and also the differences in composition and technique are too great to allow for the classification of a *pendant*. But when the erotic allusion of elderberry tree on the right is interpreted correctly, *Susanna*

herself might encompass all the five senses: her ears pricked to hear the rustling of the old man in the grass, while deer are grazing silently, the smell rising from its gracious perfume pyx, her sensitive skin is touched and fresh water caresses her body...

The *Susanna* of the Louvre is much less like a daydream and provokes the voyeur in the spectator. The proportions of the painting are 5 x 7 *piedi*, the canvas has been slightly cut and the normal horizontal length of canvas is placed in the lower half. The eye level of Susanna and the old man as well as the position of the navel permit us to guess at the losses along the edges. The bun of the servant's hair serves as the vertical division. The gaze of the *bella* follows an outward bend and repeats the position of the mirror, which attracts the attention of the spectator as a *new* visitor, while the elders are pushed away as rivals in a minor role.

The Dresden *Concerto delle Ore e Gracie* (fig. 6) has an irritating selvage seam running through the upper part of the canvas, where it interferes with the bodies of the maidens, while the horizontal division marking the geometrical middle of the composition touches the navel of the viola player and the upper sound hole of the zither instrument in the centre. Originally this was the absolute centre of the composition and served as starting point for the circular or oval composition of the maidens. It is to believe, that the



8. Jacopo Tintoretto *Miracle of the Slave*, Venice, Gallerie dell'Accademia; S/S/S/S 415 x 544,3 cm (— ? 434,5 x 556 cm ? 12,5 x 16 *piedi*)

inspiration for this outstanding musical composition of the Hexachord originate from Giuseppe Zarlino, theoretic of music and friend of the Robusti clan.

The normal weave canvas of *Vulcan Surprises Venus and Mars* in Munich places the horizontal 3 *piedi* standard cloth (of today only 94 cm) logically in the *upper*, more densely decorated half of the composition. The seam runs below the knee of Venus and is absorbed by the pattern of the tiles and the draperies. The narrow lower piece, however, has another vertical division exactly in the middle. The absolute centre of the composition serves again as starting point for circular and diagonal geometrical relations encompassing the navel (!), breast and foot of Venus, but also the head, the curve of the back, the eyes of Vulcan and Cupid and so on. The reflecting shield of

Mars has its centre on the level of the «tell tale» vase. This centre point is also in perspective alignment with the navel and the arrangement of the tiles which originally had a chessboard pattern. Distribution of canvas and composition are diligently harmonised. The poor condition of all the edges accounts for a loss of several centimetres. Presumably the painting had the classical measure of 4 to 6 *piedi*.

Ichnographically and morphologically this painting is related to the somewhat larger «two Ledas» in Florence, whose proportions were originally nearly the same, but their difference is due to the use of different qualities of canvas. In the earlier one, the *Leda Siviero* or *Contini* a woman selling poultry on the left has been cut and the work was redesigned as a square. Identical original copies of the same canvas weave

and sizing were the two versions of *Tarquinius and Lucrezia* (fig. 7) private (today eventually destroyed) and Detroit, the first of these –its high quality only diminished by restoring– was painted over by the artist to hide the overturned statue and the falling pillow still to be seen in x-rays.

REASSEMBLING, DISMEMBERING AND CUTTING

In 1985 Joyce Plesters and her team submitted a wonderfully correct and complete documentary report on the *Deposition of Christ* in the National Gallery of Scotland in Edinburgh. After the restoration, it could be proved that the painting dates back to the 1550's. The canvas is made up of a central vertical 3 *piedi*-normal length of 101 cm; on both sides, there are selvage-sewed pieces (12 cm) of identical fabric, which presumably reached to the round apse, which is missing today and whose outward image has been documented by prints of J. Matham and L. Kilian. The painting survived the destructive theft from the altar of the Dal Basso-Chapel in San Francesco della Vigna and the later transfer to the art trade of the 17th century, but its central scenery was subsequently patched and enlarged on all sides by commonplace imagery.

The large *Miracle of the Slave* (fig. 8) of the Accademia (1547-1548) is made of four horizontal twill lengths, whose uppermost one again fills a remnant. The reconstruction of four strangely curved spandrels (due to a wooden panelling) accounts for the original measures of 12.5 x 16 *piedi veneziani*. There is a close network linking the relations of size, seams, divisions, perspective and the position of the figures: everything is directed towards the miracle happening in the middle. In 2000, I discussed the other three paintings in the cycle of the Scuola Grande di San Marco of 1562 and later, and I was able to show that the position of canvas seams provided valuable information on details of the reconstruction, evolution and the disposition of space⁹.

The Brussels *modello* of the *Rescue of the body of Saint Mark* was in my opinion originally square shaped like the completed paintings of this series, with the typical additional patches in the upper part, which form one standard 3 *piedi*-normal canvas. The fact that the painting of the *Miracles of Saint Mark* of the Brera has come down to us nearly intact, permitted a reconstruction of size and outline of the two «pendants» *Rescue of the body of Saint Mark* and the *Miracle of the Saracen* which were brutally cut in 1807. However, that does not mean the sewing of canvas was identical, too. The *Miracle of the Saracen* with its transformed architectural scenery (an inverted plan of the Brera disposition) presenting an unknown scene from the life of Saint Mark, was presumably the first painting of this series making use of two horizontal patches of left over fabric in that part which formed the original upper third. It is only

in the two paintings that continue the series that new canvas homogeneously woven in vertical direction is used. The originally planned trilogy of paintings presented an architectural *capriccio* inspired by the perspective relief decoration of the *Scuola* façade. Again, the seams, the construction and the figures are linked to each other; even the *Miracle of the Saracen* shares elements of the preceding concept of the abandoned design.

The relatively late *Origin of the Milky Way* in London's National Gallery (presumably *not* a gift by Tommaso Rangone to the emperor Rudolf II) provides the most famous example of a profane work of Tintoretto, which was cut severely, so that it lost nearly a third of its lower part owing to ignorance of its mythological and iconographic background. The densely woven fine twill of its canvas runs in an unusual horizontal direction. The first selvage seam is placed about 13cm from the *upper* border, the second coarser one about 20 cm from the *lower*. As the original work had an upright shape, a vertical arrangement of the seams is to be expected, but a seam in the middle would have crossed through the leg of the goddess Juno in the centre, and seams on the sides would have interfered with the heads of several figures. If another standard length of 115 cm is added in the place of the lower seam, the total canvas will measure exactly 243 cm or 7 *piedi* in height (corresponding to four *piedi* in width). Two complete twill lengths at the bottom account for the application of a narrow strip above.

The *Presentation of the Virgin* in the Madonna dell'Orto is today horizontal and rectangular in shape. Its two shutters forming an organ-decoration were originally made of four intact vertical lengths of twill perfectly stitched, and when they were reassembled as *one* picture, lost a few centimetres on the outer borders. On their reverse sides showing the *St. Peter und Paul's Visions of Martyrdom*, a fine vertical middle seam is found in both. Like the Bamberg *Ascension of the Virgin Mary* these compositions are based on strictly circular shapes showing central divisions and a grid made up of *piedi*-measures. Again, diagonal divisions play an important part. The position of the small Mary seems symptomatic, even when the upright seam crosses her body. Contrarily the shutters joint finds its way through a more or less *empty* composition zone.

Two capital works (1552) of the Accademia *St. Louis of Toulouse, St. George and the Princess* and *St. Hieronymus and St. Andrew*, were originally made as «*pale centinate*» decorating the rooms of the Magistrato del Sale in the Palazzo dei Camerlenghi. They provide illustrative examples for interaction and for a turbulent history of changes in size. In 1777 both were made rectangular and enlarged on the upper and lateral parts so that they could be integrated in the Palazzo Ducale decorum. The normal weave of their fabric permitted the use of one intact length of 1 m (plus a rest-strip), once it

was placed on the *left* and the other time on the *right*. The selva seams making up a size of half a metre each were hidden in the vertical folds and the tilted (!) crosier of St. Louis as well as in the edges of St. Andrew's cross. The re-sizing of the paintings led to an empty space in the enlargement and caused the wanton destruction of the circular geometrical elements of the composition, which reflected the circle of the apse and communicated with important points and curves. It was only the regained integrity of the canvas that could reveal the brilliant concept of the two paintings.

We should not forget that the *Miracle of the Paralytic* was partially lost due to a misunderstanding of the relatively recent restoration. This church cabinet for silverware was a *pendant* to Pordenone's *St. Martin and Christopher* in the church of San Rocco. The decoration of the shutters, Tintoretto's illusionist *capriccio* of legs stretching out of the composition, parts of the Ionic capitals and of the pedestal along the pool of Bethesda were amputated. Four of the original wings of the doors—which shut in the middle where a pictorial caesura is still to be noticed, and in mid of the two columns—were re-assembled to make up a rectangular painting. The complete original composition consisted of horizontal lengths of canvas of normal weave (2 x 3 *piedi*) and an uppermost irregular remaining strip. The traces of nailing lead to the conclusion that the lateral wings were cut only *afterwards* to fit the measure of the shutters and each one was nailed directly on the support without folds. This masterpiece of illusionist painting completed long before the baroque era is still waiting for a diligent philological reconstruction.

The *Marriage in Cana* (dated 1561) from the refectory of the Crociferi (now in Santa Maria della Salute) has also been mutilated. The work is conceived as a *capriccio* of architecture and perspective. The work originally extended to an apse with a rounded arc and a lateral coat of arms which are now missing. After losing the arched shape, the enlarged flat timber ceiling looks sterile. Four horizontal normal lengths of canvas running in an upward direction are diligently fitted into the architectural network of floor tiles, flights of steps, beams of the ceiling, edge of the table etc.

Will you permit a last example, the *Concert of the Muses under the «enlightenment» of Apollo* at Hampton Court, where the dominating position of Apollo's radiating head is *not*

defined by any geometric principle like divisions in halves or quarters and *not* by the *sezione aurea* but only by pure –intersections of *piedi* measures alone.

It is perhaps justified to say that Tintoretto in creating his paintings was less governed by abstract concepts like «the Golden Section» or the theory of the central perspective. Tintoretto focussed his attention closely on aspects of handicraft and carefully analysed the site and the size of a commission *in situ*, and he studied the local circumstances of light. He used simple proportions of *piedi* and *bracci*, squares and grids for the transmission of measures. He employed useful divisions, like halves, quarters and diagonal sections, the eye-levels of figures and especially circular arcs to connect the areas of high iconographical significance in a painting. Thus, he could highlight the value and evidence of gestures and other means of signification. He displayed his knowledge of perspective in a more practical way like a stage manager or scene painter, but he did not studiously ponder abstract geometrical problems like the Renaissance artists Piero, Alberti or Leonardo. Highly sophisticated visual effects and a heightened expressiveness of action were more important to him than the bravura and intelligence of a pictorial concept. Scenic prospection is always submitted to prospection of bodies, not the other way round, except for the very early fairytale compositions of mannequins forlorn in highly exact perspective space. In the development of his oeuvre, the volume and the action of the protagonists increasingly define spatial depth. The evolution of series like the numerous *Adultere*, *Lavande*, *Assunte*, and *Ultime Cene* furnishes revealing proof that Tintoretto's interests changed considerably, but that he made his job always accurately, analogical to his devotion to surprising miniaturism. The diminishing diligence and lessened economy in the treatment of canvas also give a clear indication that the focus of his interest was shifted from the view of an isolated single picture towards a heightened experience of the overall conditions of the surrounding space. The increasingly careless treatment of materials became less and less important as the scenic spectacles of whole cycles of paintings demanded his constant attention. All details of craftsmanship were drowned in a frenzy of impressions promising salvation. The sheer flood of commissions to the *bottega* dulled the vigilant eye of the *impresario* «Jacomo Tentor».

N O T E S

¹ «Völliger Ruchlosigkeit bedurfte es da, um Bilder zu beschneiden, damit sie in den Galerien symmetrisch mit anderen figurierten! [...] Der Meister empfindet seine Malerei einseitlich mit ihrer Begrenzung und in strengem Bezug zu derselben; er allein hat die Ränder anzugeben. Man soll daher auch dem Rahmenmacher nicht die mindeste Vollmacht lassen, über das Bild hinein zu greifen». J. Burckhardt on February 2, 1886, in «Format und Bild» in *idem, Kulturgeschichtliche Vorträge*, Leipzig, 1929, p. 248f.

² It could be of flax or hemp; aged samples are difficult to distinguish.

³ A. Zorzi, *Venezia scomparsa*, I & II, Milan, 1977.

⁴ See E. Weddigen, «Zur Fragwürdigkeit des Doublierens», *Mitteilungen dt. Restauratorenverband*

DRV (1979-1980), pp. 20-24.

⁵ The lack of space does not permit to publish here the entire bibliographical references and technical notes to every reminded picture. Many helpful technical observations have been offered by J. Dunkerton's essay on «Tintoretto's Painting Technique», in M. Falomir (ed.), *Tintoretto*, exh. cat., Madrid, 2007. As well we have to renounce to the more than 60 coloured analytic diagrams of my Madrid presentation. They may be demanded by interested scholars through my internet mail-address weddigen@freesurf.ch.

⁶ The straighter and tighter the long side selvages run, the more concave are the perpendicular cuts

curved under the longitudinal stress of the bale (standardised by the loom dimension).

⁷ E. Weddigen, «L'Adultera del Tintoretto della Galleria Nazionale di Roma», *Arte Veneta*, XXIV (1970), pp. 81-92 and *idem, Jacopo Tintoretto f. Myzelien zur Tintoretto-Forschung*, Munich, 2000, pp. 11-37.

⁸ In the Madrid Exposition I mentioned the former existence of a big host in top of the calix of Fides as *pentimento*. Also the Caritas has been manipulated by the artist joining a plate of meat to the female figure. So she got an excessive long arm and is visibly overcharged by a naked baby and a hot plate! Both figures became so willingly more servants than allegories.

⁹ See Weddigen, *op. cit.* (note 7, 2000), pp. 41-174.

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