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Camilla Cavicchi

Digital humanities projects by *Ricercar*: from research tools to musical spatial installations

The need to valorise our musical heritage is keenly felt by the great museums, which preserve for posterity collections of instruments and musical sources, for instance the *Cité de la musique* in Paris or the *Musée des instruments de musique* in Brussels. For decades such institutions have been using technology to give voice to musical objects that would otherwise remain silent, and to educate the uninitiated public. The *Cité de la musique*, for example, uses several multimedia aids for this purpose, from audio-guides, which explain the instruments to the public and give them the opportunity to hear their music, to sensory games which enable them to ›feel‹ how the instruments work. In addition, the *Cité de la musique* makes use of documentaries featuring in-depth interviews with musicians, instrument makers and performers, who shed light on various aspects of the history of music.

By giving their visitors opportunity to hear, as well as see, the instruments, images and documents they house, museums can do much to raise awareness and engage the general public by providing them with emotional, not just visual, encounters with our shared musical heritage. This explains why such communication tools are becoming ever more common in museums, effectively bringing musical objects back to life. An example *par excellence* is the Victoria & Albert Museum, whose Medieval and Renaissance galleries were set up with the following aims: (i) to enable visitors »to imagine the Renaissance world«; (ii) to complete thematic displays by adding music; and (iii) to allow visitors to hear the sound of the instruments that are exhibited[1]. The curators of this project, Stuart Frost and Giulia Nuti, achieved these goals by selecting from the available historically informed recordings, and in certain cases even commissioned recordings, in collaboration with the Royal College of Music. They set out to follow three thematic lines, namely musical notation, musical instruments and figurative sources on musical themes. They have provided musical ›hotspots‹, where visitors can hear a brief explanation and musical excerpt through headphones, and explore musical sources via a touch-screen. By these means the museum encourages interaction and audience participation to enhance its educational impact.

1 Stuart Frost and Giulia Nuti, »Another Dimension: Integrating Music with the Medieval and Renaissance Galleries,« *V&A Online Journal* 4 (2012). http://www.vam.ac.uk/content/journals/research-journal/issue-no.-4-summer-2012/another-dimension-integrating-music-with-the-medieval-and-renaissance-galleries.

Although it is undoubtedly important to integrate music into the visitors' experience of such museums, raising their awareness of music, performance and history in general,[2] such exhibits have been installed without the benefit of musicological research. Unlike the museums, the musicological research programme *Ricercar* has been designing digital spatial projects based on specific research hypotheses. Launched in 1992 by Jean-Michel Vaccaro, and subsequently inherited by Philippe Vendrix, the *Ricercar* team has been working on digital humanities projects since 1994[3]. Over the past 25 years, the *Ricercar* research group has developed many research tools for students, musicologists, musicians, and researchers with a general interest in music. In particular, the Ricercar team has produced three distinct types of digital projects:

1. Databases, such as the *Catalogue de la chanson française* by Annie Cœurdevey (http://ricercar-old.cesr.univ-tours.fr/3-programmes/basechanson/index.htm) and the *Prosopography of Renaissance singers* by David Fiala (http://92.154.49.37/CESR_CHANTRES/).

2. Online repertoires, including *The Anonymous masses*, by Agostino Magro (http://ricercar-old.cesr.univ-tours.fr/3-programmes/EMN/MessesAnonymes/); the regional repertories of Picardy (http://92.154.49.37/CESR_PICARDIE/) and Croatia (http://92.154.49.37/CESR_CROATIE/); the instrumental music of the *Corpus of Lutistes* (http://ricercar-old.cesr.univ-tours.fr/3-programmes/EMN/luth/); the *Du Chemin chansons nouvelles* project, by Richard Freedman (http://ricercar-old.cesr.univ-tours.fr/3-programmes/EMN/Duchemin/); and *Gesualdo Online*, by Philippe Vendrix (https://ricercar.gesualdo-online.cesr.univ-tours.fr/), in which the use of MEI standards makes this repertoire suitable for some new tools for music analytical enquiries.

3. Digital research projects that respond to a specific research query. For example, the question »How can we re-construct the voice of a lost partbook?« gave rise to the *Atelier Virtuel de Restitution Polyphonique*, with five workshops in Tours, and then to Richard Freedman's project *Lost Voices* (http://digitalduchemin.org/about/). The *Citations: The Renaissance Imitation Mass* project (https://ricercar.crim.cesr.univ-tours.fr/) was set up to

2 On this subject the article by Nikos Bubaris, »Sound in Museums – Museums in Sound,« *Museum Management and Curatorship* 29 (2014), pp. 391–402, is very interesting.

3 For a detailed presentation of the programme, see the website, still under construction: http://92.154.49.37/CESR/

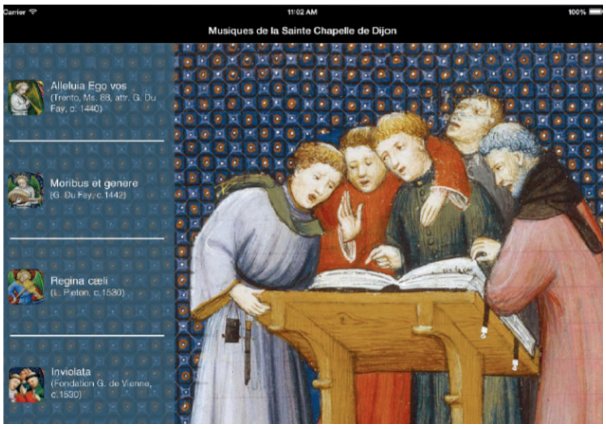
find an answer to the question »How can we analyse imitation in sixteenth-century masses?«. Likewise, the online *Le chant sur le Livre à la Renaissance* by Philippe Canguilhem (http://josquin.cesr.univ-tours.fr/lusitano/contrepoint/chant-livre.html) sought to determine how we can learn from a counterpoint treatise in a more interactive and effective way.

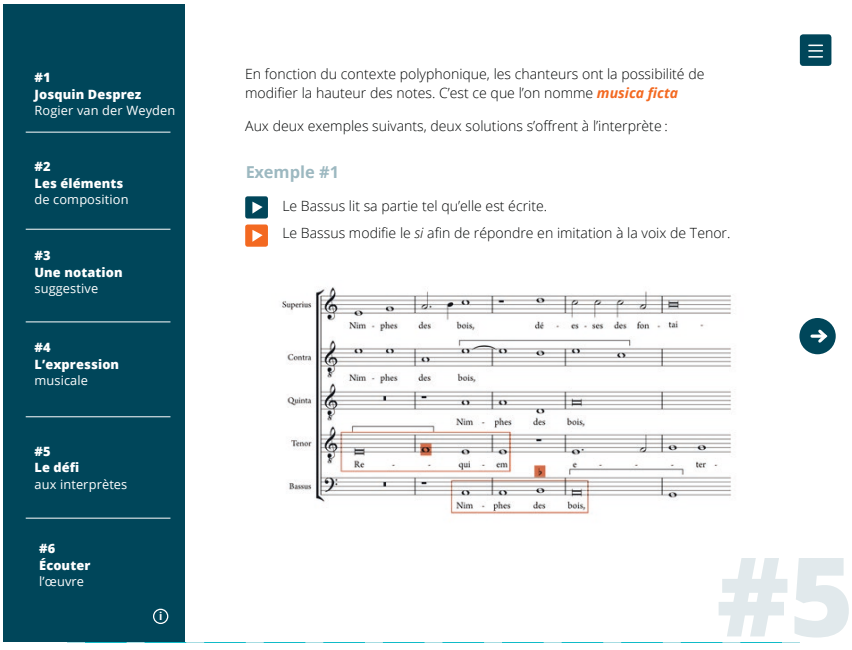
In certain cases, the questions that stemmed from such digital projects also led to printed publications, as was the case for books on Picardy and Croatia, and the forthcoming book on tablatures[4]. In addition, the development of research projects designed to respond to specific questions regarding musical practice in spaces that have now been lost has spawned other innovative projects involving multimedia techniques such as 3D rendering and 3D matte painting. Since 2012, the *Ricercar* team has been working on digital projects on cultural heritage and music, designed to disseminate the results of musicological research to a wider (lay) audience. The ultimate aim is to make musicology more relevant in today's society.

Our first endeavour focused on the restitution of musical experiences in lost Renaissance spaces – those destroyed during the French Revolution. This we achieved by creating 3D renderings: first of the lost Sainte-Chapelle in Dijon, in 2014, and then of the lost Saint-Martin Collegiate in Tours, for public exhibition in 2020. This multidisciplinary research programme, *Musique et Musiciens des Saintes-Chapelles*, was funded by the Agence Nationale de la Recherche Scientifique (2011–2014) and coordinated by David Fiala and Vasco Zara. It gave musicologists, archaeologists, historians and virtual- and augmented-reality engineers the chance to work together on a 3D architectural rendering of the interior and exterior of the Sainte-Chapelle of Dijon (destroyed in 1802) based on ancient plans, elevations, images and other documents. This research project produced a rendering, available as a short movie, created by the *Institut Image* (*Arts et Métiers ParisTech*, Cluny). This enables users to visit the edifice virtually, and experience the sounds that were played there in the sixteenth century. Indeed, the movie features music for the votive ceremony that, from 1526 onwards, was annually celebrated on the day of the Annunciation (25th March), as well as a detailed description of the various elements and stages of the ceremony, as decreed in the founding charter (laid down on the 6th June 1526 by Girard de Vienne, Lord of Ruffey and Knight of the Order of the Golden Fleece). The user can experience all the sights and sounds of a rehearsal for the same; under the direction of

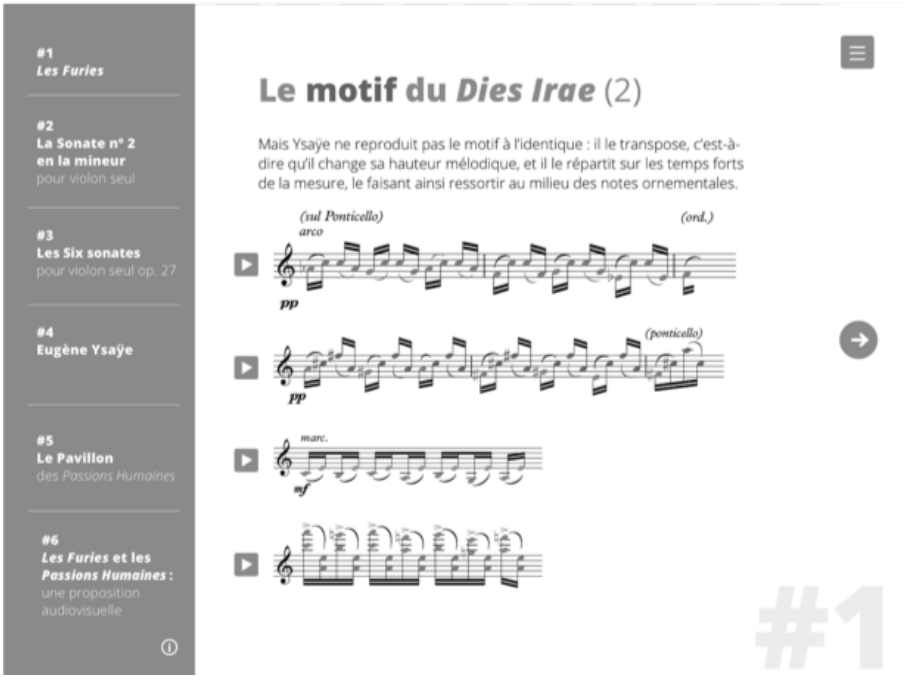
4 Camilla Cavicchi, Marie-Alexis Colin & Philippe Vendrix (eds.), *La Musique en Picardie du XIVe au XVIIe siècle* (Turnhout, 2012); Ennio Stipcevic, *Renaissance Music and Culture in Croatia* (Turnhout, 2016); David Dolata, John Griffith & Philippe Vendrix, *Encyclopedia of Music Tablatures* (Turnhout, in preparation for 2020).

the choirmaster, the singers, grouped around the lectern in the choir, interpret *Alleluia Ego Vos* from the proper of the *Mass of St. Andrew* attributed to Guillaume Du Fay (c. 1440), and Loyset Piéton's *Regina Caeli* (c. 1530). This movie was presented in an immersive projection room, installed within Dijon's Museum of Fine Arts as part of the exhibition *La Sainte-Chapelle de Dijon et les résidences des Ducs de Bourgogne. Architecture, Histoire et Musique* (17th May–13th Oct. 2014).[5]





5 https://www.cesr.cnrs.fr/actualites/manifestations/exposition-la-sainte-chapelle-de-dijon.



Figures 1–3. Application for iPads entitled *Divio Dives: Music at the Sainte-Chapelle of Dijon*

Accompanying the 3D rendering was an educational application for iPads entitled *Divio Dives: Music at the Sainte-Chapelle of Dijon*. Freely downloadable from the App Store in both French and English (Fig. 1–3), this application provided information on the historical context and elements of musical analysis of each piece of music, and allows users to follow them on the score, measure by measure, while they are played. The voice options at the bottom of the screen (*Superius / Altus / Tenor / Bassus*) also allow users to listen to one or several voices in isolation (by muting the others) – an interactive tool that was extremely well received by the visitors.

The second *Ricercar* project involving 3D rendering of lost musical spaces was *ReVisMartin* (https://ricercar.cesr.univ-tours.fr/ReViSMartin/), a project funded by the Région Centre-Val de Loire. For the 1700th anniversary of Saint Martin's birth, the Centre for Renaissance Studies in Tours proposed a scientific project to reproduce the music and buildings of the Saint-Martin Collegiate. This 3D rendering is accompanied by a commissioned interpretation of a musical master-

piece composed by Johannes Okeghem[6] – principal musician and the Treasurer of the collegiate. Played by the Binchois Ensemble, conducted by Dominique Vellard, this was recorded with separated voices to allow an elaborate plan for the diffusion of the sound. The music is accompanied by a short video, lasting about 7 minutes, featuring animated characters of Okeghem and his fellow singers. This enables the public to appreciate the polyphonic music and its diffusion in the space of the lost collegiate. In addition, an interactive application has been designed to help the visitor discover the virtual space and the acoustics of the collegiate. Other digital tools, such as touch screens, complete the experience by providing further information on the music and the building. This project is listed as part of the strategies for the Innovation of the Région Centre-Val de Loire.

A totally different experience has been created through the project *Musi2R* –an acronym of *Musique dans les Résidences Royales* (https://intelligencedespatrimoines.fr/chambord-chateaux/musi2r/). This project was also funded by the Région Centre-Val de Loire, and was produced under the direction of the Centre d'Études Supérieures de la Renaissance in Tours and the Centre de Musique Baroque de Versailles (coordinator Vasco Zara, scientific board chair Thomas Leconte).[7] This innovative project took into account research into the performance and acoustic devices designed for musical exhibitions in the houses of the kings of France, from the reign of Henri III to that of Louis XIV – a historical period in which the French court was itinerant and moved between several royal castles and palaces. For the purposes of this project, beginning in 2017 the music of the court was performed and recorded in the spaces for which it was conceived – the castles of Blois, Chambord, Saint-Germain-en-Laye and Fontainebleau – in order to help us better understand the relationships between sound, acoustics and architecture. At Blois castle, the *Doulce Memoire* ensemble, conducted by Denis Raisin Dadre, interpreted the music of the *académies humanistes*[8], while in Fontainebleu castle, the ensemble *La Rêveuse*, conducted by Florence Bolton and Benjamin Perrot, played several pieces of the mass for the kings when the court moved to Versailles (ca 1697)[9]. In Chambord castle, the ensemble *Jacques Moderne*, directed

6 On the correct spelling of Okeghem see: David Fiala, »La très véritable signature de J. de Okeghem et ses implications philologiques,« *Revue française de Musicologie* 105/1 (2019), pp. 145–58.

7 Vasco Zara, »Music in the Royals Residences,« *Sound Heritage. Making Music Matter in Historic Houses*, eds. Jeanice Brooks, Matthew Stephens & Wiebke Thormählen [in preparation for 2020].

8 They played and recorded the following pieces of music: Fabrice-Marin Caiétain, *Airs mis en musique à quatre parties* […] *sur les poësies de P. de Ronsard & autres excelens poëtes de nostre tems* (Paris, Adrian Le Roy & Robert Ballard, 1576); Claude Le Jeune, *Le Printemps* […], *à deux, 3. 4. 5. 6. 7. et 8. parties* (Paris, Veuve Robert Ballard et Pierre Ballard, 1603).

9 *Motets pour la messe de Louis XIV, pour le jour du départ pour les voyages entre les châteaux de Versailles et Fontainebleau*, Versailles, Bibliothèque municipale, Ms. Mus.18: Du Buisson, *Confitebor tibi Domine*; François Couperin, *Laudate pueri Dominum*.

by Joël Suhubiette, played the music of Louis XIV's royal chapel[10], and, in Saint-Germain-en-Laye castle, the ensemble *Correspondances*, conducted by Sébastien Daucé, interpreted some motets by Henry Du Mont[11].

These experiences enabled researchers to analyse the specific acoustics of each of these places, and in general to discover that their architects took great pains to ensure that the acoustics would be perfect for listening to music. In fact, unlike today's buildings, in the spaces specifically designed for musicians and musical performance, the sound quality often leaves much to be desired, while in the places where the king and courtier sat the acoustics are flawless. Four papers documenting these experiences are being written, and will be made available on the website of the project itself and those of the respective castles. The recordings themselves will be incorporated into computer applications that visitors will also be able to access, and musical installations that will allow the public to experience the music in the spaces in which it was first played (for a sneak peek of this highly original listening experience, please see the online teaser in https://intelligencedespatrimoines.fr/chambord-chateaux/musi2r/).

In a similar vein, we also developed an immersive installation, called the *Cubiculum musicae* (https://cubiculum-musicae.univ-tours.fr/presentation/?page_id=22). The term *cubiculum musicae* was originally coined by Paolo Cortese, the apostolic secretary to Pope Julius II, in his 1510 *De cardinalatu libri tres*, to describe a room for listening to music.[12] During the 15th century, the term *camera della musica* was also used to describe specific rooms in aristocratic abodes that housed precious collections of musical instruments, as well as pertinent books and portraits of musicians. Five hundred years later, in 2010, the *cubiculum musicae* concept was reinvented by Philippe Vendrix, with whom I was co-authoring an article about music collections in the Renaissance[13]. His inspired idea was to build a mobile and interactive space in which Renaissance music could be listened to in optimal acoustic conditions – a means of providing an immersive Renaissance experience to a wider public. Through our endeavours, the *cubiculum musicae* was totally transformed: from a private repository for the elite to a space of sensorial

10 *Grand motets* and *petits motets* for the mass of Louis XIV by Pierre Robert (ca 1622–1699), who was »sous-maître« of the Royal Chapel Music between 1663 and 1683: Pierre Robert, *In exitu Israel (Motets pour la Chapelle du roy)* (Paris, Christophe Ballard, 1684) and *Splendor aeterne gloriae*, in id., *Motets manuscrits*, ed. Thomas Leconte (Versailles, 2016).

11 Henry Du Mont, *Motets pour la Chapelle du Roy* (Paris, Christophe Ballard, 1686).

12 Nino Pirrotta, *Musica tra Medioevo e Rinascimento* (Torino, 1984), pp. 213–249, in particular p. 244.

13 Camilla Cavicchi & Philippe Vendrix, »L'érudit et l'amateur: collectionner la musique à la Renaissance,« *Collectionner la musique. Histoire d'une passion*, eds. Denis Herlin, Catherine Massip, Jean Duron & Dinko Fabris (Turnhout, 2010), pp. 24–54.

experience and musical immersion that would explain and promote the musical heritage of the Renaissance to all.

Developed in collaboration with *Intelligence des Patrimoines* (https://intelligencedespatrimoines.fr/) – a new research program established by Philippe Vendrix in 2013 to promote interdisciplinary research and innovation in the study and development of natural, cultural, tangible and intangible heritage – the *Cubiculum musicae* is a revolutionary exhibition space that can be custom-designed for specific events. The Cubiculum musicae is a mobile unit in which selected pieces of music are played and explained to the public with visual aids, technological tools, interactive software and web applications. Inside, the visitors find themselves in a dark, acoustically isolated room, which features a central screen and tailored sound diffusion all around the walls to optimise their experience of the music – in our case from the Renaissance. The isolation of the space from outside noise is fundamental, giving the public the opportunity to focus their attention on the music, and to transform the *Cubiculum* experience into a sensory learning experience.

In 2013, the first prototype of the *Cubiculum* was presented in Paris in the CNRS Innovation salon (Innovatives SHS, Paris, Espace Charenton, May 2013); it was designed to showcase Josquin Desprez' *Nymphes des bois*. Buoyed by the success of this presentation, in 2014 two new *Cubicula* were built: one commissioned by Belspo (Belgian Science Policy) in Belgium, and the other by the University of Tours. For Belspo, *Ricercar* produced three programmes, in which the music of a Belgian composer was paired with the artistic output of a Belgian painter or sculptor: *Nymphes des bois* by Josquin Desprez with the *Deposition from the Cross* by Rogier van der Weyden (see the web-application *Josquin/van der Weyden* https://cubiculum-musicae.univ-tours.fr/presentation/?p=143); Eugène Ysaÿe's *Les furies* with the bas relief *Human passions* by Jeff Lambeaux (see the application *Ysaÿe/Horta-Lambeaux* https://cubiculum-musicae.univ-tours.fr/presentation/?p=247), and the song *El grillo è buon cantore* by Josquin Desprez with a series of paintings of crickets (see the application *Josquin/Grillon* https://cubiculum-musicae.univ-tours.fr/presentation/?p=272). There are video sequences based on each section of the music (currently available in Section 5 of the web application), and the images therein have a descriptive or interactive purpose.

Like our previous projects, the *Cubiculum* is a multidisciplinary achievement. Images in particular play a fundamental role, enhancing the musical experience and promoting the discovery of local heritage. As well as this educational function, images create a connection between the music and the cultural and historical context in which it was composed. The *Cubiculum* experience shows how musical iconography can be a vital part of programmes designed to promote and

raise awareness of scientific content. Two other *cubicula*, which have already been exhibited – the *Lassus/Brueghel Cubiculum*, produced for »Mons 2015 European Capital of Culture« and the *Ockeghem/Saint-Martin Cubiculum*, for the national exhibition on Saint Martin at the Musée des Beaux-Arts in Tours – give a better idea of the potential of this kind of installation.

In both cases, the *cubiculum* formed a part of a temporary exhibition. In Mons, the brief was to design the installation around a Renaissance musician from the local area; we chose Orlando di Lasso, who was born in Mons in 1532. Once we had chosen our subject, we then looked for a piece of his music that would be accessible to the general public. We selected the motet for six voices *Musica Dei donum optimi* – a song praising the power of music, recorded in separate voices by the ensemble Odhecaton, which that year was recording the CD *Roland de Lassus Biographie musicale vol. IV: La viellesse*.[14] This motet was paired with the painting *Allegory of Hearing* by Pieter Brueghel and Peter Paul Rubens, as this artwork illustrates many themes related to those covered in Lasso's motet. To make things more educational for the viewer, the painting by Brueghel was de-constructed, and a concrete restitution of the musical imaginary of the time of Lasso in connection with his motet was proposed, as follows:

The words of the motet	**The meaning**	**The images associated with the text**
Music, gift of God the greatest, draws men, draws gods	The power of music to charm men and gods	Focuses on deities and humans playing music
Music calms turbulent souls, and raises sad spirits	The therapeutic power of the music	Focuses on the music itself
Music moves even the trees themselves, and wild beasts	Music moves even nature	Focuses on trees and animals

The Lassus *Cubiculum* experience lasts just 3 minutes, and at the end, the visitors can access the content on an Android App available in 3 languages (English, French and Dutch, see these Applications at https://cubiculum-musicae.univ-tours.fr/presentation/?p=276). Through this App the public can access a detailed biography of the composer (https://cubiculum-musicae.univ-tours.fr/lassus/en/#/chapter-2), accompanied by the images of his time; a section on the music which explains the musical source and the composition processes (https://cubiculum-musicae.univ-tours.fr/lassus/en/#/chapter-1); and an iconographical analysis of the Brueghel-Rubens painting (https://cubiculum-musicae.univ-tours.fr/lassus/en/#/chapter-3) – an opportunity to discover its meaning and learn

14 *Musique en Wallonie 1474* (https://www.musiwall.uliege.be/?page=fiche&id_article=238).

about the musical instruments represented. The video used for the installation is now available in the web App at https://cubiculum-musicae.univ-tours.fr/lassus/fr/#/chapter-4. This *Cubiculum* was funded by the Fondation Mons 2015, and produced in collaboration with Marie-Alexis Colin of the Université libre de Bruxelles, in collaboration with the FNRS.

The second *Cubiculum* I would like to focus on was commissioned in 2016, in conjunction with the national exhibition on Saint Martin at the *Musée des Beaux-Arts* in Tours. It was located in the museum courtyard and was accessible to visitors during the exhibition. The idea behind this installation was to tell a story about music and Saint Martin of Tours during the Renaissance, highlighting the richness of the local musical culture. For this project, we chose Johannes Okeghem, the main composer active at the Saint Martin Collegiate during the Renaissance. We then selected a piece of his music: the beautiful *kyrie* from the mass *De plus en plus*, which lasts just 3 minutes. The choice of a short piece was a key element of the installation, as we wanted to appeal to a public unused to listening to Renaissance music. The *Cubiculum* was also used as a vehicle for divulging and disseminating new scientific discoveries, namely a previously undiscovered document about the reception of Okeghem's famous motet for 36 voices, and the discovery by my colleague, Agostino Magro, that the theme of the mass *De plus en plus* has connections with the antiphon *Dixerunt discipuli* for Saint Martin's liturgy. Although visitors to the Lassus Cubiculum experienced the music without explanation, for the *Ockeghem Cubiculum* I wrote a short documentary explaining our discoveries to be played before the music. To tell this story through images, I sought out local paintings produced by artists from Tours[15].

Thus the *Ockeghem Cubiculum* video had three sections: first, the introduction; second, the documentary with voice-over; and third, local artists' images of Saint Martin of Tours sharing his cloak to accompany the listening of the *kyrie* (which is played in full). As for the introduction, the movie depicts the public in 1460, outside the walls of Tours, listening to very soft music as they gazed upon

15 Jean Fouquet's miniatures of Tours, dated 1455–1460, from Paris, Bibliothèque national de France, ms. français 6465, fol. 169^{v} and fol. 223; Jean Fouquet, *Martin sharing his cape*, miniature from *Heures d'Étienne Chevalier*, 1452–1461, Paris, Musée du Louvre, Département des imprimés et des dessins, RF1679-recto; Maître du missel de Yale (Bourges ou Tours), *Martin sharing his cape*, miniature from *Heures de Louis de Laval*, vers 1470, Paris, Bibliothèque nationale de France, ms. latin 920, fol. 300^{v}; *La Vie et miracles de monseigneur sainct Martin*, engraving, Tours, Mathieu Lateron, 1496, Paris, Bibliothèque nationale de France, Velins 1189, fol. A1; Jean Bourdichon, *Martin sharing his cape*, miniature from the *Grandes Heures d'Anne de Bretagne*. *Horae ad usum romanum*, 1500–1508, Paris, Bibliothèque nationale de France, ms. Latin 9474, fol. 189^{v}; *Charity of Saint Martin*, sculpture, Val de Loire, ca. 1531, inv. 53, Lisbon, Calouste Gulbenkian Foundation, Museum Gulbenkian; Anonymous miniaturist from Tours, *Dove of the Holy Spirit*, Book of prayers, ca. 1511–1513, New York, Pierpont Morgan Library, ms. M. 292, fol. 14^{v}.

the Saint Martin Collegiate in the background, from afar. Then the camera zooms onto the collegiate and the music becomes louder; as we enter the collegiate we can see the attributed Okeghem portrait while he is singing in the famous ms. Bnf fr. 1537[16].

I thought it would be a good idea to use a specific movie animation technique, called 3D matte painting, to make the images more evocative and immersive. Indeed, this animation gives a deeper perspective on the Renaissance miniatures, without distracting the public from the explanation or the music. The intent was not to give perspective to flat images, but to explain a content which is illustrated by the images in action. Indeed, the 3D matte painting technique gives a diachronic dimension to still images, and helps in pairing images with the voice-over narration and music.

After the musical immersion, on the panels outside the *Cubiculum* the public was able to explore more content on the life of Okeghem in Tours (for example, the building where he lived, and the documents from the local archives), and his *kyrie*, as well as the newly discovered letter regarding his motet for 36 voices. Using a QR code, the visitors could read all about the virtual exhibition, which is still accessible online (https://cubiculum-musicae.univ-tours.fr/presentation/?page_id=852).

Such installations are compact, and perfect for sites with a high footfall, such as museums and exhibitions; they therefore offer the opportunity to present the outcomes of musicological research to a much wider audience than that reached by specialist journals. Thanks to the combination of high-tech sound and innovative audiovisual effects, visitors are drawn in to musical experience, which appeals to both adults and children, as well as experts such as musicians, musicologists and scholars of other disciplines. In these spaces, listening to a piece of music becomes a moving and unifying experience, transcending ethnic boundaries and generational tastes, thanks to the use of the 3D matte painting animation.

Other *Cubiculum musicae* have also been produced in the last years. A project for the Royal Abbey of Fontevraud, a UNESCO site in France, was produced in July 2018, and funded by the Région Pays de la Loire. For this extraordinary place we developed a programme enabling visitors to discover the musical traditions of the abbey in the seventeenth century. Thanks to a short 12-minute documentary, the public can learn about the fame of the nuns of the Abbey as excellent singers, their sources and repertoires, the *Cérémonial de l'Ordre de Fontevrauld* (Paris, J. de Heuqueville, 1628), and the performance of the lyric tragedy Esther by Jean Racine with music by Jean-Baptiste Moreau, when Marie-Madeleine Ga-

16 Étienne Collaut, *Ockeghem at the lantern*, miniature from *Chants royaux sur la Conception couronnés au Puy de Rouen*, vers 1530, Paris, Bibliothèque national de France, ms. français 1537, fol. 58v.

brielle de Rochechouart was at the head of the Abbey. As the Abbey has many available spaces, we decided to exploit two of these, instead of the mobile unit, to create a ›dematerialised‹ *Cubiculum*. In one room the documentary film was shown, while the other was used to display the musical sources and documents related to our new scientific discoveries regarding the musical life of the Abbey in the 18th century.

Currently, we are working on a new *Cubiculum* dedicated to Leonardo da Vinci and the musical instruments he invented, as the Région Centre-Val de Loire will be celebrating the 500-year anniversary of his death (which occurred in 1519 at his home in Amboise) this year (https://cubiculum-musicae.univ-tours.fr/presentation/). From September 2019, the *Musée des Beaux -Arts* at Tours

Figure 4. *Cubiculum* Fontevraud: entrance

Figure 5. *Cubiculum* Fontevraud: document display room

Figure 6. *Cubiculum* Fontevraud: musical immersion space

will play host to a dematerialised *Cubiculum* designed to highlight Da Vinci's role as a musician. One exhibition space in the museum will be entirely given over to an immersive musical experience, thanks to a hi-fi music system and high definition projector and cinema screen. The video will be structured in a manner similar to that of the *Ockeghem Cubiculum*; the first part will explain Da Vinci's interest in music, the music he played, and the sketches that he drew of various instruments of his own devising, and the second will allow visitors to listen to the *strambotto Zephyro spira e il bel tempo rimena* by Bartolomeo Tromboncino,[17] before a projected image of Da Vinci's portrait of the singer Cecilia Gallerani. The room next door will provide them the opportunity to explore the video's content in depth thanks to an exhibition on Leonardo's manuscripts (the Giunti edition beautiful facsimiles) showing and explaining his projects and sketches of musical instruments.

It is our belief that, as well as allowing the general public to discover the history of (Renaissance) music, and raising the profile of musicological research, the *Cubiculum musicae* plays a broader ethical role. The environment in which we operate in Europe is conditioned by two dominant but paradoxical tendencies: on the one hand, globalisation is acting to divorce traditions from their original context, allowing them to spread to the far corners of the world, but on the other hand, more importance is being placed on our individual cultural heritage; attempts are being made to conserve traditions in the place in which they originated, and to highlight the importance of diversity and the specificities of each tradition[18]. Music is a particular case in point; it is a major medium for globalisation processes, but curiously enough it has received less attention from promoters of cultural heritage, despite its significant role in the transmission of local traditions. In this era in which globalisation and reactionary politics tend to relegate culture to a marginal role, the *Cubiculum* offers an example of how musicology can forge links with society. In other words, such projects have a twofold function. Not only do they comprise an innovative form of scientific reporting, conducive to widespread dissemination of the results of research, they also enable us to explain to our society what musicological research entails, and why this field of research is useful for increasing our awareness of how lost traditions shaped our culture.

Although these projects have a predominantly musicological focus, a multidisciplinary approach is essential in order to achieve their outcomes. Indeed, specific methodologies, knowledge and skillsets were required in order to reconstruct lost architecture, to determine how the buildings would most likely have been fur-

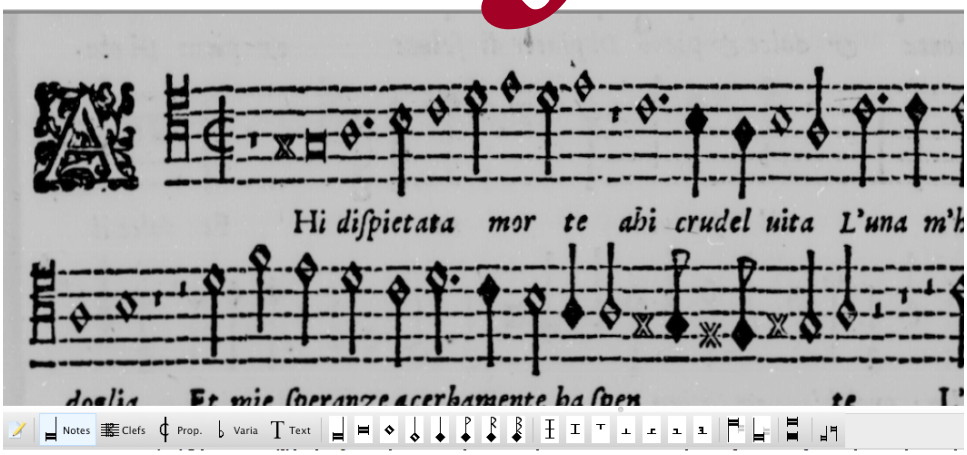
17 *Frottole dal Primo Libro di Franciscus Bossinensis*, Roberta Invernizzi/Accademia Strumentale Italiana conducted by Alberto Rasi, *Stradivarius* STR33516.

18 See the intangible cultural heritage list on the Unesco website https://ich.unesco.org/en/lists.

nished, and how the performers would have been dressed, as well as how the music would have been practiced and performed. In other cases works of art that are all but lost to public view are displayed, and presented in an immersive experience that provides visitors to the exhibits a chance to ›live‹ the musical culture of the era. Fortunately, national and regional bodies continue to recognise the validity of what the Ricercar team aims to accomplish. Indeed, projects such as these can explain and valorise the variety and richness of our shared musical heritage, and highlight the importance of diversity, bringing the beauty of (Renaissance) music to a non-specialist audience.

troja

Jahrbuch für Renaissancemusik



(Re-)Constructing Renaissance Music

Perspectives from the Digital Humanities and Music Theory

2018

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Klaus Pietschmann

Vorwort

Das troja-Kolloquium des Jahres 2018 stand unter dem Titel »(Re-)Constructing Renaissance Music – Perspectives from the Digital Humanities and Music Theory«. Es thematisierte zwei zentrale Bereiche der gegenwärtigen Renaissancemusikforschung: die Erfassung und Analyse größerer Werk- und Quellengruppen mit Hilfe digitaler Methoden einerseits sowie andererseits die Rekonstruktion fragmentarisch überlieferter Kompositionen des 15. und 16. Jahrhunderts. In Zusammenarbeit mit der Abteilung Musiktheorie der Hochschule für Musik an der Johannes Gutenberg-Universität Mainz war es dabei das Ziel, einen Überblick über die verschiedenen die Renaissance betreffen Arbeitsfelder der Digital Musicology zu bieten und daran anknüpfend Schnittstellen zu von der Musiktheorie ausgehenden Annäherungen an künstlerische Produktionsprozesse im Bereich der Improvisation und der Komposition zu diskutieren. Im vorliegenden Jahrbuch finden sich alle Beiträge des ersten sowie drei Texte des zweiten Kolloquiumsteils dokumentiert.

Am Beginn steht der als Abendvortrag zur Tagungseröffnung gehaltene Beitrag von Richard Freedman, der als Einstieg einen breit angelegten Überblick über grundsätzliche Herangehensweisen und Erkenntniswege der Musikwissenschaft im digitalen Zeitalter bietet und dabei die großen Themenbereiche Notation, analytisches Verständnis und Zitationsmöglichkeiten sowie Zukunftsperspektiven adressiert. Den Auftakt der Referate bildete Julie Cummings Plädoyer für die Anwendung digitaler Methoden in der musikwissenschaftlichen Forschung, das die Potentiale unter Nachzeichnung ihrer eigenen schrittweisen Aneignung der entsprechenden Arbeitsweisen anschaulich ausführt. Konkrete analytische Anwendungsmöglichkeiten eines vollständig kodierten Werkbestands thematisiert Jesse Rodin in seinem Beitrag zu dem von ihm geleiteten *Josquin Research Project*. Die außerordentlichen Möglichkeiten der datenbankgestützten Erfassung musikalischer Quellen stellt exemplarisch der Beitrag von Andrea Lindmayr-Brandl zu dem von ihr entwickelten *Verzeichnis deutscher Musikfrühdrucke* vor. Im Rahmen des Forschungsprogramms *Ricercar* am Centre d'études supérieures de la Renaissance in Tours werden mehrere sehr unterschiedliche digitale Projekte durchgeführt, die im Beitrag von Camilla Cavicchi vorgestellt werden. Laurent Pugin skizziert die Genese und die Perspektiven der *Marenzio Online Digital Edition* (MODE) und zeigt dabei das komplexe Ineinandergreifen unterschiedlicher Entwicklungen der *Music Encoding Initiative* (MEI), der damit verbundenen

Rendering Software Library *Verovio* sowie weiterer tools wie insbesondere *Aruspix* und Verfahren der Optical Music Recognition (OMR) auf. Den Abschluss des ersten Kolloquiumsteils bildet die Vorstellung des digitalen Verzeichnisses der Werke Giovanni Pierluigi da Palestrinas von Peter Ackermann, das insofern grundsätzlich neue Wege beschreitet, als sämtliche erfasste Quellen vollständig in Lilipond diplomatisch übertragen werden und durchsuchbar sind.

Der zweite Tagungsteil ist durch drei Beiträge vertreten, die unterschiedliche Formen unvollständiger Überlieferung von Musik des 15. und 16. Jahrhunderts repräsentieren. Die neuerdings Josquin Desprez zugeschriebene Chanson *Au bois, au bois ma dame* identifiziert Jaap van Benthem als Kontrafaktur, der ursprünglich eine weitere Vertonung des bekannten Liedes *Petite camusette* zugrunde gelegen haben dürfte. Handelt es sich hierbei mutmaßlich um eine defizitäre Überlieferung der Textunterlegung, so stehen im Beitrag von Paul Kolb drei Gaspar van Weerbeke zugeschriebene Chansons im unvollständigen Stimmbuchsatz I-Fc Basevi 2442 im Zentrum, zu denen er unterschiedliche moderne Vervollständigungen vergleichend diskutiert. Schließlich stellt Philippe Canguilhem von Theoretikern des 16. Jahrhunderts beschriebene Techniken der als *si placet*-Praxis bezeichneten improvisierten Hinzufügung von Stimmen zu mehrstimmigen Kompositionen vor und rundet damit diesen Ausschnitt ab. Weitere Referate hatten Philip Weller (†), David J. Burn, Immanuel Ott, Fabrice Fitch, Oliver Korte und Wolfgang Fuhrmann gehalten.

Die Konzeption des ersten Kolloquiumsteils erfolgte gemeinsam mit Laurent Pugin, für den zweiten Teil zeichneten Wolfgang Fuhrmann und Immanuel Ott verantwortlich. Ihnen allen sei für die hervorragende Zusammenarbeit ebenso wie auch den Referentinnen und Referenten sowie insbesondere den Beitragenden zu diesem Band an dieser Stelle herzlich gedankt. Großer Dank gebührt auch Stephan Münch für die Einrichtung und redaktionelle Betreuung sowie Chantal Köppl und Stephan Summers für die Übersetzung der Beiträge von Philippe Canguilhem und Jesse Rodin ins Deutsche.