Building the Urbino Lira

It is difficult to describe the feeling of walking into Federico de Montefeltro's studiolo, because there is quite literally nothing to which it can be compared. Perhaps the experience should be related to the unsealing of a tomb, where the royal provisions of a king are arranged, untouched, ready to serve their master in a rich afterlife. But this tomb has been unsealed countless times, by countless grave robbers, and yet it remains intact, endlessly pillaged but unspoiled. Its treasures, frozen in time - frozen in *wood* - are inexhaustible.

   All festival-goers of the yearly *Fondazione Italiana per la Musica Antica* are encouraged to visit the Palazzo Ducale, as is any tourist. But FIMA's attendees, whether students of masterclasses or concert enthusiasts, bring a special sort of energy to the timeless activity of viewing the intarsia. When I arrived for my first course in Urbino in July 2011, I was carrying a viol that I had built myself. The suggestions of visiting the Palazzo (that I must see it, that the intarsia is breathtaking) coming my way were accompanied with a tag: "There is a fiddle." The Studiolo is a well-known inspiration to Early Music enthusiasts because of the instruments depicted on its "shelves". There is an assumption, perhaps shared by all enthusiasts, that the intarsiated instruments are vitally important to instrument makers. However, when I finally saw the fiddle for myself, I was not entirely sure of what to make of it, or whether to even call it a fiddle. I knew that the studiolo was completed around 1474, and that the medieval fiddle should have been usurped by the lira da braccio by that year.

Figure 1: Fiddle intarsia, Urbino, photo mine.

My discomfort grew after I had snapped a few photos of the famed Urbino fiddle (Fig.1), descended from the palace, and rejoined my fellow Early Music enthusiasts to resume our classes and performances. Through my interest in viol construction and performance practice, I was meeting many experts in the field. I was also performing alongside professional Italian medievalists, soaking up the ambient organological culture. I brought to Urbino my familiarity with literary and iconographic sources of medieval fiddles, as well as with the few musicological guides to interpretation of those sources. I 'knew', as any astute enthusiast would, that there were two types of medieval fiddle, and that between them any type of song could be performed.[1] The first type had a flat bridge, and since all strings must be bowed at once, it was used for drone accompaniment. The second, vastly more useful fiddle had a curved bridge, which allowed it to bow separate strings, and it could therefore play a single polyphonic line of any vocal piece, as well as "dance music", such as the famous *istampitte* of the London MS 29987. Today's performers use a curved-bridge 'melodic' medieval fiddle because historical drone accompaniment only really works with monophonic melodies; there are many more opportunities for today's fiddle-players in a mixed-instrument, polyphonic setting, as well as in performing virtuosic dances. While the Urbino festival-goers operated along these clearly defined terms, performing lines of ballate by Johannes Ciconia (after all, Boccaccio did write about a fiddle player performing a ballata), istampitte, and the obvious accompanying drones that Hildegard von Bingen would have enjoyed, the Urbino instrument stayed silent in its study; it failed to fit either mold. It seemed to be full of the same mistakes that so many artists have left in their depictions of fiddles; it didn't seem to *work*.

  Most glaringly amongst the artist's mistakes, the fiddle's bridge is portrayed to be very slightly curved; not enough to make bowing a single string easy, yet preventing all strings of the instrument from being bowed at once. The profile of its soundboard is also slightly curved, giving the hypothetical bow just a bit of clearance--something that would be entirely unnecessary if the bridge were flat, as was probably the case for many oval-shaped medieval fiddles in iconography. Everything else about the Urbino instrument's playing and tuning architecture is reminiscent of lira da braccio imagery, except of course its shape, and its string count. Federico de Montefeltro's "fiddle" has five strings, one being an off-board *bordone*, which immediately separates it from the lira da braccio by the lira's relative iconography and its one surviving musical source.[2] I knew that the lira da braccio had at least seven strings, normally with two bordoni. By virtue of its string count alone, I imagined that Federico's instrument belonged in the fiddle category. It is common knowledge that the lira da braccio is the direct ancestor of the late medieval fiddle, and so perhaps the intarsia in Urbino had captured the morphological moment between the two types. Adding that it didn't look like any lira da braccio, I determined that it could possibly represent an earlier "proto-lira", or a rustic, archaic holdover from an earlier or obscure musical scene. Without further information, I was obliged to consign the

[1] Brown, Howard Mayer. "The Trecento Fiddle and Its Bridges." *Early Music* 17, no. 3 (1989): 309-29.
[2] The Pesaro Manuscript. Early Lute Facsimiles: Fruhe Lautentabulaturen Im Faksimile, Ed. Crawford Young and Martin Kirnbauer, Prattica Musicale VI, Winterthur: Amadeus Verlag, 2003.

instrument from my mind back to its shelf, where it could remain detached from the historical discourse on bowed string instruments occurring outside the palace walls.

Yet, from its shelf, Federico's fiddle would not stay silent. During the next few years, I would often come across references to Urbino's intarsias, but never in relation to the fiddle. The rest of the instruments in Federico's studiolo receive the continual attention of performers and organologists for their astounding accuracies; the studiolo indeed provides a time-capsule level of detail for a community that is starving for clues. In fact, intarsias in general provide us with some of the most precise details in string iconography from around 1500. The keyboards, lutes, and recorders of Federico's studiolo seem to *work*, as demonstrated by several reconstructions.[3] Further, the intarsia of the studiolo extends far beyond *trompe-l'oeil* - the panels are meant to interact with each other as a built-up illusory space, and the instruments are intended to work as a complex and subtle visual itinerary. Why should the fiddle be the only inaccurately-rendered instrument out of the lot?

Part of my problem with interpreting Federico's fiddle stemmed from the lack of musical, pedagogical, theoretical, or literary sources from fifteenth-century Italy, to which my impression of the instrument could be connected. This issue was compounded by the current climate of medieval fiddle performance practice and research, which, without much new information surfacing since the 1980s, had dichotomized into the flat-versus-curved bridge understanding. Performers and researchers have likewise sought hypothetical musics which best follow the recipes of Howard Mayer Brown, Christopher Page, and Mary Remnant.[4] There would seem to be no place for a fiddle with a slightly curved bridge, which could not be used on a single line of polyphonic music, for a complicated istampitta, or for pure drone accompaniment with all strings active at once. Viewing other medieval fiddle iconography with the Urbino "proto-lira" idea in mind, however, I began to see structural similarities, and likewise began to ask the same questions of Italian "trecento" fiddles and their relationship with Italian music of that century that I was asking of Federico's fiddle and the 1400s. I wondered whether Federico de Montefeltro's proto-lira could be the latest and most detailed depiction of a tradition that extended two hundred years back, and whether it might show the features of an instrument that has long functioned for a specific, albeit misunderstood, purpose. I began to interrogate the image, asking whether our current understanding of the medieval fiddle, namely its technical features and their relationship(s) to musical function, has kept us from properly interpreting the Urbino intarsia's technical allusions to a musical culture.

Situating Federico's fiddle in the third quarter of the fifteenth century puts it directly in contact with the beginnings of Italy's best-known Renaissance song genres. We know from literary

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[3] Amongst the various reconstructions, a keyboard is currently featured in Oxford's Bate Collection by Jean Maurer. Elena Abramov-van Rijk, *Parlar Cantando: The Practice of Reciting Verses in Italy from 1300-1600.*

[4] Christopher Page. "An Aspect of Medieval Fiddle Construction." *Early Music* 2, no. 3 (1974), Christopher Page. "Jerome of Moravia on the Rubeba and Viella." *The Galpin Society Journal* 32 (1979), Howard Mayer Brown. "The Trecento Fiddle and Its Bridges." *Early Music* 17, no. 3 (1989), Remnant, Mary. *English Bowed Instruments from Anglo-Saxon to Tudor times*. Oxford: New York: Clarendon Press; Oxford University Press, 1986.

sources that the lira da braccio was capable of and well-suited to intabulating or accompanying frottole and popular dance forms. Frottole function with an active bass voice and 'triadic' harmonic structure, which might explain why the lira da braccio needed so many strings. To fill a sort of proto-continuo role, the lira needed the flexibility of seven or more strings. If Federico's fiddle really was connected to lira tradition, what can we make of its five-string setup? The answer to that might lie in "silent fifteenth century".[5] The most common type of Italian music-making of the time, that of the *improvvisatori* or *buffoni*, leaves us no true musical source. It was a practice associated with professional poet-improvisors, and there is some evidence that the improvvisatori accompanied themselves with instruments. The most famous improvvisatori of the fifteenth century, Leonardo Giustiniani (c1383-1446) and Serafino dall'Aquila (1466-1500), sang to the lute or lira da braccio. Would early lira players have needed seven strings? It is too early in our study of embryonic frottole and to know their harmonic structures (if any). Yet, though we are without a musical source, we may have access to an impression of a tool for creating that type of music. If Federico's fiddle is an early lira da braccio, the link between the Italian Trecento *viella* and its sixteenth-century ancestor, then its significance cannot be overstated.

True to my generation, who could not resist extracting imaginary dino-DNA from amber at whatever cost to experts and enthusiasts, I could not resist drawing the instrument of Federico de Montefeltro, whether fiddle or lira, 'out of the wall'.[6] This paper is about the workshop planning, techniques, and processes that led to my reconstruction of the instrument represented in the Urbino intarsia. I use the term *reconstruction* with great care. As with any iconographic representation of a musical instrument, we must be keenly aware of the layers of interpretation involved in its original creation and transmission to the modern viewer. If a project is based on medieval iconography, even a single source, luthiers are wise to term their final creation an interpretation. This is vastly different from building a *copy* of an instrument from a surviving model. In attempting an interpretation of a medieval instrument, a luthier must carefully deconstruct the visual game of telephone between himself and the original artist. What elements of a painted medieval fiddle are meant to represent the reality of a specific instrument from that time? Ideally, the luthier must also be aware of his or her place within the game of telephone. How much of one's own reality and expectation is being projected into the final interpretation? In light of the state of current research on medieval fiddles and the market expectations placed upon professional luthiers, we must accept the answer to be *a great deal*. A reconstruction may be attempted when vital information is actually present, in a quantity greater than the material that will be necessarily introduced, as in the case of an instrument that survives in fragments. Paintings from the late fifteenth century, although often displaying finely-detailed instruments in perspective, are subject to at least one more layer of interpretation than the Urbino intarsia. The

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[5] Elena Abramov-van Rijk exposes "the silent fifteenth century" in *Parlar Cantando: The Practice of Reciting Verses in Italy from 1300 -1600*, explaining that known music sources do not relate to However, it is currently uncertain as to how accompaniment was applied with any Trecento instrument.

[6] See Michael Crichton. *Jurassic Park: A Novel*. New York: Knopf: Distributed by Random House, 1990, or see the film adaptation directed by Steven Spielberg, Universal Pictures, 1993.

objects depicted in the Studiolo are unique as sources in that they are meant to seem *real* to the viewer. The perspective used is not limited to a frame upon a wall, but functions within the dimensions of the entire room, balancing all objects against its audience member at the human scale. If I were to *interpret* Federico's instrument, it would immediately stand out as different from the original depiction: the 'virtual' model within the intarsia. My goal was to see how far using this image could take me into the process of building before interpretation of details became inevitable. It is the breakdown of trust in details - in this case at the level of bits of inlaid wood - that should tell us something about the intent of the original artist; and by extension, the desires of Federico de Montefelto and the reality of an instrument of his time.

The Drawing

Physical barriers against first-hand measurement (or against anything else that could contribute to deterioration of the Studiolo) prevent visitors from making more than approximations of the sizes of depicted objects. I was able to make a quick assessment of the basic dimensions of the lira,[7] using the surrounding objects, including its neighboring overturned lute. Were I to begin this project anew, I would require that precise measurements of the intarsia be made, and that from that a computer-aided design model be constructed, so as to minimize human error. 'Minimise', because even with a CAD model, one would still need to project lines of measurement into a virtual space. This includes - perhaps most importantly - the line of intersection between shelf and lira, because the lira's shoulders and neck protrude from the shelf into virtual free space toward the viewer. Nevertheless, I approximated a string length, and upon this I built the rest of the drawing. Luthiers who make instrument copies tend to work from schematic drawings that depict a front, back, side, top, and bottom view. Since the lira is seen from above and somewhat sidelong, I needed to recreate the original setting in order to test my projected measurements. I placed my drawing paper on a table, and at an angled distance corresponding to my viewing of the original, used my photograph of the instrument to adjust my perspective on the string length, carefully adding the instrument's features by eye.

The Building Process

One of the central questions I would like to address with this paper is whether or not the artist of the lira was intending to represent a fully-carved "monoxcylic" instrument, or a semi-carved, built-up model exhibiting stylistic similarities to the former. It is known that medieval luthiers preferred to carve their instruments from a single block of wood, but it has also been suggested, at least of the lira da braccio tradition, that some luthiers may have adopted a built-up approach.[8]

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[7] Henceforth, I will be using the term *lira* to describe the Urbino intarsia bowed instrument, as it functions as part of my central hypothesis.

[8] http://www.christianrault.com/en/releases/how-when-and-where-the-specific-technological-features-of-the-violin-family-appeared. Accessed 12.27.2016.

To achieve the same "scalloped" effect that often appears on the sides of monoxcylic instruments, a luthier could have used several smaller blocks of wood, joining them as necessary. The result would resemble a carved garland to which the top and back plates could be added. The built-up approach eliminates the need for a block of wood containing the entire dimensions of the final instrument, which in many cases would be difficult and perhaps expensive to procure, would produce more wood waste, and could be a challenge to carve due to spacial limitations. The right profile of the lira exhibits a very gradual curve, which terminates in an obvious shelf at the back plate. This led me to believe initially that that back plate was intended to be understood as separate from the carved sides (Fig.2).

Figure 2: Close-up of Urbino fiddle intarsia, right profile, photo mine.

The back plate seems to match the soundboard profile in every way, and does not reveal any evidence of planar curvature; the soundboard and back plate seem to be of the same dimensions. The structure of the whole instrument seems to be achieved with three main parts: the body, the back plate, and the top, with all subsequent parts involved in the tuning and playing of the final instrument added to the main structure. However, when one views the opposite end of the intarsia, where the pegboard profile protrudes, a shape different to the scalloped sides emerges. There is no gradual curve, but defined, inset angles that push the waist of this shape inward. There is no change in the type of wood used to show this new shape. I took this to mean that the neck of the original model (assuming the artist used a model) was attached as a separate piece to the body. This matter became more complicated as the project progressed.

Figure 3: Close-up of Urbino fiddle pegbox, photo mine.

I opted to use the various hues of the intarsia to guide the selection of my wood. The question has arisen of the species of trees used in the Urbino studiolo, and whether or not they might tell us something of the woods used in original instruments from the same region. I would reason instead that the toolkit of the Urbino artist was suited to creating an illusion of space, and his wood types were chosen by their hue, their economy and ease of use, and their subjective beauty. The use of tonewood to represent tonewood would limit the available palette of the artist, and would therefore seem an unnecessary detail upon which he might dwell. Nevertheless, attention to detail and visual effect were of top priority for the artist, as is revealed by his technique of using endgrain to represent endgrain – a decision that bespeaks his closeness to the original source, perhaps as a direct model or a typological familiarity (Fig. 3).

   More research is needed on the woods available to fifteenth-century Italian luthiers, but it seems safe to assume that the body of Federico's lira is not meant to represent maple, as it is considerably darker than the soundboard. Beginning with a block of black walnut, which I selected for its clearness of grain and previous knowledge of its suitability as a "tonewood", I directly transferred my drawing. It was possible to derive the neck block from the heart of the main block after removing the garland. I produced the outer scalloped effect in its final form by clamping the entire block and working from the outside. This method provides great stability for the most laborsome portion of the project (Fig.4).

Figure 4: Black walnut block with scallop effect visible on sides.

Once satisfied with the outer sides, I drilled relief holes and used a band-saw to remove the heart of the main block (Fig.5). I was able to run the band-saw within a few millimeters of the scallop depth, and to easily cut out the neck block. I then set to work with chisels, rasps, files, and finally scrapers, to work the resulting garland down to a uniform thinness. In the end, when the garland was nearly 3mm thin, it became very flexible (perhaps dangerously flexible), and began to ring with pitch at every stroke (Fig.6). I left the garland thick at the points of neck join or tailgut/end-button for increased stability.

Figure 5: Block with heart removed, neck block derived from heart.

Figure 6: Carved garland.

For the soundboard I chose a piece of A-grade (technically the lowest grade, and wide grained) Swiss spruce from Florinett AG tonewoods (Bergün) to match the look of the intarsia. For the back plate I used bookmatched pieces of black walnut. The back plate could have been taken from the same block as the garland and neck, had it been thick enough; in my opinion this would have been preferable and more direct. My choice of soundboard material admittedly results from convenience, but also exposes another problem in the process of reconstruction. What was the structural approach to bracing the soundboard? While the soundboard appears thick in the intarsia, indeed much thicker than those of modern (c. 1500-current) European bowed-string instruments, it is my opinion that it would eventually sink under continuous pressure from the bridge. Further, the option of constructing a soundboard from a ready-thinned piece of spruce may be a modern convenience--the medieval luthier may have been working from a thicker piece with more options of depth and strength variations. With this in mind, I opted to strengthen the soundboard directly beneath the bridge with a light but inflexible lateral brace, since I had already planed both the back plate and the soundboard to a uniform thickness of 3 to 4mm.

The mode of construction that seems apparent in the Urbino lira upon first viewing also works in practice. Time could have been saved had I not made the carved garland and the neck from detached blocks. Had the entire profile of the instrument been carved from a single block, more time, more wood, and human physical exertion would have been saved by hollowing the resonating chamber completely, through the back, and attaching the top and back plates afterward. This method makes an easy job of ensuring a hollow space between the back plate and the rib, where tools have difficulty reaching (Fig.7).
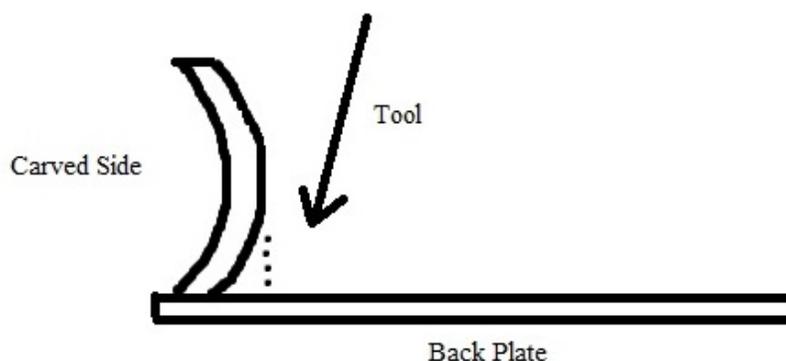

Figure 7: Cross section of body.

After gluing the back plate to the garland, it was necessary to attach the neck. This process seemed straightforward from my initial planning, but once I consulted the iconography for details of the heel, I realized a significant challenge. The neck heel join appears curved, not flat, as one would expect of a neck separate from the sides and body. The join follows the curvature of the scalloped sides, which would indicate a model that does not have a separate neck. My only choice now (aside from starting over) was to carve the neck heel join at the same rate of curve to

the scalloped garland, and to chalk-fit them together (Fig.8). This process seemed overly-cumbersome and time-consuming, a significant setback to my streamlined plan. In the end I managed to complete a snug join, but not without considerable trouble setting the neck angles, and a nagging fear of separation from the body. I finished the job with a brass screw, hidden inside.

Figure 8: Neck joined to carved garland.

Another challenge presented itself with the making of the fingerboard. Whereas the tailpiece (depicted in the same shade as the fingerboard) matches the bridge curvature, the fingerboard, at least toward the pegboard, seemed flat. This setup, while not completely impractical, would mean that the player would need to adjust his fingering separately for each string, as the distance required to stop each string against the fingerboard would vary. However, upon detailed inspection, the bridge-end has lines which converge upward, not along a plane. While initially obscured by the carved decoration at the end of the fingerboard (which matches exactly the bridge's underside arch!), these lines seem to indicate a curvature which is much the same as the bridge and tailpiece at one end, and nearly flat at the pegboard/nut (Fig.9). In order to achieve some of the visible projected angle, I carved into the neck, tilting the gluing surface downward toward the pegboard. The resulting boxwood fingerboard passes just over the soundboard with enough angle for the strings to meet the bridge, and the strings do not rise significantly from the plane of the fingerboard.
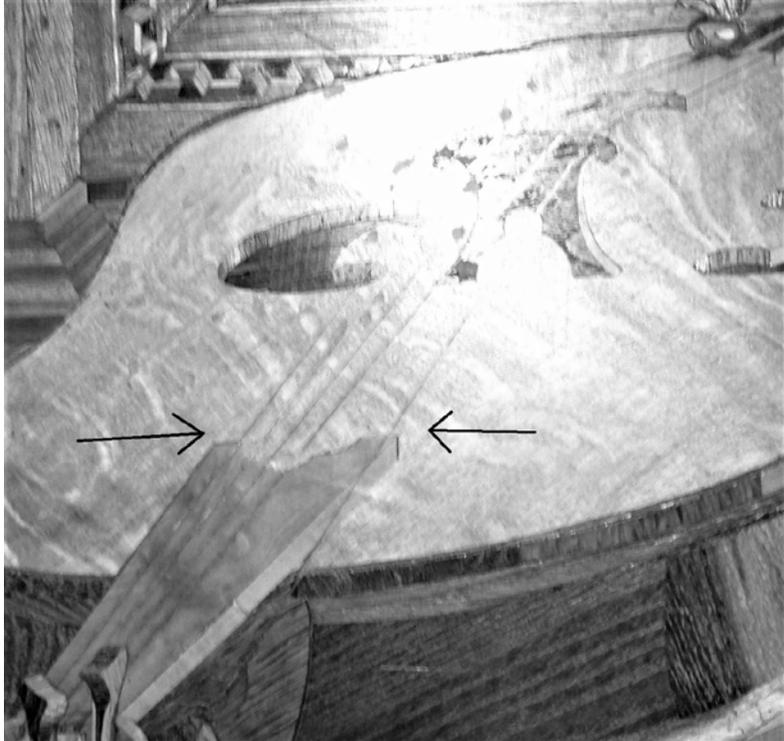
Figure 9: Fingerboard end profile.

Lifting it from the Shelf

The original intarsia makes use of various shades of wood to produce a glare effect on the instrument's right side. I interpret this to relate to some type of polish or varnish on instruments of that time and place. For finishing my reconstruction, I used minimal coats of violin oil varnish over a ground of gum arabic--just enough to seal the wood and lightly protect it. Having copied the bridge shape and curvature directly from a print, it was now time to string the instrument. There is no visible nut on the image, but we can assume that the strings were somehow stopped, due to their depicted angular drop below the pegboard. The stop could have even been facilitated by the raised edge of the pegboard itself, which may have acted as a nut. I decided to create a thin nut just beyond the edge of the pegboard. Though out of view in the intarsia, I assumed that two small windows would have allowed the strings to pass beneath the pegboard. The image shows the tuning pegs fanning outward slightly, which would give the player's hand more room to tune each peg. It would also decrease the angle by which the strings meet each peg inside the pegboard, allowing for smoother tuning of the strings. We must assume the pegs were of some type of strong hardwood, since they are shown with long thin, shafts and wide "mickey-mouse-ear" heads, which can create a good deal of leverage. It could also mean that the strings were tuned at relatively low tension. The pegs of the lira are the same shape as those on the lutes of the studiolo.

The cuts and inlay for each of the five strings on the intarsia are roughly the same, meaning that there appears no difference between string gauge across the instrument. It should be cautioned that the drone string, since it has a longer stopped length than the rest of the strings, would have a lower pitch, if in fact all strings were tuned to the same note. That sort of literal reading of the image is redundant, even nonsensical, but it should perhaps serve as a 'blank slate' for understanding possible tunings of off-board drone fiddles. The cuts and inlay for the strings are among the finest throughout the intarsia, perhaps reaching the limits of available inlay techniques. It should be noted, however, that all strings are much thinner than the tailgut, which terminates above the tailpiece in either a frayed knot, or a stopper bead. We can speculate as to which material the artist meant to represent. It is not uncommon for intarsiated strings to appear of uniform gauge on a single instrument, whether on one of the Urbino studiolo's lutes, its keyboard, or on one of the instruments in Federico's other studiolo in Gubbio. I strung my model using only three gauges of equal tension in order to test various registers. I was able to run a single string in a loop from the tailpiece to two pegs without trouble. I tuned each string just before its breaking point, and settled them into consonances.

Figure 10: The finished Urbino Lira.

The configuration of lateral brace without soundpost yielded weak results. While the instrument was lightweight and rang like a drum when struck upon the backplate, the bow could produce little more than a thin, pinched sound at low pressure, and a wolf-tone disrupted, body-less, scratchy noise at high bow speeds. The soundboard did not flex beneath considerable pressure. Frustrated with the weak sound, I removed the brace (I was able to knock it free using a chisel from outside the wide soundholes), and re-tuned. While the unbraced soundboard flexed slightly, the sound was suddenly booming and rough, much louder than I had expected. However, under high pressure from the bow, and at high bow speeds, the wolf-tones persisted. Since the wide

soundholes provided easy access to the interior, I fitted a soundpost beneath the treble bridge foot. In the case of an instrument with a flat soundboard and flat back, a post can be positioned anywhere inside the instrument with ease, and the Urbino lira's soundholes allow access with the hands. The result was an astonishingly bright, balanced sound, free of wolf-tones, and generally clear across the drone and the lower and higher-pitched "courses". With the post in place I did not worry about profuse pressure upon the soundboard from the bridge, but there was slight sinkage beneath the unsupported bridge foot. The introduction of a second soundpost cut the sound back, as if the lateral brace had been reinstalled. I decided to leave the single soundpost in as the only support.

Figure 11: The finished Urbino Lira, bottom view.

The playing architecture of the instrument, which includes the bridge curvature, bridge height, depth of outline indentation (bow clearance), string angle projection, string spacing, and fingerboard shape, is available to any viewer of the original intarsia. However, it is not until the reconstructed model is played that the goal of this type of setup becomes clear. Within any single stroke of the bow, three strings may be sounded at once, depending on the tension and gauge of the strings. Two strings may be sounded together on either the drone side or the 'upper' side. The drone or the upper string may also be bowed alone, but with minimal clearance for the bow. It would be very difficult to use this type of instrument for a single-line of vocal polyphony, or for monophonic "dance" music associated with the London MS 29987 or the Codex Faenza. The Urbino lira's strength would be in sounding chord blocks, with the possibility of stopping any string but the drone, and adding freely-fingered lines on the upper two strings.

Figure 12: The finished Urbino Lira, side-on view.

Conclusion

> "...and he will take his own age into account; because truly it is uncomfortable and unseemly to see a man of any social standing, white-haired, toothless, wrinkled, playing with a *viola in his arms* and *singing* in the midst of a company of women, even though he did a passable job, and this, because most of the time when singing one speaks of love, and in old men love is a ridiculous thing; albeit that it sometimes seems that he enjoys— amidst some others of his miracles—to excite and delight frozen hearts despite his age."
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> *Il Libro del Cortegiano,* Urbino 1528

Known in modern enthusiast circles largely for his fondness for the consort of viols, Baldassare Castiglione warns the good courtier against mixing too openly with the pastime of *il 'cantare alla viola'*, while still attesting to its emotive power. He surely speaks of the instrument that we know as the lira da braccio, which must have been commonplace in Urbino roughly fifty years after the construction of the palazzo. We would not consider Urbino to entertain anything but the finest and most fashionable musical practices by the turn of the sixteenth century. The 'viola' of the old man and the 'viola' of the man of any social standing likely resembled the type of lira da braccio that was written for in the Pesaro MS, and which appears in iconography from that specific time. Yet, if Castiglione ever visited Federico de Montefeltro's studiolo, he would have seen another type of viola. Would he have viewed the intarsiated instrument as a relic of past centuries, an instrument completely alien to the city's current performers? Perhaps he would have been familiar with its shape. What sort of music would jump into his imagination upon recalling this older variation of viola?

Federico de Montefeltro was a man of great versatility, and he had been trained, amongst other humanist subjects, in music. In the second half of the 1430s, when Federico was just twelve years old, he received an education in Mantua, at the Gonzaga court and in the famous humanist school *Casa Gioiosa*. This progressive school would have had a lasting impact upon his memory, and arguably shaped his philosophy toward government.[9] The time spent at Casa Gioiosa learning would have greatly contrasted with his later teenage years, for his career as a mercenary began when he was only sixteen. Federico did not fully retire from the warlord's life until he was in his fifties. From 1468 until his death in 1482, his energy was directed toward the construction of palaces, the collection of books for his library (which was rivalled only by the Vatican), patronage of the arts and famous intellects, and toward the civic governance of Urbino. He decorated his palace, his refuge in the studiolo, with portraits of ancient heroes of the intellect, and immortalized subjects in wood that would best represent his philosophy and his mind.[10] The studiolo was for him a place of comfort, and for guests a powerful collection of political symbols. We can be sure then that when he looked upon his lira - and he saw it more than any other person - he was satisfied with its every aspect, and felt that it represented him well.

It is my suspicion that Federico's lira could be a stylistic product of the first half of the fifteenth century. Had he meant to represent the fiddle as it existed in the 1470s in Urbino, at the time of the construction of the studiolo, it might have shown features of the 'classic' type of lira da braccio: seven or more strings with two of them arranged as bordoni, a pointed, leaf-shaped pegboard, possibly pointed corners, smaller soundholes placed higher on the body, and a curved soundboard. If Federico de Montefeltro had had any formal training with the fiddle, it would have been before 1437, when his career turned toward military activities. Coupled with Federico's desire to promote humanism that was rooted in ancient times, the display of this instrument's seemingly unique features could be meant to invoke an older musical culture. Considering that we have access to a great deal of trecento iconography showing fiddles, the shape of the Urbino instrument is still basically indistinguishable to many of those featured in fourteenth-century paintings. Were its likeness to be unearthed from some trecento time-capsule, we would not be shocked or confused, but would instead dutifully add it to the corpus of trecento pictures with musical subject matter.

I have chosen to term Federico's instrument *lira* because of the place it should occupy in our current understanding of medieval fiddles and liras da braccio. While there may be distinct visual stylistic differences between what we would call a medieval fiddle, or viella, and a lira da braccio, the Urbino instrument explicitly challenges the notion that the lira da braccio served a separate technical and musical function to its predecessor. Despite its 'medieval' shape and string count, there can be little difference between the physical method of playing the Urbino model and the lira da braccio of twenty-five years later. I believe it helps our notion of the

[9] Cheles, Luciano. *The Studiolo of Urbino: An Iconographic Investigation*. University Park: Pennsylvania State University Press, 1986. 9.

[10] Cheles, *The Studiolo of Urbino*, 35.

musical role(s) of the Italian fifteenth-century fiddle to call it a lira, because it dispels many implausible assumptions of performance practice stemming from outdated scholarship.

The mode of construction of the Urbino lira is similar to what is currently understood of liras da braccio, namely, that the body and the neck were carved, and the soundboard and backplate were subsequently attached. This mode does not correlate with our few surviving medieval instruments, which are monoxcylic (carved from a single block). While we cannot be sure that Italian fiddles were always made in a monoxcylic form, we can deduce, from this depiction of an early lira, that a mixed or built-up approach was at some point adopted. Perhaps the method was utilized much earlier than we thought. I would like to present this project as a demonstration of how, through the chronicling and explanation of workshop decisions, broad historical concepts might inevitably be reordered, developed, or dismantled altogether. Instead of a curiosity for enthusiasts, I believe that the Urbino lira should be treated as the fabled mosquito frozen in amber, which may be instrumental in resurrecting the previously unheard Italian fifteenth century.

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