

Comité International des Musées et Collections d'Instruments et de Musique
Comité Internacional de Museos y Colecciones de Instrumentos y Música
International Committee of Museums and Collections of Instruments and Music



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Editor: Heike Fricke
Texts should be submitted to:
heikefricke@arcor.de
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President's message

It has been almost sixty years since a group of 31 representatives from fourteen countries met in The Hague and Paris to discuss the goals and tasks of 'an international organisation [...] for musical instruments and the corresponding collections'. Its main challenge, at the time, was to heal – at least in the world of music museums – the deep divisions and wounds left by the Second World War and to foster professional and knowledge exchange across borders.

The world, our profession(s) and the role of our Institutions have greatly changed since then and CIMCIM has grown to include 43 countries, 112 institutions and almost 200 members in all five continents, with a continuous increase over the past few years (+15% in 2016). The diversity of our approaches, goals and collections are

the greatest richness of CIMCIM and offer a fantastic opportunity for networking and expanding the discussion about what we do. At the same time it presents challenges that CIMCIM needs to take into account in order to maintain and increase its relevance as a professional organisation: while the divisions that had to be faced in the 1960s are now generally resolved, the focus of music museums has expanded from a mostly European and North American perspective to one that includes large parts of the world. In the past few years contacts have increased with Russia and China, where independent 'regional' associations of music museums are active and represent over a hundred collections, altogether, most of which still unknown to CIMCIM members. The 2018 CIMCIM meeting in Hubei and Shanghai will present a unique opportunity to deve-



The CIMCIM group gathering in front of the MiCo.

lop a close connection with many of these, as well as the meeting in Russia did in 2015. CIMCIM's effort towards inclusiveness and expansion also strongly relies on close partnerships with wide-encompassing projects and associations: the strongest, in the past years, has been the one with MIMO – Musical Instrument Museums Online (www.mimo-international.com), which offers a database of over 55,000 musical instruments from collections. CIMCIM financial and in-kind support is being provided in order to further expand this powerful resource and improve its usability. Other collaborations included the COST action WookMusICK (www.woodmusick.org), which involves 25 European countries, RldIM (the International Repertory of Musical Iconography) as well as regular contacts with other organological societies.

Expansion is not only geographical, but in scope as well: in 2016 the CIMCIM General Assembly adopted a new name for the committee, specifically to include the whole world of 'Music Museums'. While musical instruments remain the main focus of many of our collections – and a key concern for CIMCIM – the focus of many displays and exhibitions has been shifting in the past decade to include a wider variety of sources to represent both the material and the immaterial aspect of music traditions, and the chronological focus has moved forward to include many musical realities of the 20th and 21st century. However, a new name is only the first step towards the deeper revision of our focus, of the issues that have taken priority in our profession and where CIMCIM can have an impact.

This is also related to the remarkable change that museum profession(s) have had over the past decades: while the number of curatorial positions in music museums seems to be stable or rather shrinking, the profile of 'curators' is changing both in music museums and in the wider museum world and is coming to encompass new and different competences. At the same time new specialisations and professional profiles are developing in the world of museums, and are only beginning to appear in our specialised world, opening new perspectives for those who want to work in this field, but also raising different

questions that CIMCIM should be concerned about.

All this opens a dazzling array of new perspectives that can be enriching and stimulating, but also risks to be overwhelming, considering that CIMCIM's activity entirely relies on voluntary work. CIMCIM can rely on a strong and widely recognised profile in the world of music collections, which needs to be maintained and fortified, while at the same time a process of continuous discussion and assessment need to address what CIMCIM as a professional organisation can offer, and how it can best support the work of everyone involved in this field. To start the discussion, a consultation process has been developed over the past few months and a SurveyMonkey questionnaire has been distributed among all members and potential members: I hope that it will offer the start for a series of tangible actions that will be implemented over the next years. However, nothing is more fruitful and indeed enjoyable than personal discussion: many of these matters – and several others – were enthusiastically discussed among the over 70 CIMCIM members who attended the ICOM-CIMCIM General Meeting in Milan, in July last year, and I am greatly looking forward to our 2017 conference in Basel and Bern, organised by the Hochschule der Kunste (<http://www.hkb-interpretation.ch/cimcim.html>) on 'Presentation, Preservation, Interpretation: The Challenges of Musical Instrument Collections in the 21st Century'. A special thank goes to the local organisers and to Panagiotis Pouloupoulos who acted as liaison officer between the Board and the organisation.

The Milan meeting was also the occasion to undertake our Board elections, as we always do at the General Assembly which is held every three years, and several members of the previous Board had to step down after having served for the maximum time allowed by our By Laws. The General Assembly warmly thanked Lisbet Torp for the energetic and committed leadership offered over the past six years as CIMCIM President, and Bradley Strauchen-Scherer for her innovative work as CIMCIM Secretary. Special thanks were also given to Eric De Visscher, Golnaz Golsabahi, and Darcy Kuronen, for having served as advisory members of the Board for

two terms.

A new Board was elected for the next three years, and includes Frank Bär (Vice President), Christina Linsenmeyer (Secretary), Patrice Verrier (Treasurer), Alla Bayramova, Giovanni Paolo Di Stefano, Panagiotis Pouloupoulos, Jen Schnitker, Kathleen Wiens, Zhang Xiang (Advisory Members), and myself (President). Furthermore Eric De Visscher, Nataly Emelina and Arnold Myers were coopted by the Board, to support specific tasks. Working together on the development of CIMCIM is a wonderful journey whose enjoyment should not be limited to the members of the Board: I hope that many proposals, ideas and suggestions will come from extended and extensive discussions over the next few years.

To keep in touch with CIMCIM's activities and discussions you can subscribe on the CIMCIM mailing list (cimcim-l@lists.ed.ac.uk) or follow our Facebook page (<https://www.facebook.com/groups/131781248269/>).

Best wishes

Gabriele Rossi Rognoni

Farewell greetings from Lisbet Torp, former CIMCIM President

Dear friends and colleagues,
In July 2016, I retired from the position of President of CIMCIM. After altogether 12 years of official engagement in CIMCIM and ICOM during which you entrusted me with 6 years as Vice-president followed by 6 years as president of CIMCIM, it was time to leave the work to others.

The regular – and necessary – “change of guards” is wisely stated in the CIMCIM Bylaws. Thus, the board and I were pleased to see that so many of you took the opportunity to execute your democratic rights to vote at the triennial elections, hence, taking responsibility for the future of CIMCIM through the elections of officers and advisory members to the new board. Thanks to you, we now have a new energetic board ready to carry on the work and intentions of the previous board.

I want to thank all members of the “old” CIMCIM board, officers and advisory members alike, for excellent, inspiring and joyful collaboration. I likewise wish the new board much energy and inspiration in furthering our mutual field through collaboration within the Board as well with the membership across the world cherishing the fact that the strength of CIMCIM and ICOM lies in the global diversity of its membership and the ability and will to collaborate and reach-out.

More farewell greetings – and yet another change of guards: I take this opportunity to announce that on February 1, 2017, I shall be retiring from my position as Head of Collection of the Danish Music Museum.

Looking back, I am happy to say, that I have truly enjoyed being engaged in the work of CIMCIM and its activities in collaboration with you all. Thank you!

May your future work bring you pleasure and satisfaction in your various museums and collections.

I wish you a Happy New Year, 2017.

*Lisbet Torp
The Danish Music Museum*

Report on RldIM

RldIM is the Répertoire International d'Iconographie Musicale, set up in 1971 to facilitate access to the world's music-related images and provide a service to scholars, and most recently reconstituted in 2012. RldIM has three sister organisations, RISM, RILM and RIPM. The President of RldIM has since 2005 been Prof Dr Antonio Baldassarre of the Lucerne School of Music. Association RldIM maintains partnerships with other international organisations and bodies and these are represented on the Council of Association RldIM by liaison officers. Until he stood down in 2016, the liaison with CIMCIM was undertaken by Gabriele Rossi Rognoni. The CIMCIM Board suggested that I should take over as CIMCIM Liaison Officer in addition to being RldIM Vice-President, and at the most recent RldIM Council meeting this was confirmed for the three-year period to September 2019.

The main task of RldIM is building and maintaining the public database of music iconography, a substantial undertaking involving international collaboration. Data from old repositories has to be migrated as well as fresh cataloguing. The RldIM database can be accessed via www.ridim.org and contributions of catalogue entries are welcomed. RldIM also holds a very successful series of international conferences on musical iconography. The most recent was in St Petersburg in September 2016, and the next RldIM conference will be held in Athens, 5–7 October 2017.

Arnold Myers

MIMO – Musical Instrument Museums Online

MIMO was funded as a project by the European Commission from September 2009 to August 2011. MIMO's main target was to create a single access point to public collections of historical musical instruments and to fill this infrastructure by at least 45,000 entries with at least one standardised image, and as many audio and video examples as possible. Further outcomes were controlled vocabularies for makers, instrument names and places, as well as an integration of the Hornbostel-Sachs thesaurus and multilingual access to the instruments. Data from Eu-

ropean collections are delivered to European, the central access point to the digitised European cultural heritage.

Today, MIMO displays more than 56,000 instruments from 29 collections on its own website and through a thesaurus of instrument names both accessible in nine languages: English, French, Italian, German, Dutch, Swedish, Catalan, Polish, and Chinese. This quantitative and qualitative enhancement was partly possible thanks to a contribution of CIMCIM, which helped to integrate four Polish collections and to integrate the Chinese language in preparation of ongoing joining efforts. Another financial contribution by CIMCIM was spent to enhance the functionality of the MIMO website in creating a surface with responsive design for handheld devices and improved search functionalities, especially by makers' names and listings. This new website is planned to go live on 1st of February 2017.

Since the end of European funding, MIMO has continued to develop, both financially and administratively, through the MIMO partnership of very engaged museums, led by a core management group consisting of the University of Edinburgh (administration), Philharmonie de Paris (IT infrastructure), Musical Instrument Museum Brussels (thesaurus), and Germanisches Nationalmuseum, Nürnberg (digitisation). MIMO's long-term objective is to provide a world-wide access point for musical instrument collections in order to facilitate and encourage research and education by providing high quality data. For this reason, the core management group is in continuous contact with museums all over the world that are interested in joining and has devised a business model for sustainability which will be introduced during CIMCIM's annual meeting in Switzerland in February 2017. Wherever possible, members of MIMO give advice on how to join. For example in April this year, during a workshop, funded by the COST action FP1302 WoodMusICK in Warsaw, Poland, four members of the MIMO consortium gave advice to museums from Europe and the USA. As a result, MIMO member museums report a noticeable increase in public awareness of their collections.

www.mimo-international.com

Frank P. Bär

Madeleine Modin

ICOM GENERAL CONFERENCE & CIMCIM CONFERENCE 2016 Milano and Cremona, Italy (3 – 9 July 2016)

Last year's CIMCIM meeting took part in Milan during the ICOM general conference, hosting more than 3000 participants in Europe's largest congress centre Milano Congressi (MiCo). The CIMCIM group also spent one day on their own in Cremona. The contrasts of hot (32°C outdoor) and cold (the chilly air condition), old (15th century castle Castello Sforzesco at the opening party) and new (ultra-modern congress centre MiCo), were less abrupt in the scope of the nearly 30 papers and one panel presented in the CIMCIM hall of the conference building, that instead offered a continuum of different perspectives and topics forming a contingent whole. A reflection made more than once, is how complementary and enriching the different perspectives from conservators, researchers, curators, pedagogues, collectors, musicians and instrument makers within this group (many of the members representing multiple roles), are for the understanding of the musical instrument museum as a phenomenon. The triggering question, forming the point of departure for my own doctoral thesis in progress, is: What are the motivations for running a musical instrument museum? I have found so many interesting answers to that question during the three CIMCIM conferences I have been to so far. For sure, all possible motivations and purposes are inevitably for the present and the future, as we can no longer make any effects on the past (only the conception of it which changes with contemporary needs). The main theme for this year's CIMCIM meeting was "Musical Instrument Museums: Interpreting the Present" with the assertion that "museums can and should exert a key role in promoting, representing, stimulating and interpreting the present". Several of the speakers had chosen to



Opening of the ICOM General Conference.

point out how a museum of old instruments successfully can use the past to understand, stimulate or vitalise the present. The best outcome of a lesson in history is the perspective, and as a bi-effect the understanding, it gives of the present. The artefacts themselves are a well from where inspiration can be poured and creativity stimulated. Many times, the display of instruments is not sufficient for a revival or development of an instrument, but – as were recurring in several papers – the knowledge held and produced at museum institutions, in collaboration with instrument makers and musicians, has many times been most successful. From the Horniman museum in London and the Museo Fernandez Blanco Art Museum in Buenos Aires, we were told about different kind of concert activities in conjunction with the exhibitions, as examples of how museums can work to stimulate

the present. The programming *Hear it live* at the Horniman, was promoted as a very successful concept, achieved within limited resources, generating collaborations with musicians, composers, musical instrument makers, local arts organisations, music colleges and other musical instrument collections. In the centre of the program operated a Jacob Kirckman harpsichord from 1772, restored to playing condition. History's potential to stimulate the present were also a common theme for other presentations during the first day's paper session. At the Germanisches Nationalmuseum in Nuremberg, the examples of revivals and instrument developments, were taken from a century ago and from the 1960's, with recorders, guitars, lutes and viols. A more recent example came from the Utley Collection of brass instruments at the National Music Museum in Vermil-



CIMCIM panel discussion.



Castello Sforzesco in Milan.

lion, with the new creation 'flumpet' in the 1990's.

The next day's interesting program was dense, with 14 papers plus a panel with 6 individual presentations. The notably high quality of the talks made one follow the sessions with interest until the end of the day.

Many papers dealt with different aspects and strategies of curating, both content and form, including new technologies. Experiences from recent exhibitions (i.e. Hubei Provincial Museum in Hubei) and

exhibitions in the planning (i.e. Metropolitan Museum of Arts, New York), as well as plans for forthcoming museums (Eco-museums of Mechanical Bellows Aeroplanes in Italy) gave a good idea of the present landscape of musical instrument museums. Ethnographic research methods had been used in the curating of both the summer exhibition in Vermillion on "Soldier's musical Arsenal" and for the exhibition on Cremonese luthiery tradition at the Musical Instrument Museum in Phoenix. The conceptualising of the method

used in Phoenix, generated a new set of acronyms, of which FHT (Fundamental Human Truths) was quoted several times at the conference.

Some papers dealt with conservation problems, like the yet far from solved problem of electronic musical instruments, which not only face the problem of being highly chemically unstable, but also often lack documentation of how they are constructed. Another problem is to preserve electronic instruments in playing condition, as the computers they rely upon becomes useless, when the evolution of operating systems renders them unusable. Another topic the third and last day of paper sessions, was new technologies. It was very interesting – and sometimes a bit challenging – to grasp the presented new technologies, that are fairly remote from my own set of knowledge. This was a typical occasion when the strength of the complementary perspectives and personalities the members of this group bring, were recognisable. Developments of the data tomography seem to be very useful for different organological research questions and occurred in several papers throughout the conference. UV-induced fluorescence images and neutron imaging were also presented as revolutionary methods in revealing the mysteries of musical instruments. Guided through the different kind of lavished laboratories full of scientific activities at the Museo del Violino in Cremona the day after, gave us more insights to this aspect of organology.

The lovely day in Cremona was memorable and I think we all felt very welcomed. At the Museo del Violino we, except for the scientific labs already mentioned, were shown the beautiful exhibitions, and was then given a nice concert in the museum's concert hall. A young talented violinist, played well known pieces on the famous Stradivari violin 'Vesuvius' (1727). The museum has managed to include and balance many desirable functions of a music museum; collaborations with instrument makers and scholars, beautiful exhibitions with useful technologies and many objects on display, addressing different kind of visitors. The fact that the Cremonese luthiery tradition still form an important part of contemporary musical life, helps the success. The lunch in the yard was very



CIMCIM at Cremona.



Renato Meucchi receiving a CIMCIM cake at Fernanda Giuliani's private house in Milan.

we went to the town hall to see Paganini's violin "Il Cannone Guarnerius" and Vuillaume's replica of it, on display in the same room (the most copied violin in the world). We also had time for a visit to the Galleria Nazionale di Palazzo Spinola, a 16th-century palace boasting works of the greatest Genovese, Flemish and European artists. The invitation to go to Villa Medici Giulini outside of Milan, was not possible to fit into our dense program, but to see parts of the Fernanda Giulini collection in her private Milanese house Tuesday night, was a great privilege and just amazing.

Finally, I would like to thank the CIMCIM board and the local organisers for a very well managed conference. I'm looking forward to see you again in Bern and Basel in February!

pleasant and most delicious.

After lunch we visited the beautiful Carutti's collection of historical instruments at the Civic Museum. Except for the many precious lutes and mandolins, the beautiful wallpapers and paintings, like the famous 19th Century painting of Stradivarius in his workshop, also formed part of the enjoyable experience.

Back in Milan in the night, CIMCIM's most prominent photographer risked his life for the group photo, running back and forth over the busy road, hoping for the self-timer to go off without a car in front of the camera. I think the result reveals how incredibly much we were all laughing. The social events organised by the ICOM general conference, were many and of high quality. The administration of the huge opening party at Castello Sforzesco, was very impressive and it was great

to mingle with both CIMCIM-people and persons from other ICOM committees. All the exhibitions of the castle were open, and the musical instruments collection was very nice to see. Among the beautiful and interesting instruments, the lovely miniatures were favourites of mine. Other events I attended were a concert in the Dome, a visit to the Last Supper, and finally the closing party at the Triennale's Palazzo dell'Arte.

The many interesting options for the Friday excursions, made it difficult to choose. I am totally happy with the Genoa trip I chose, as our guide was a native art historian with great knowledge, who made a wonderful tour around the well preserved old town of Genoa. The lunch we were all served on the account of the city of Genoa, was just as delicious and generous as an Italian lunch can be. In the afternoon,

Raffaele Pinelli

ICOM GENERAL CONFERENCE & CIMCIM CONFERENCE 2016

Milano and Cremona, Italy (3 – 9 July 2016)

TRAVEL-GRANT REPORT



CIMCIM members visiting Fernanda Giulini's collection.

It is difficult to synthesize in a limited space what happened during the week of work activities. The task is more complex because this year the CIMCIM Committee meeting took place together with that of the ICOM General Conference that welcomed (and concentrated) in Milan over 3000 delegates from around the world. In a way, this coincidence has certainly contributed to make the CIMCIM even more an interesting event. In fact, in addition to promoting meetings with colleagues of the other international committees, the big event offered to each of us the opportunity to meet many realities in a transdisciplinary cultural dimension.

"Great" is certainly the adjective that I can better mention thinking back to what I experienced: the opening ceremony in the Castello Sforzesco, the organization of MiCo (Milano Convention Center), where our assembly took place, and the Museo del Violino of Cremona which generously opened its doors for a wonderful day dedicated to us. Everything was "great". However, the event has been able to offer an authentic cross section of the *Bel-*

paese, showing to many visitors the great beauty that lies in many small places, more or less hidden and unfamiliar to many of those who were there. The Italian organizing committee of our meetings has understood it and, to our surprise, it revealed us the secrets of one of the most fascinating Italian private realities dedicated to the collecting of musical instruments. I refer to the Fernanda Giulini collection, nicknamed by a leading Italian newspaper "our lady of the harpsichord", that hosted us in the music rooms of her home in Milan. I was astonished: into an authentic house museum, she has preserved some fine specimens of ancient keyboard instruments, as well as important ancient and rare books.

The pleasures of our eyes, ear and palate, was joined by those of the minds, thanks to the quality of the papers presented during our conference. The plurality of approaches implemented, represented also by the presence of so many experts from various disciplines, denotes that what is now essential is a convergence of intent in the scientific community. In

fact, the answer to the question of the call for paper "How can instrument museums Promote Innovation?" requires certainly a plural effort that crosses the boundaries of the single disciplines. Collaboration, interdisciplinarity and transculturality, were the key concepts that emerged from the meeting and were expressed, at least in general terms, by most interventions. Among all, I found it useful for my research those of Klaus Martius and Sabine K. Klaus (about different examples of collaboration between researchers, collectors / curators and instrument makers) and that of Guido Raschieri (regarding different methodological approaches used in conceiving the Museo del Paesaggio sonoro of Riva presso Chieri). Without doubt, the best (and concrete) example among the many showed was that of the Museo del Violino of Cremona, probably the youngest among the musical instruments museums members of CIMCIM. Inside of it, in fact, thanks to a polyhedral and integrated management approach, they have involved not only experts in the field of museology and / or organology but also the Cremona's violin makers and scientists of the University of Pavia and of the Politecnico of Milan. Within its spaces, conceived to be used and lived by the public, by the music instrument makers as well as by the specialists, it is possible to discover not only the history of an Italian artisan-artistic excellence, but also to project in the future. In this regard, the presence of two university research laboratories, as well as the organization of several initiatives in its halls, including the Concorso Triennale Internazionale di Liuteria (the International Triennial Competition of Violin Making), makes the Cremona museum an excellence ready for future challenges. I would like to conclude by thanking the CIMCIM and the Italian National Committee for the wonderful organization.

Kathleen Wiens

ICOM GENERAL CONFERENCE & CIMCIM CONFERENCE 2016

Milano and Cremona, Italy (3 – 9 July 2016)

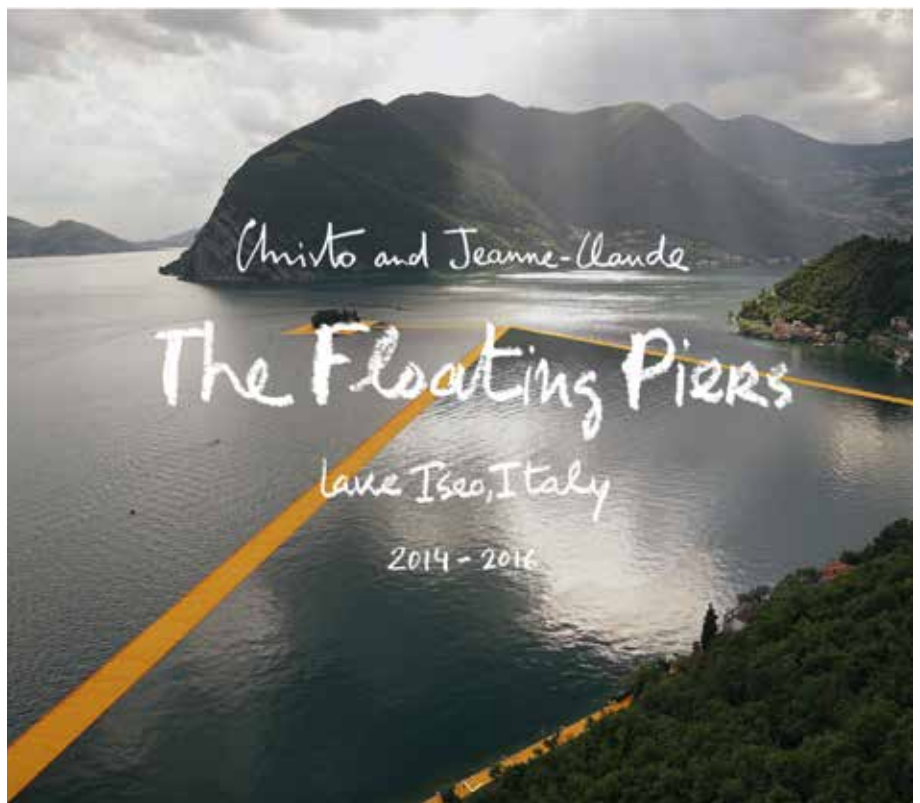
TRAVEL-GRANT REPORT

This year's CIMCIM meeting took place in conjunction with ICOM's 24th General Conference. The Conference brought together museum professionals of diverse backgrounds, and presented an opportunity to access, learn from, and contribute to conversations outside of our typical sphere of influence. After attending talks hosted by CIMCIM and other Committees I noted several instances where concerns and accomplishments of CIMCIM members overlap or diverge from those of other niche interest groups, and places where CIMCIM conversations relate to broader discourses of ICOM. I will utilize this report to point out a few such instances.

The Conference's opening plenary session featured two keynote speakers: Nobel Prize-winning author Orhan Pamuk, and artist Christo (whose collaborative installations with artist Jeanne-Claude have been affixed to public spaces and edifices around the world). Both spoke about problems and successes of creating public projects. Pamuk and Christo differ as to how their creations "work on" the public imagination; Pamuk's work is subtly evocative, Christo and Jeanne-Claude's work is boldly provocative. Despite their different approaches, their final goal is the same. They evoke or provoke imaginative thinking in order for people to gain new perspectives on a particular history, or of their own physical and emotional world. Each speaker articulated a set of challenges for museum professionals. Their challenges have potential implications for museum story-telling and were based on their own contemplations on how projects become meaningful to the public. Pamuk challenged museum professionals to use content to create and present "novels, not epics," and "stories, not histories." These challenges emerge from Pamuk's evoca-



Orhan Pamuk in „The Museum of Innocence“.



„The Floating Piers“ by Christo and Jeanne-Claude.

tive, imaginative novel *The Museum of Innocence* and the subsequent creation of a physical museum (based on the novel) in Istanbul (<http://en.masumiyetmuzesi.org/>). Both historical-fictional-memory projects

were inspired by the aesthetic of minutiae and curio-cabinet museums. Christo and Jeanne-Claude's works are of massive physical proportions and utilize "large brush-stroke" conceptual thinking.

Christo described in some detail the conceptualization and implementation of *The Floating Piers* project on Lake Iseo, Italy (<http://www.thefloatingpiers.com/#introduction>). At one point the artist declared with ease (almost nonchalance) that "the world can live without our projects... they are useless!" A provocative statement, indeed.

"Stories, not histories; novels, not epics."

During our CIMCIM meeting, diverse perspectives were shared on the theme "Interpreting the Present." Several presenters and one round-table of contributors talked about recent projects, with scopes ranging from individual instruments, to gallery-wide display concepts, to thematic exhibitions. Several conversations were framed by the concepts "old" and "new," for example representing historical instruments in new ways, re-interpreting "old" stories in new ways, or challenges of conserving and interpreting "new" instruments. A few of talks alluded to the roles museums could potentially play in the future for non-specialist visitors. These talks demonstrated a turn from the "passive learning" and historical survey-style paradigm towards responding to needs of visitors. Some turns are indicated through

attention to minutiae (such as the potential for storytelling embedded within artistic detailing on an instrument). Some turns were conceptualized by broad brush-stroke thinking (conversations about purpose and high-level themes). The presentations and question-period conversations suggest that there is space and desire for further discussion on shifts towards new paradigms of storytelling.

"The World Can Live Without Our Projects."

Initially, Christo's off-the-cuff statement gave me a moment of pause. I am as guilty as anyone of the occasional misguided thought that my own work is of utmost value to wider society. Would I be brave or humble enough to echo his admission in regards to my own work? If we pursued our work as if purely for the sake of whimsy, would we destine our projects to oblivion, or would we perhaps open up new avenues for curiosity, inspiration, and action?

Two considerations lend nuance to Christo's statement. Firstly, *The Floating Piers*, although an inspired, imaginative project, served a practical role for its local island community (it served as a footbridge for people who otherwise relied on boat transportation). Secondly, Christo

and Jeanne-Claude's projects provoke a curiosity in people that motivates millions of people to engage with their art (the Voice of Fire project in New York's Central Park had over 5 million users). Even if these projects exist solely from a creative impulse, they inspire curiosity and action in millions of people.

People can live without our projects... but they don't want to. They choose not to live without them. The global public looks to museums to enrich and enlighten their daily lives. Do musical instrument and music museums respond to these desires? How are we rising to the challenge? Some CIMCIM presentations indicated shifts away from the paternalistic "knowledge gate-keeping" attitude that once typified attitudes of museums towards their visitors. It seems that there is room for us to grow our understandings of how musical instrument and music museums can capitalize on the public need for an imaginative, exploratory experience. Engaging with professionals from other niche interest groups within ICOM could prove useful to that end; certainly being present for CIMCIM and ICOM conversations provided "food for thought" about the roles we could play for a public that actively seeks out the enrichment and experience that only museums can offer.

MINUTES OF THE CIMCIM GENERAL ASSEMBLY 2016

Milan, MiCo – Milano Congressi (Piazzale Carlo Magno, 1), 6 July 2016, 11.30 – 13.00

Present:

Frank Bär, Alla Bayramova, Margaret Birley, Jurn Buisman, Susana Caldeira, Jorge Cometti, Nusi Lisabilla Estudianti, Heike Fricke, Philippe Adoum Gariam, Roger Hansen, Sheyla Heydarova Gachay, Herbert Heyde, Matthew Hill, Rudolph Hopfner, Cleveland Johnson, Martin Kirnbauer, Sebastian Kirsch, Sabine Klaus, Darcy Kuronen, Tom Lerch, Christina Linsenmeyer, Wiebke Lüders, Leila Makarius, Marco Malagodi, Emanuele Marconi, Marie Martens, Darryl Martin, Katharina Menzel, Atsushi Miki, Safano Moctar, Madeleine Modin, Arnold Myers, Jolien Paeshuys, Panagiotis Pouloupoulos, Gabriele Rossi Rognoni,

Kazuhiko Shima, Marlowe Sigal, Davide Stefani, Giovanni Paolo di Stefano, Lucia Maria Letizia Stratteri, Bradley Strauchen-Scherer, Lisbet Torp, Patrice Verrier, Dunya Vezweg, Eric de Visscher, Mimi Waitzman, Kathleen Wiens

President's triennial report

CIMCIM president Lisbet Torp presented the following report:

Conferences:

3 years have passed since CIMCIM met in Oxford upon invitation from the Galpin Society to join their annual conference. With Andy Lamb as our local host we spent some rewarding days in the facilities the Faculty of Music and with direct access to the Bate collection. That was in 2013.

One year later, in August 2014, CIMCIM toured Scandinavia visiting music museums and collections in Stockholm, Turku, Copenhagen and Trondheim. Travelling together is an excellent opportunity to exchange ideas and discuss everyday challenges in our mutual field. And so we did for more than a week with the local hosts offering their very best to satisfy and entertain their CIMCIM colleagues.

Last year, the time had come for CIMCIM to visit Russia starting in Moscow and moving onwards to St. Petersburg. The Glinka National Consortium together with the State Museum of Theatre and Music had prepared a rich program covering both our professional needs as well as our social needs. Mikhail Bryzgalov hovered over

the conference as the driving force and together with Nataliya Emelina made sure that every detail was attended to.

Over the last 3 years we have covered such important themes as:

Musical Instruments – History, Science and Culture (Oxford); Collectors at Music Museums – Reasons and Means (Scandinavia); Performers and Performance in a Museum Environment (Russia). And this year in Milan, we are gathered to discuss Musical Instrument Museums: Interpreting the Present and a variety of other interesting themes organized by Museo del Violino, together with our program committees under the umbrella of the main theme of the triennial ICOM conference: Museums and Cultural Landscapes. Aren't we lucky, being blessed with CIMCIM colleagues and their institutions taking pride in organizing such amazing events?

CIMCIM in between conferences:

You may ask what the Board does in between conferences, apart from attending to their everyday obligations. The answer is that most of the activities unfold around the annual CIMCIM conferences and the work related to these conferences. In addition hereto, there is quite some activity at the beginning of January getting the annual Activity and Financial Reports ready for submission to ICOM in time, which is a condition for receiving the full annual subsidy.

However, the CIMCIM President and, as far as possible, members of the Executive Board attend the annual ICOM conferences in Paris in June. These meetings provide an excellent opportunity for board members to meet in person rather than the numerous exchanges of emails and – more seldom – Skype-sessions, and to meet members of other International Committees. It should also be mentioned that the Treasurer is in regular contact with the ICOM Secretariat in Paris regarding both membership development and financial matters.

Thanks to our membership, CIMCIM is in close collaboration with projects and organisations such as:

MIMO (Musical Instrument Museums Online)

Since the GA in 2015, four collections in Poland have joined via the Institute for Music and Dance in Warsaw. In addition hereto, also the Rijksmuseum Amsterdam have joined MIMO. Thus, today MIMO encompasses altogether 29 collections worldwide, incl. almost 60,000 instruments, thesaurus and web-surface in 9 languages. New languages since 2015 are Polish and Chinese. In 2015, 3,000 € donated by CIMCIM were used for the purpose of integrating Chinese and Polish thesauri and Polish collections in MIMO.

RldIM (Repertoire International d'Iconographie Musicale – Repertoire of Musical Iconography)

For the past two years, CIMCIM's vice-president who is appointed liaison to RldIM has been unable to attend the annual meetings of RldIM. This is partly due to last-minute changes of place and date (2014), and partly due to the expenses involved in attending the meeting in OHIO (2015) which would have affected CIMCIM's financial resources. In acknowledgment of this situation, CIMCIM-member Arnold Meyers, Vice-president of RldIM, has agreed to represent CIMCIM in RldIM matters according to the wish of the CIMCIM Board.

COST (Wooden Musical Instrument Conservation and Knowledge); **MUSICES** (Musical Instrument-Computed Tomography Examination Standard); the **Galpin Society**; and **AMIS** (The American Musicological Instrument Society)

Other activities /Actions taken

Those of you who attended last years' GA in Russia may recall that the Board put forward a petition in support of the Sammlung Alte Musikinstrumente in Vienna as a response to the plans from the Bundesamt to remove the collection from its present location at the Museum of Fine Art in Neue Burg to accommodate a "Haus der Geschichte Österreichs" (House of Austrian History) in its place. The members present signed the petition which was sent off the Austrian Bundesminister on July 2 during the conference.

The response from Vienna arrived at the end of October. Let me just read to you the part that addresses our concerns:

'As you, I am also of the opinion that nature and heritage of the musical instrument collection is a perfect fit for the rooms of the Neue Burg. Let me assure you that the planned movement of a part of the collection from the first floor of the Neue Burg to another one will neither bring a change in the stable and protected environment concerning climate and humidity for the historical instruments, nor in the possibility to organize performances and concerts in the historical rooms of the current location.'

In the response from Vienna, we are also assured that the playable instruments will be maintained in playing condition.

CIMCIM Membership

Current membership figures are as follows: Individual 150; Institutional 25. Individual membership has increased by 30 new members since the previous year. The number of CIMCIM subscribers has been decreasing. This category of membership will be eliminated for those who are eligible to join ICOM. An increase in the subscriber annual dues from € 24 to € 40 was proposed.

Financial report

The subsidy received by CIMCIM from ICOM represents CIMCIM's main source of funding. It increased from € 3,900 in 2015 to € 4,258 in 2016. For further info, see Treasurer's Report.

Budget 2016/2017

For further info, see Treasurer's Report.

Future CIMCIM meetings

Future CIMCIM meetings will be held as follows:

2017: Bern & Basel, Switzerland, 22-25 February

2018: China, in collaboration with the Hubei Provincial Museum, April, specific dates to be announced

2019: Kyoto, Japan, to be held in conjunction with the ICOM triennial conference



The passing CIMCIM Executive and Advisory Board:

Bradley Strauchen-Scherer, Darcy Kuronen, Eric de Visscher, Lisbet Torp, Alla Bayramova, Gabriele Rossi Rognoni, Frank Bär, Patrice Verrier.

CIMCIM publications

Publication of the CIMCIM Bulletin has been reduced to one issue per year because of lack of contributions from members. The Bulletin depends on member contributions to be a lively and timely publication. News of exhibitions, projects, new acquisitions, etc. are vital.

Website

Funds of € 4,000 have been earmarked for the upgrade of the CIMCIM website within the framework provided by ICOM. The Secretary stressed that the website project needs its own dedicated officer or working group both to carry out the upgrade and to keep the site up-to-date. She recommended that a consultation be undertaken with CIMCIM's membership to help to determine the features and content of the new website.

Current working groups

The following working groups are currently active and reported on their activities:

Classification, Margaret Birley, chair:

The CIMCIM Working Group for classification aims to create and maintain a bibliography of new sources which deal with issues relating to the classification of musical instruments. The working group

makes critical analyses, with the ultimate aim of producing at some future date another revision of the MIMO Hornbostel Sachs classification that is hosted by the CIMCIM website. Work on addenda for the classification during the current year has included a proposal for a new class of chamber-duct flutes. These Meso-American flutes were discussed in Roderic Knight's article 'Classification' in the Galpin Society Journal 69 (2016) pp17-20, and a variety of them were described in an article entitled 'Complex acoustics in Pre-Columbian flute systems' by Susan Rawcliffe published in in 1992 in Carole E. Robertson ed., Musical Repercussions of 1492 (Washington, DC: Smithsonian Institution Press) pp. 35-63. This proposal and other subjects that the working group has been considering will be circulated to CIMCIM members later on this year. In the meantime I would like to request the CIMCIM board for the provision of an additional web-page on the CIMCIM website where agreed addenda to the MIMO Hornbostel Sachs classification could be published, together with work in progress.

Sigla, Arnold Myers, chair:

A small number of corrections, updates and additions have been made to the list of sigla for musical instrument collections

maintained online at <http://homepages.ed.ac.uk/am/iws.html>. New entries are made, where appropriate, in step with the RISM sigla resource. Maintenance is an ongoing process, and any further amendments should be notified to Arnold Myers, am@ed.ac.uk

Conservation, Mimi Waitzman and Susana Caldeira:

There is much interest in CIMCIM from non-specialist conservators tasked with working with musical instruments and that CIMCIM members often do not have access to specialist conservation expertise. Waitzman and Caldeira are working to establish a mechanism for interdisciplinary exchange.

Suggestions for new working groups

No suggestions for new working groups were received from CIMCIM members. It was acknowledged that better support for CIMCIM working groups is needed and that an advisory committee member should be nominated to do this. The board discussed that ethnomusicology and archaeological instruments were two areas that could be served by a working group.

CIMCIM elections 2016

For the first time, CIMCIM members were able to vote electronically for the board. A survey monkey ballot was used for this purpose. This resulted in the highest number of votes cast in a CIMCIM election. The returned ballots were scrutinized by board members Darcy Kuronen and Eric de Visscher. Voters had the opportunity to vote for nominated candidates or to express that they did not support any of the named candidates by voting 'none'.

The results were as follows:

President: 83 votes cast: 79 Gabriele Rossi Rognoni; 4 none
Vice President: 82 votes cast: Frank Baer 43; Bradley Strauchen Scherer 37; none 2
Secretary: 82 votes cast: Christina Linsenmeyer 46; Mimi Waitzman 34; none 2
Treasurer: 82 votes cast: Patrice Verrier 80; none 2

All candidates nominated for the Advisory Board were elected.



*New Executive and Advisory Board of CIMCIM:
Kathleen Wiens, Christina Linsmeyer, Panagiotis Pouloupoulos, Gabriele Rissi-Rognoni, Alla Bayramova, Frank Bär, Giovanni Paolo di Stefano, Patrice Verrier.*

The new Executive and Advisory Board is as follows

President: Gabriele Rossi Rognoni

Vice President: Frank Baer

Secretary: Christina Linsmeyer

Treasurer: Patrice Verrier

Advisory Board:

Xiang Zhang, Kathleen Wiens, Giovanni Paolo di Stefano, Jennifer Schnitker, Panagiotis Pouloupoulos, Alla Bayramova

Elections will be held again in 2019

Any other business

It was announced that Miguel Zenker is working to raise money for a new musical instruments study facility in Mexico City.

The outgoing secretary offered to serve the incoming board as an advisory member for the planning of the 2018 China

conference to continue the work and relationship with Hubei Provincial Museum and the Committee of Chinese Musical Instrument Museums and Collections that she initiated on her 2014 trip to Hubei. This proposal was supported by the outgoing board.

The President reported that CIMCIM had successfully appealed to the United States Citizenship and Immigration Service to grant a work permit so that a European musical instruments conservator could take up a post in the US.

Laurence Libin had approached CIMCIM to ask if it would issue a proclamation urging preservation and care of historical pipe organs in churches. While CIMCIM supports work to preserve these instruments, the board felt there is no history of CIMCIM

issuing proclamations and that organs housed in churches fall outside of the remit of CIMCIM.

Rudolph Hopfner addressed the board on the current situation at the Sammlung alter Musikinstrumente in Vienna. Rudolph Hopfner reported on 28 October 2016 that the threat of closure and relocation of the SAM has been averted and expressed thanks to CIMCIM colleagues for their support.

The floor moved to offer thanks to outgoing board members Lisbet Torp, President, and Bradley Strauchen, Secretary.

SOME REMARKS ON CHANCES AND CHALLENGES OF COMPUTED TOMOGRAPHY OF MUSICAL INSTRUMENTS THE »MUSICES« PROJECT

Sebastian Kirsch¹, Frank Bär¹, Theobald Fuchs², Christian Kretzer², Markus Raquet¹, Gabriele Scholz², Rebecca Wagner², Sarah Wagner¹, Meike Wolters-Rosbach¹
(¹ Germanisches Nationalmuseum, Kar-täusergasse 1, 90402 Nürnberg, Germany
² Fraunhofer Development Center of X-ray Technology EZRT, Flugplatzstraße 75, 90768 Fürth, Germany)

X-ray computed tomography as a method for the examination of cultural heritage, in this case for musical instruments, has found its place in the scientific spectrum of non-destructive imaging techniques¹. First catalogues are published in which the insights by this powerful method play an important role for documentation² and cast new light on particular groups of instruments. The MUSICES-project is about to define a standard on industrial computed tomography for musical instruments in order to make the results of this technique

¹ Sirr, S. A., Waddle, J. R.: *Use of CT in Detection of Internal Damage and Repair and Determination of Authenticity in High-Quality Bowed Stringed Instruments*, *RadioGraphics* 19 (1999), pp. 639–646; Stoel, B. C., Borman, T. M.: *A Comparison of Wood Density between Classical Cremonese and Modern Violins*, *PLoS ONE* 3 (2008), pp. 2554; Borman, T., Stoel, B.: *Review of the Uses of Computed Tomography for Analyzing Instruments of the Violin Family with a Focus on the Future*, *J. Violin Soc. Am.: VSA Papers* 22 (2009), pp. 1–12; Kirsch, S., Wagner, S. et al.: „The MUSICES-Project: Towards a Standard for 3D-computed Tomography of Musical Instruments.“ In: *Analysis and Characterisation of Wooden Cultural Heritage by Scientific Engineering Methods*. Michael Kaliske, Daniel Konpka, Clemens Brinbaum, Kilian Anheuser (eds.), 2016, pp.131–140

² Darmstädter, B. (ed.): *Die Zinken und der Serpent der Sammlung Alter Musikinstrumente / Kunsthistorisches Museum, Sammlung Alter Musikinstrumente*, Vienna 2011; Darmstädter, B.: (ed.): *Die Krummhörner und die Windkapsel-schalmei*, Vienna 2015; Rossi Rognoni, G. (ed.): *The Conservatorio "Luigi Cherubini" Collection Bowed Stringed Instruments and Bows*, Floren-

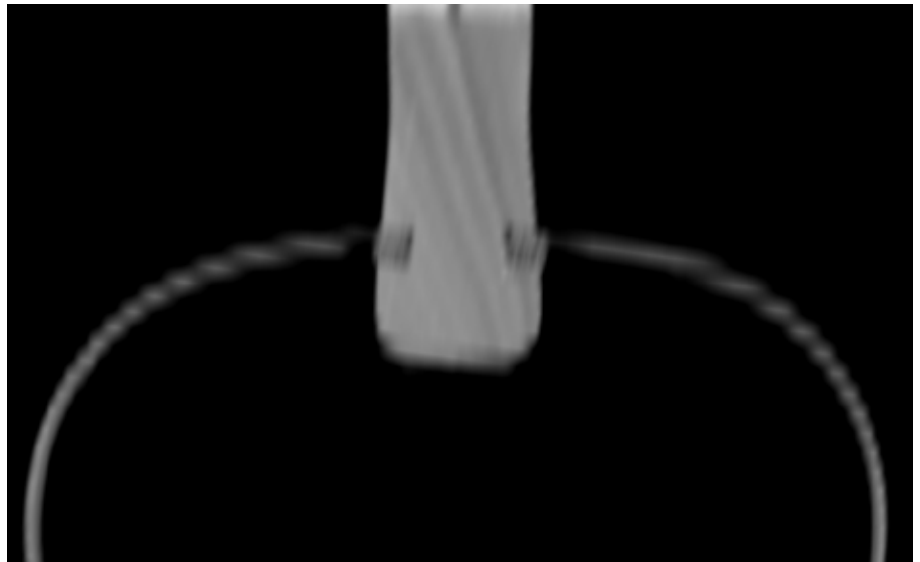


Fig. 1: A cross section of the neck of a viola pomposa (GNM, Inv. Nr. MIR 836). The joint of the ribs and the neck can be seen. Medical scan, resolution: 400 µm

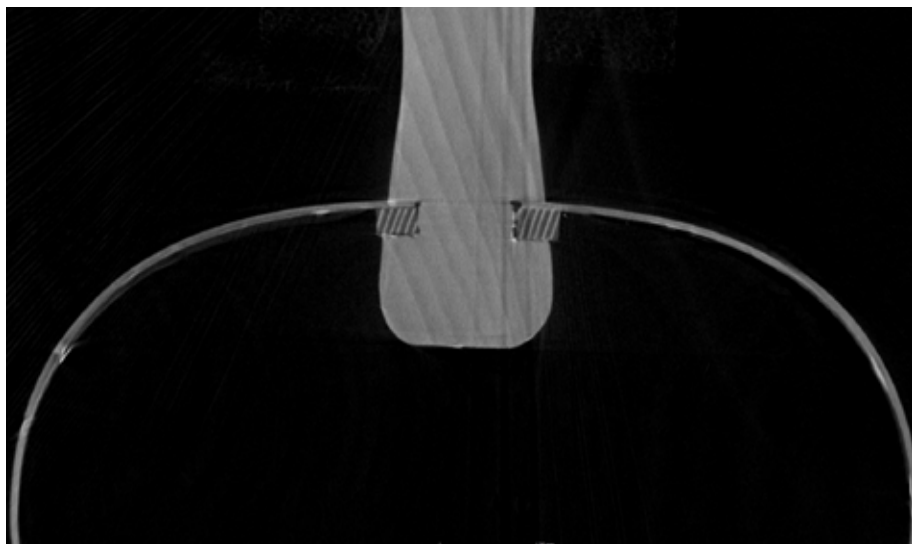


Fig. 2: Same cross section as Fig.1, industrial scan, resolution 114 µm, more detailed information about joining technique and wood direction

comparable³. Therefore, over 100 different musical instruments are scanned, which gives the opportunity to gather experience about the capabilities of this tech-

³ MUSICES (MUSical Instrument Computed tomography Examination Standard) is a joint research project of the Germanisches Nationalmuseum, Nuremberg, Germany and the Fraunhofer Development Center of X-ray Technology EZRT, Fürth, Germany and is funded by the German Research Association (DFG).

nique, but also about the challenges. Some of the results of this project shall be presented in this paper.

Industrial computed tomography is still not always accessible and not cheap. What are the advantages of using this technique and what should a scientist, conservator, curator or instrument maker know about resolution, object size, data volume and processing?

Resolution

If one decides to induce a computed tomography of an instrument, one has some specific issue which determines the effort and the choice of the setting. Since the development of this technique, the most popular use of this technique was in the medical sector. The first 3D-CT-images of musical instruments were made with medical scanners⁴ and still today some examinations are made with this type of scanner due to their easy accessibility. Medical scanners are designed to scan human bodies (containing muscles and bones) and differ in several details from industrial devices. Detector and X-ray-source are rotating around the human body in a tube in a fixed distance. The spatial resolution with this setting is more or less fixed to about 400 μm . This image quality provides insights in some basic constructive features, but not into further details (Fig.1). For the examination of many scientific issues on musical instruments, a resolution of 100 μm or better is required. This resolution can be achieved with industrial X-ray computed tomography (Fig.2). With this image quality, measurements can be made on otherwise inaccessible locations with high precision, sections of, for example, a top plate of a violin can be used for dendrochronological analysis (Fig. 3) and details like repairs and tool-marks can be distinguished.

Material and mounting

X-rays are attenuated by material. Therefore, material density and thickness play an important role for the selection of the setup. Wooden instruments can be transmitted by lower X-ray energies than

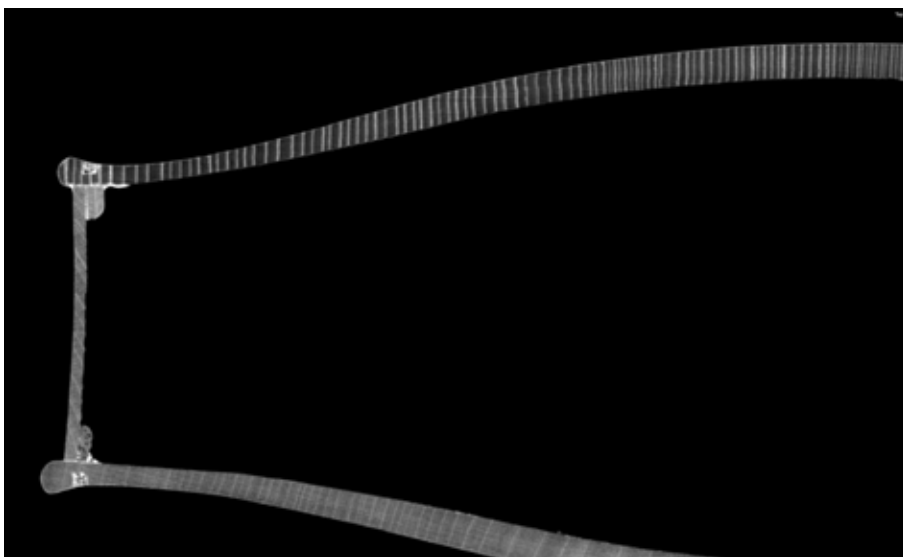


Fig. 3: Cross section of a violin (GNM, Inv. Nr. MI 419), different wood species for the can be distinguished (resolution 50 μm).

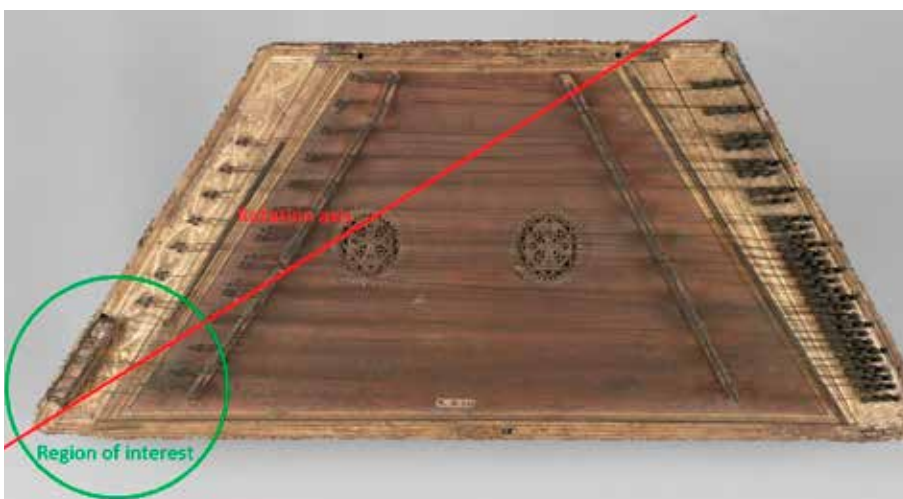


Fig. 4: The dulcimer (GNM, Inv. Nr. MI 249) had to be positioned in a certain angle to avoid artifacts.

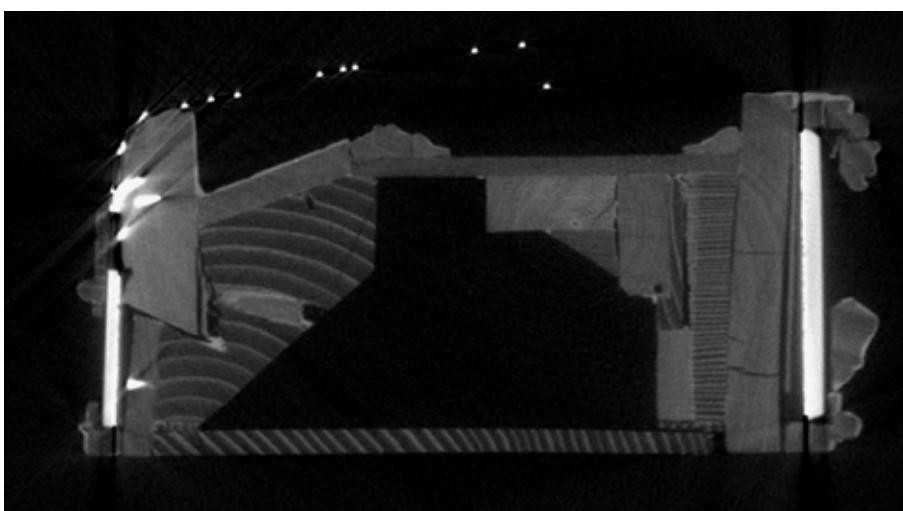


Fig. 5: The construction of the later added bass attachment of the dulcimer (GNM, Inv. Nr. MI 249) can be seen in a cross section of the region of interest.

⁴ Martius, K.: *Computertomographie und ihr Einsatz in der Dokumentation von Musikinstrumenten*. Arbeitsblätter für Restauratoren, Gruppe 13 Musikinstrumente 1 (1992), pp. 138–143

for example brass instruments. For the examination of wooden instruments the best image quality can be achieved with lower energies around 150 kV up to 225 kV. For the examination of very dense materials like brass instruments or sections of instruments with a high amount of metal parts like the bass section of a dulcimer

(Fig. 4,5), we use high energies up to 600 kV. Since musical instruments often consist of materials with highly differing densities, the choice of the appropriate energy is a challenge. Metal parts like a nail in the neck of a violin can cause strong image errors, called artifacts (Fig. 6). Mostly these metal parts cannot be removed due

to conservational reasons. To avoid these artifacts, a filtered spectrum can be used and instruments have to be positioned in the beam in a way that avoids long transmitted distances. In case of the dulcimer, we calculated an angled position in which the nails of the bass attachment are not positioned in a row, so the total transmitted distance of the metal parts are relatively low. A slightly angled position can help to reduce artifacts for example when there are metal rings, frets in a fingerboard or pegs. In the MUSICES-project we used also simulation programs to calculate the best angle for the measurement of brass instruments⁵. Another approach of the project is to combine measurements with two different spectra⁶. This method can enhance the image quality of sections with metal parts like the key of a clarinet (Fig. 7 a-c).

When positioning the object, there are two things to consider. First, the object should be placed as stable as possible. For most instruments we use a wooden ground plate to which an acrylic glass tube can be attached on different positions. To this tube we can fasten objects with different geometries (Fig. 8). The stability is an important issue. If the object moves, the images will represent two objects at different positions and double structures will be the result. Second, the mounting should be as small as possible. Every added material will increase the volume to be scanned and thus decrease the best possible magnification i.e. resolution and also attenuate the X-rays.

Size of instruments and data sets

In industrial CT-devices the object is fixed on a rotation table between source and detector. Today, the most common type of detector is a flat panel and with a size of 40 cm x 40 cm. Objects smaller than this can be fully depicted on this plane. For

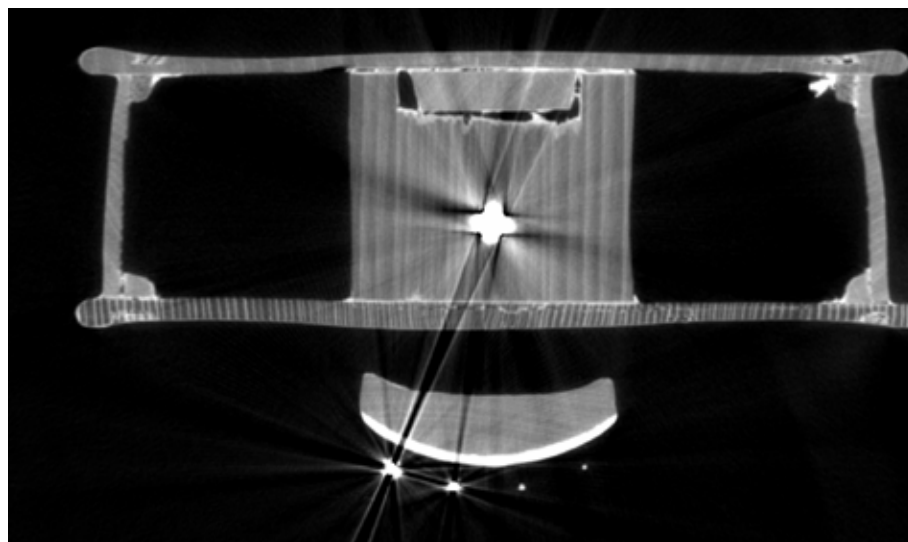


Fig. 6: Cross section of a violin (GNM, Inv. Nr. MI 419), the nail in the upper block and the wounded strings causing image errors.

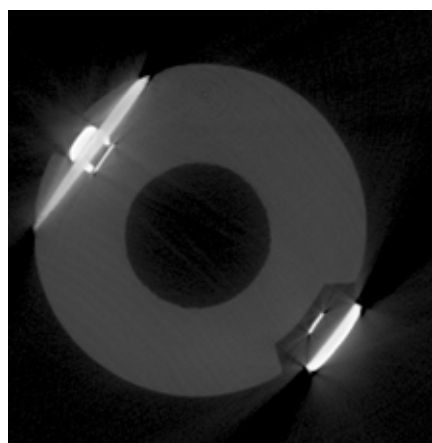
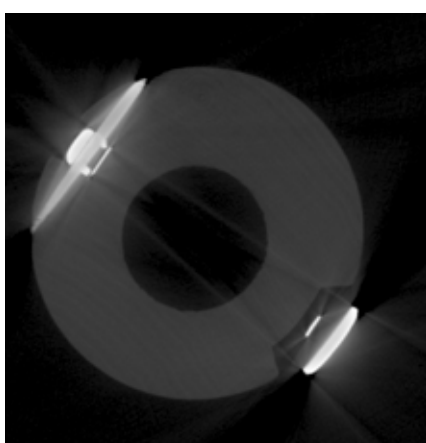
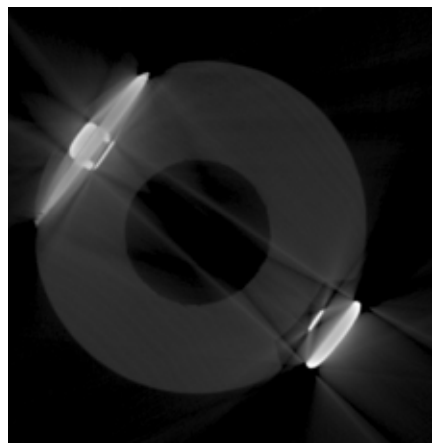


Fig. 7a (left): Cross section of a clarinet by Jacob Denner (GNM, Inv. Nr. MI 149) using one spectrum.

7b (right): Same cross section with using a different spectrum.

7c (below): Result of the combined images of the two spectra.

⁵ Schielein, R.; Scholz, G.; Kretzer, C.; Fuchs, T.; Kasperl, S.; Bär, F.; Kirsch, S.; Zepf, M.; Wolters-Rosbach, M.: 'The MUSICES Project: Simulative automated CT acquisition planning for historical brass instruments improves image quality.' 6th Conference on Industrial Computed Tomography (iCT) 2016, Wels: Proceedings.

⁶ Yu, L.; Leng, S.; McCollough, C. H.: „Dual-Energy CT-Based Monochromatic Imaging", *American Journal of Roentgenology* 199 (2012), pp. 9–15

bigger objects or in order to have a larger magnification, the detector can be moved upwards and sideways. Since computed tomography generates volume data, it is easy to imagine that, for a given resolution, the scan of a big instrument will produce a big amount of data. One rotation on the turntable will produce 1200 to 2400 single images. If the detector has to be moved once, the amount of images but also of scanning time and x-ray-dose is doubled. The single images (raw data) will be transformed by special algorithms to the 3D-data set, which are called reconstructions.

For a small instrument, like a violin or a recorder, the detector can be moved during the rotation of the turntable (helix-process). For broader instruments the extension of the field of view has to be done also horizontally. In the special case of a big bass viola da gamba by Hanns Vogel (Nuremberg 1563, Inv. Nr. MI 5) we had to do extend the field of view on the horizontal level for the body three times and two times for the neck (Fig. 9 a-b) in order to achieve the demanded best possible resolution.

Of course there is not always a need to scan the whole instrument. If there is a specific issue on just one part, only this section (volume of interest) can be scanned, mostly faster and in a higher resolution compared to a scan of the entire object (Fig. 10a-b). There are several regions of a special interest in musical instruments such as the area around a tone hole of wind instruments, connecting parts (corner joints, upper block, tenon etc.) or details on the surface, traces of tools, damages or parts carrying additional information like the annual rings of wood which can be used for dendrochronological dating. It is not always necessary that the entire instrument is fully depicted on the detector during the whole rotation. Using e.g. the so called Hilbert-reconstruction [7], it is also possible to depict truncated parts (Fig. 11).



Fig. 8: Mounting of a wooden trumpet (GNM, Inv. Nr. MIR 100) on the turn table.

Data format, processing and meta data

In the MUSICES-project, we decided to use DICOM as data format. DICOM is a non-proprietary medical data standard and can be processed by several software applications including a lot of freeware. Other data formats are depending on specific software and their usability in future is not ensured. Due to the standards on long term archiving of medical patient data, the DICOM format ensures long term usability.

The data sets are quite big and strong computational power is needed to process the reconstructions. The scan of an entire violin (including neck in a spatial resolu-

tion of 90 μm) can cause a size of ca. 60 GB, an entire lute (resolution 120 μm) already 90 GB. For viewing the data sets, it is always possible to load just a part of the volume to decrease the size.

The quality of the X-ray image is characterized by the technique which is used, i.e. the source (current and energy), filter, detector, exposure time, reconstruction algorithm etc. Technical standards demand that all these parameters are documented in order to estimate the image quality and to make all scans replicable. We use a database called WissKi, which was devel-

⁸ <http://wiss-ki.eu/>

⁷ Defrise, M.; Noo, F.; Clackdoyle, R.; Hiroyuki, K.: *Truncated Hilbert transform and image reconstruction from limited tomographic data*, *Inverse Problems* 22 (2006), pp. 1037

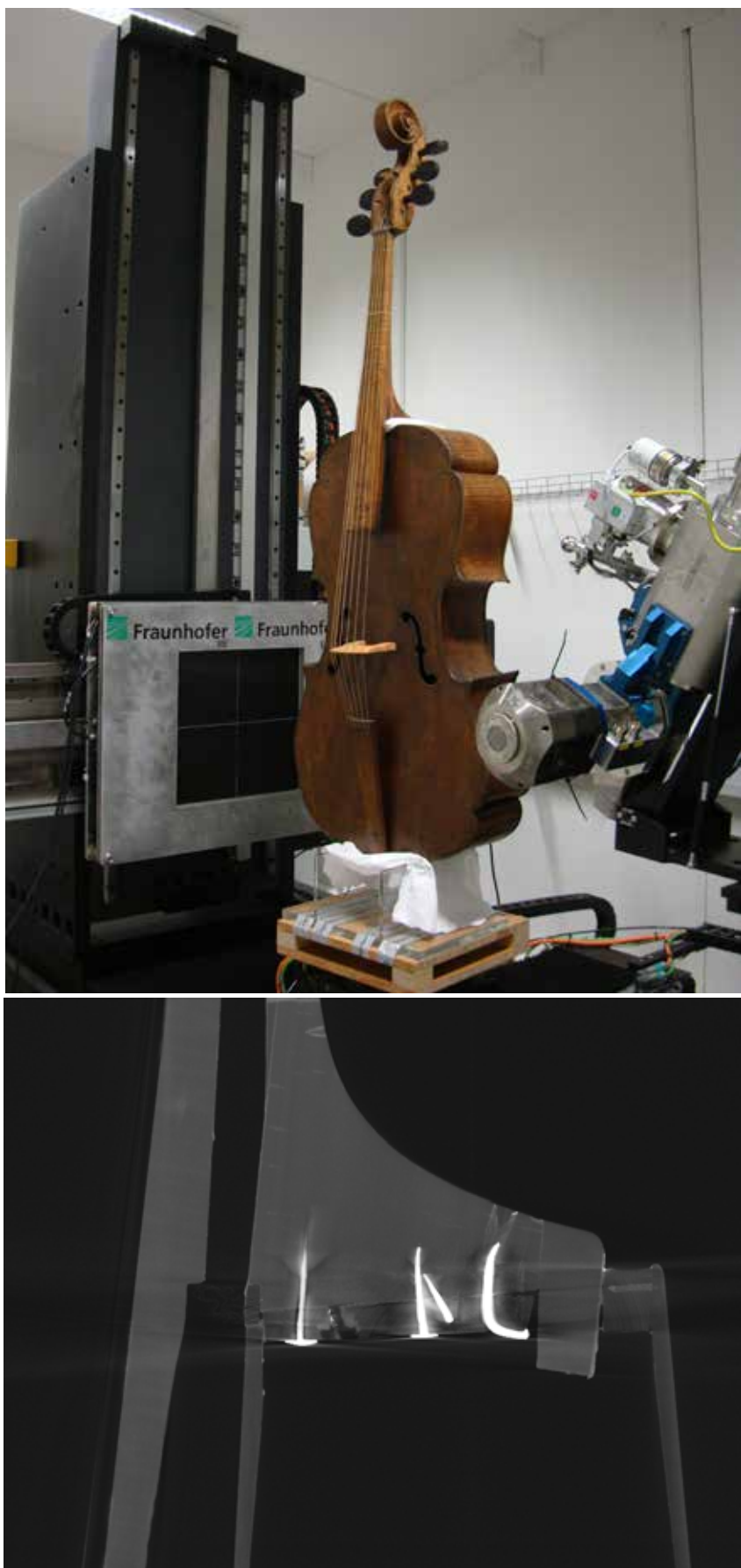


Fig. 9: Mounting of a big bass viola da gamba (GNM, Inv. Nr. MI 5), the detector has to be moved in vertical and in horizontal direction to depict the entire instrument. Below: Cross section of the neck block of the big bass viola da gamba (GNM, Inv. Nr. MI 5).

oped at the Germanisches Nationalmuseum⁸. All entering fields are defined by the CIDOC-CRM-standard⁹ which will be connected with the datasets in a bijective way. Hereby all information is bound to the actual data set.

Results and Evaluations

Computed tomography is a powerful technique to examine musical instruments. A lot of information about the producing process, the history of the instruments (alterations, repairs) and the state of conservation (hidden cracks, wood structure) can be gained. But there are some physical constraints that have to be considered. That metal parts will produce image errors and that big object in a high resolution will cause big data volumes are simple facts. One of the most demanded features of 3D-X-ray-images is the possibility to perform measurements at otherwise inaccessible areas. To assure exact measurements, we add in every scan a ball bar, the length of which is determined with high precision tactile methods, that can be used as a reference. In this way non-invasive measurements of the inner bore of wind and brass instruments or the bracing of a lute belly can be undertaken. Other applications can be the use of the surface data for 3D-printing, CNC-technology, morphological or acoustical analyses (Fig.12).

When the MUSICES-project will end in October 2017 a standard paper on 3D-computed tomography of musical instruments will be presented, which includes description of technical parameters and practical information on conservation measurements, mounting, but also on data handling. All results and meta data will be accessible via the database and future measurement campaigns can draw back on these outcomes. ▶▶

⁹ The CIDOC Conceptual Reference Model (CRM) was invented by the ICOM Documentation Standards Working Group and CIDOC CRM SIG. It provides a semantic and formal structure for describing the implicit and explicit concepts and relationships used in cultural heritage documentation (ISO 21127:2014)

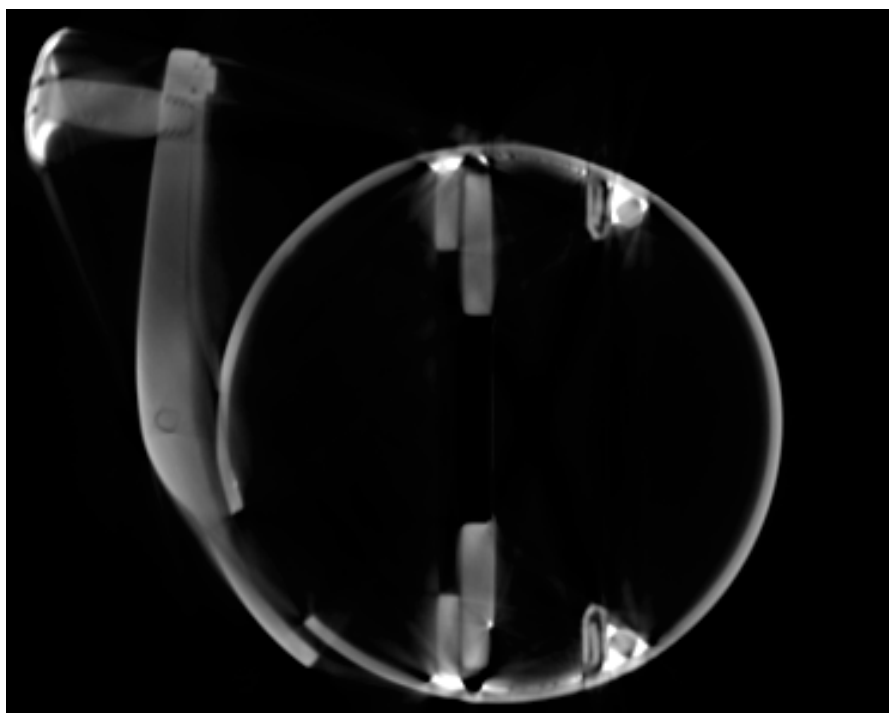


Fig. 10: Harmonica in shape of a flageolet (GNM, Inv. Nr. MIR 1041). The interesting inner structure of the instrument cannot be seen in the images made of the entire instrument (resolution 175 μm).

A higher resolution (65 μm) of a volume of interest can show the construction details.

Figure references:

Fig.1-3: Fraunhofer EZRT/Germanisches Nationalmuseum

Fig. 4: Germanisches Nationalmuseum / Günther Kühnel

Fig. 5-9: Fraunhofer EZRT/Germanisches Nationalmuseum

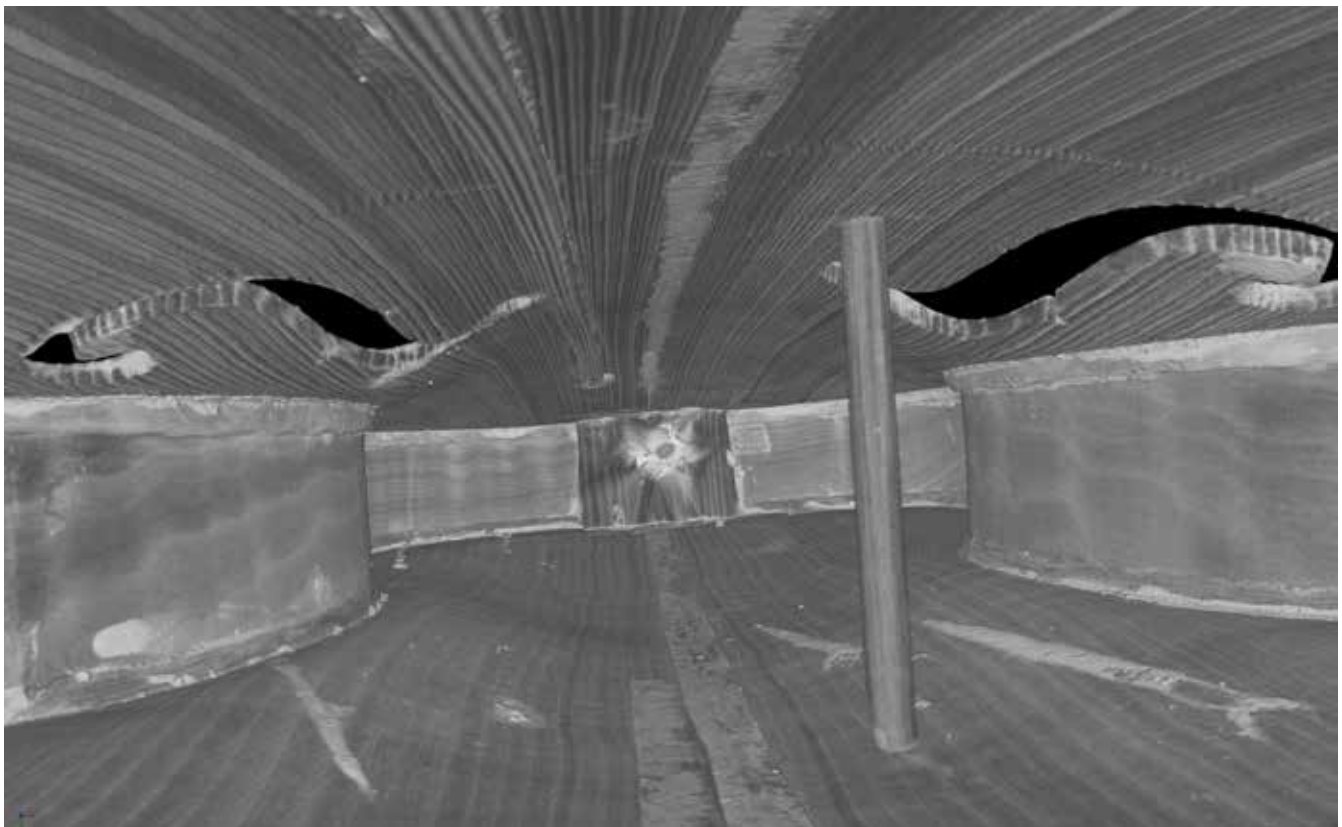
Fig. 10a : Germanisches Nationalmuseum / Günther Kühnel

Fig. 10a-12: Fraunhofer EZRT/Germanisches Nationalmuseum



Fig. 11 (left): A truncated part of a violin (GNM, Inv. Nr. MI 419) reconstructed with the Hilbert-method.

Fig. 12 (below): 3D-View inside a violin (GNM, Inv. Nr. MI 419).



Rudolf Hopfner, Collection of Historic Musical Instruments, Vienna

NEW INSIGHTS BY MEANS OF HIGH-RESOLUTION COMPUTED TOMOGRAPHY

For museums curators, the examination and documentation of historic musical instruments by means of computed tomography (CT- or CAT-scan) has become more and more important. Over the last years several studies based on scans performed with medical CT scanning equipment have been published. However, these scanners have limitations owing to their special application area. Short acquisition time and a minimum of radiation dose are paramount in this field. In contrast, in organology the emphasis has to lie on high resolution whereas acquisition time and radiation dose are less critical criteria. For this reason, for our purpose, technical CT scanners with a resolution of up to 10 microns are preferable. This so-called micro CT-scanning technique opens new doors for the study of the structure, the interior construction, of alterations and sometimes of the history of musical instruments.¹ It is a fair assumption that in the years to come, this technique, which exposes the instruments to no mechanical or climatic stress, will become an increasingly important tool for the examination of historical musical instruments.

In 2013 the Collection of Historic Musical Instruments at the Kunsthistorisches Museum in Vienna has started a cooperation with the Core Facility for Micro-Computed Tomography at the University of Vienna.² This lab runs a custom-made, high resolu-



Illustration 1.

tion CT scanner³ with a gantry, big enough to accommodate a violin. To acquire the full length of a violin body the scanner has to work in spiral mode. A complete scan results in around 6,500 single X-ray images taken at 1440 different angles. Employing special software,⁴ the raw data has to be reconstructed as a stack of around 4000 individual slices comprising 16,384 grey values. These slices have one of the usual image formats, typically TIFF or DICOM and are the starting point for the visualizations discussed below.

From the researcher's point of view, every examination with computed tomography falls into three independent procedures:

1. Data acquisition:

The first stage of the procedure concerns primarily the technician operation the scanner and has to do with the control of the energy of the X-ray tube, the exposure time and the use of certain filters. The curator's role limits itself on the control of the climatic condition in the scanner room and the provision of a suitable mount for the instrument. This device of course has to meet all the conservation requirements and has to be very stable (Illustration 1). Even tiny movements of the item during the scanning process (which can take several hours) can result in a local loss of sharpness or even in blurred images. The material of the mount has to have a low attenuation value for X-rays, otherwise unwanted artefacts may occur.

¹ Two recently published catalogues of wind instruments from the Collection of Historic Musical Instruments are based on μ CT scans: Beatrix Darmstädter, *Die Zinken und der Serpent der Sammlung alter Musikinstrumente*, Bergkirchen, 2011, and B. Darmstädter, *Die Krummhörner und die Windkapselschalmel aus der Sammlung alter Musikinstrumente*, Vienna, 2015.

² Vienna Micro-CT Lab, head: Dr. Gerhard Weber.

³ Viscom X8060 II μ CT scanner.

⁴ Viscom XVR-CT 1.07 software.

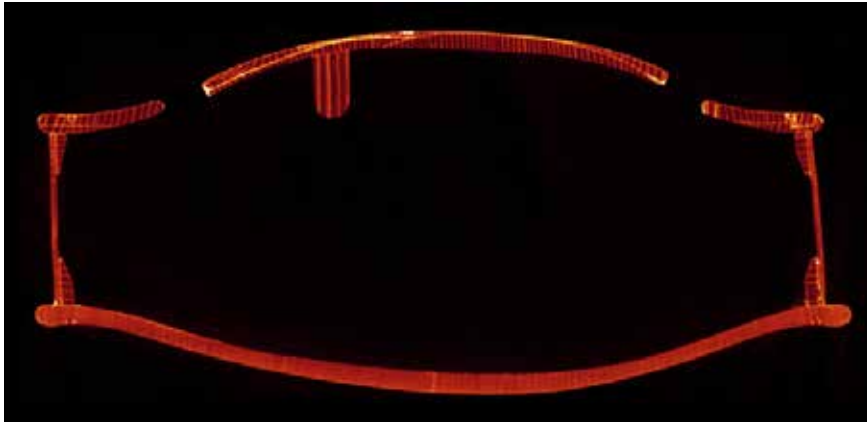


Illustration 2.



Illustration 3.

2. Data reconstruction:

At this stage, some important parameters for the future work with the data have to be set. This concerns primarily the resolution and the dynamic range of the images. It goes without saying that we normally aim for the highest-possible resolution, but we have to take into account that higher resolution means longer acquisition time, longer reconstruction time (both are normally very costly) and more computational power for generating the visualizations.⁵

⁵ For a resolution of 100 μm , the full scan of

3. Visualization and interpretation:

In recent years a wealth of textbooks on data acquisition and the reconstruction of raw data has been published.⁶ On the contrary, until now there is no scholarly study, no guideline and no standard how to make use of the digital data produced by the scanner. In the following, we will try to give some hints, based on four years of

a violin body results in a stack of nearly 4,000 slices which amount to around 12 GB of data.

⁶ See e.g. Thorsten M. Buzug, *Computed Tomography. From Photon Statistics to Modern Cone-Beam CT*. Heidelberg 2008.

intensive work with 3D scan data.⁷

The reconstructed data consists of a stack of slices, which either can be viewed individually in the 2D domain or can be used to render a 3D volume, representing the scanned object. The slices consist of different grey values, which can be assigned false colours (Illustration 2). We normally use a colour-map in which wood appears in shades of orange to dark red. Very dense material, like ebony, ivory or glue, is represented in white. The surrounding air is black. Most questions related to the condition of a stringed instrument can be judged by observing the slices. Woodworm infestation, cracks, all sorts of repair-work or distortion, doublings and cleats become visible. In many cases even the quality of a repair job can be evaluated.

Our software⁸ allows measurement of distances, angles or areas in the 2D domain directly from the slices. The advantage over traditional methods is the possibility to obtain data in places inaccessible by any other means of examination without opening the instrument. Thanks to the high resolution⁹ it is even possible to measure the width of the annual rings of spruce to run a dendrochronological test.

However, the full potential of computed tomography can only be achieved by 3D visualizations. In the 3D domain, two different modes are possible: volume renderings and surface renderings.

In volume renderings (Illustration 3, left) all the voxels,¹⁰ which are part of a certain region of an instrument, contribute to the appearance of the image. This means that the surface of an item as well as parts of the interior of the material will become

⁷ The following publications comprise visualizations from our micro-CT scans: *The Girolamo Amati Viola in the Galleria Estense*, ed. Andrea Zanrè, Modena 2014, pp. 41–48. A similar monograph about the violin by Antonio Stradivari, Cremona 1690, "The Tuscan" from the Accademia di Santa Cecilia in Rome will be released in 2017.

⁸ AMIRA 5.4.3 (Mercury Computer Systems, Chelmsford, MA, USA).

⁹ The visualizations in this article are based on scans with a resolution of 100 μm .

¹⁰ »Voxel« is the equivalent of »pixel« in the 3D domain.

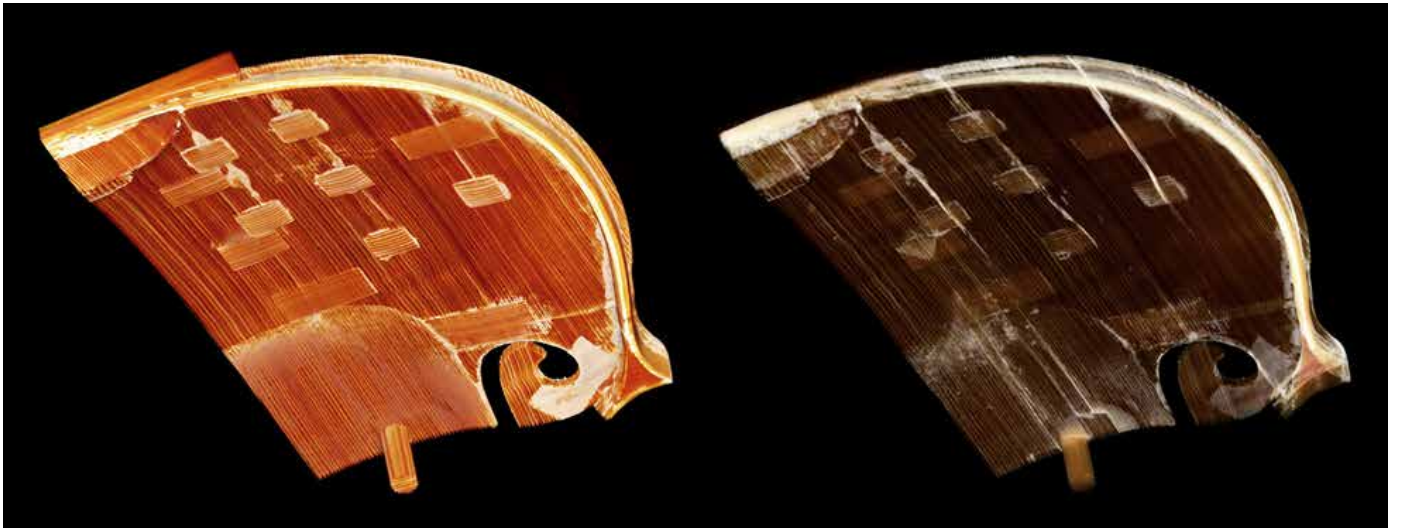


Illustration 4.

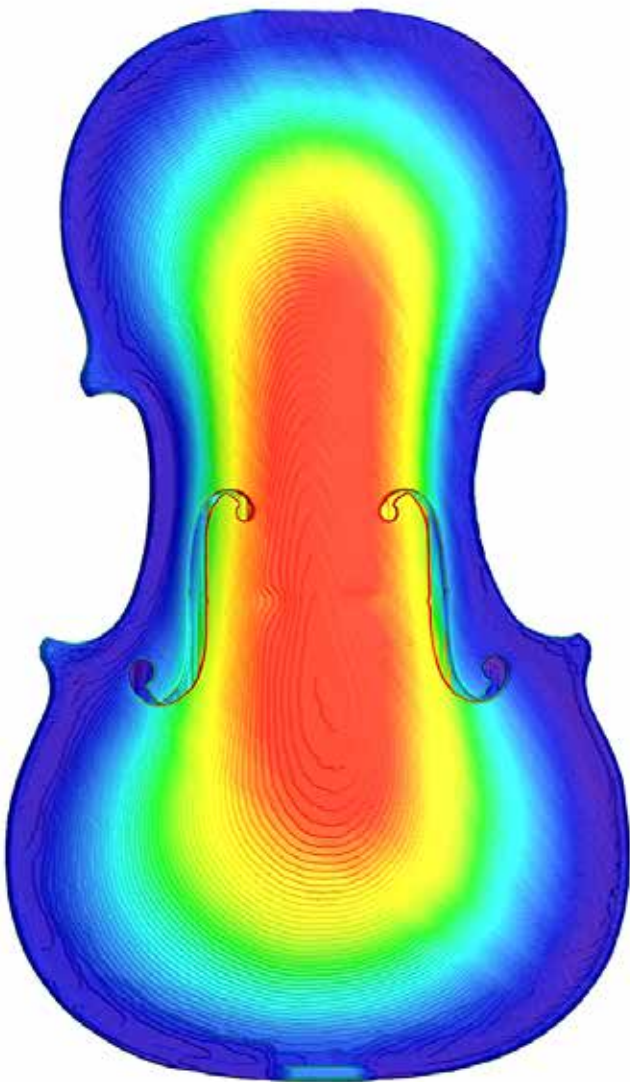


Illustration 5.

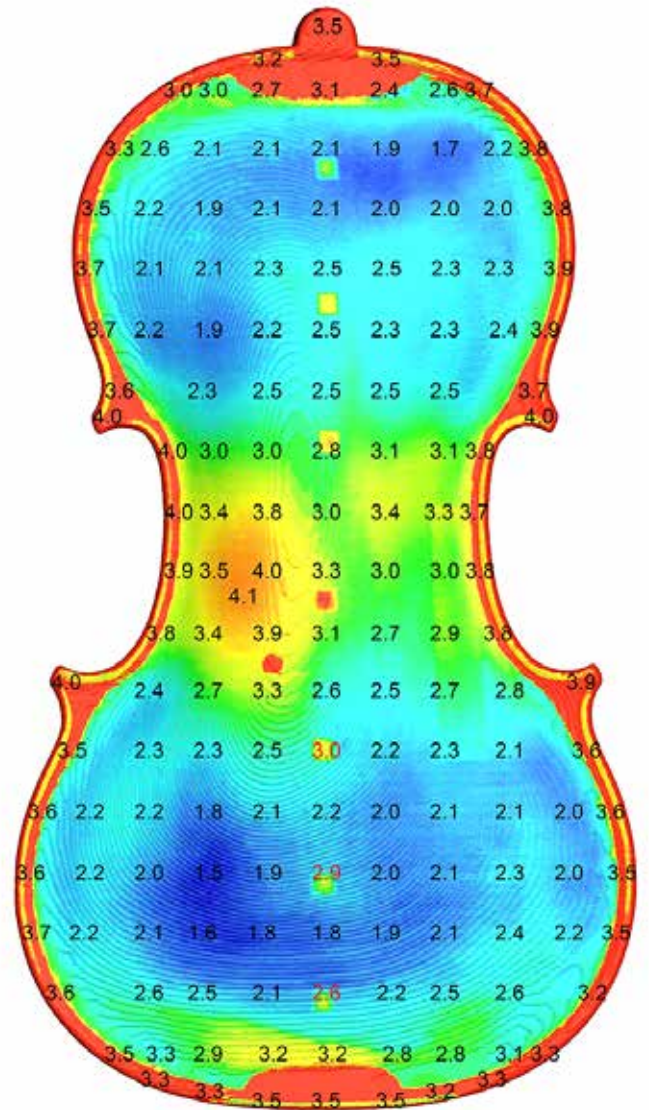


Illustration 6.

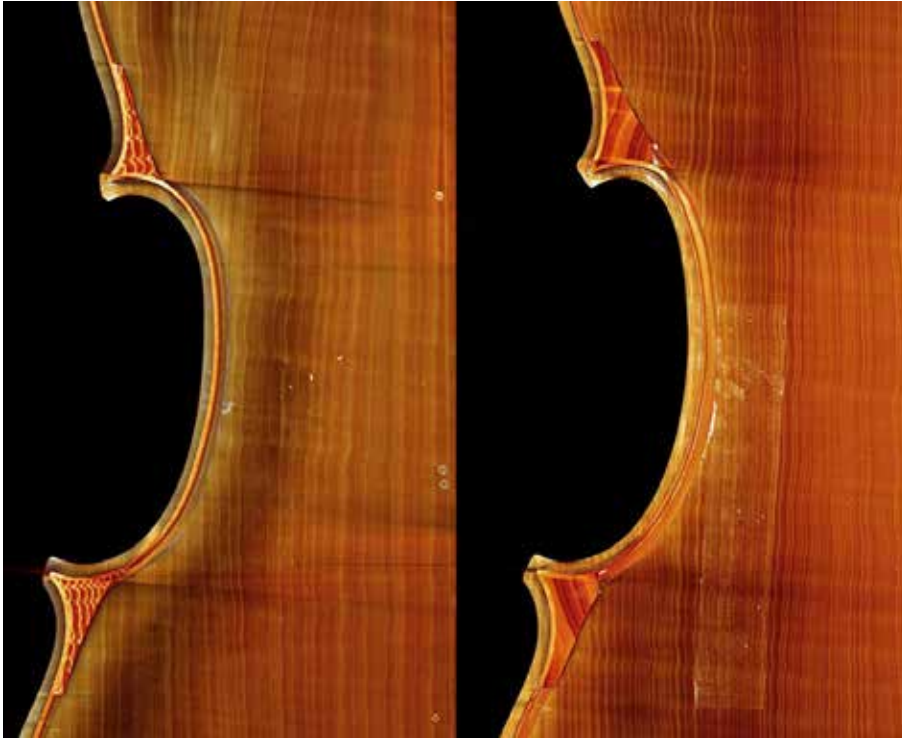


Illustration 7.

visible. This gives us the possibility to inspect not only the interior of the instrument, but also the structure of the material. Volume renderings can give an extremely lively impression of the real object, especially in an animated sequence.¹¹

Illustration 4 shows a section of the belly of a heavily repaired violin. On the left image, the voxels on the surface of the wood have been emphasized. In contrast, for the right image the α -value, which controls the transparency of each individual voxel, has been reduced. Tweaking this parameter results in a look under the surface and it goes without saying that this is a powerful tool for a diagnostic study.

Surface renderings (Illustration 3, right) can best be described as a representation of all the voxels on the threshold between an object and the surrounding air. These visualizations can give a good impression of the surface but no information about the interior. For our survey, they are very important because, as we will see below, surface renderings are the basis for dif-

ferent computations we may put to use. After generating a surface rendering, measuring in the 3D domain is possible. In addition to taking measurements manually, our software allows the automated computation of distances to create maps with high expressiveness.

For the evaluation of a violin the thickness distribution of the plates and the shape of the arching of belly and back are very critical. On the basis of surface models we are in the position to generate both maps. To enable the readability at a glance, the distances of the surfaces can be assigned certain colours. Illustration 5 shows the elevation map of the belly of a violin by Antonio Stradivari. In Illustration 6 the thickness map of the back of the same instrument has been superimposed with numerical measurements, taken manually.¹²

For the documentation of violins, the different visualization techniques described above can be put to use in different ways. Paramount is the assessment of the condition of an instrument. Today there

is no imaging technique that can match the wealth of information and detail of a high-resolution CT-scan¹³. Alterations, replacements and in many cases even the quality of repair work can be easily documented.

The interior construction of violins holds many structural details that are inaccessible without opening the instrument. As an example, in Illustration 7 the corner blocks of violins by Jacob Stainer (left) and Antonio Stradivari (right) have been depicted side by side.¹⁴ Not only the choice of wood (spruce versus willow), but also the different shapes of the blocks become visible. Along the centre-line of the back, Stainer drilled a series of conical holes, visible in the image as small circles. The purpose of these holes is still unclear. They are typical for makers who worked in the tradition of Nicolò Amati (Stainer, Giuseppe Guarneri, etc.) but are absent on Stradivari's instruments.

To allow a systematic study of these features the author has set-up a database with characteristic structural details of instruments by Stradivari, Stainer and Guarneri.¹⁵ We are confident that over the years we can increase the number of scans of representative instruments in a way that this data collection can be used as a valuable reference for the instruments of the named makers.

¹¹ Animated 3D renderings of the body of the violin by Antonio Stradivari, Cremona 1727 »Ex-Benvenuti«, can be viewed on: <http://www.thestrads.com/3d-imaging-stradivarius-benvenuti-violin-1727/>.

¹² Rudolf Hopfner, Inside Information (The Stradivari, Cremona 1727, »Ex-Benvenuti«). In: *The Strad Magazine*, Vol. 127, No. 1520 (Dec. 2016), pp. 36-43 and poster.

¹³ A similar resolution can be achieved with synchrotron scanning devices. For the time being this procedure is too costly for application on musical instruments on a large scale.

¹⁴ Jacob Stainer, Absam 1682, Tiroler Landesmuseum Ferdinandeum; Antonio Stradivari, Cremona 1690, »Il Toscano«, Rome, Accademia di Santa Cecilia.

¹⁵ This is part of the project »A 21st century approach to the study of historic violin bodies« (Dr. Rudolf Hopfner and Ao. Univ. Prof. Dr. Gerhard Weber) funded by the Anniversary Fund of the Austria National Bank.

Richard Martin, Research Associate, MINIM-UK, Royal College of Music

MINIM-UK:

A NEW ONLINE DATABASE OF HISTORIC INSTRUMENTS IN THE UK

The Royal College of Music is creating the largest virtual collection of historically significant musical instruments in the UK in a major partnership with the Royal Academy of Music, the Horniman Museum, and the University of Edinburgh thanks to an award from Higher Education Funding Council for England (HEFCE's) Catalyst Fund. A partnership with Google will ensure that content also reaches the wider public through the Google Arts & Culture, which is working with a variety of institutions around the world to make important cultural materials accessible to everyone and to digitally preserve it to educate and inspire future generations.

The general public will be able to explore 20,000 individual instruments held in more than 100 musical instrument collections in the UK. The user-friendly, media-rich online resource will enable anyone to hear instruments being played as well as see information about each one. It is estimated that **MINIM-UK** (Musical Instrument Interface for Museums and Collections) will be completed by October 2017.

MINIM-UK will also aggregate information to **MIMO** (Musical Instrument Museums Online, mimo-international.com), and to Europeana (www.europeana.eu), which collects and provides access to millions of digitised items from libraries, archives, audio-visual collections and museums across Europe, meaning the public collections of musical instruments in the UK will be accessible as never before.

The project, which has now been underway for a year, encompasses extensive research into UK collections, the gathering of data about musical instruments, and the creation of new data for collections with little or no documentation.

The vast musical instrument heritage of the UK is preserved in collections ranging from National museums to remote country mansions. During the early stages of MINIM-UK we coordinated research into collections across the country, a vital step to ascertain where exactly we can gather information about musical instruments.

The last major directory of UK collections, *Musical Instrument Collections in the British Isles*, was published in 1990. The preparation of a new edition of *Grove Dictionary of Musical Instruments* also stimulated the development of the *Sigla for Musical Instrument Collections*, and the Museum Association lists music collections in its own registry. These and other sources have proved valuable to develop a new directory. Resources such as local authority websites, directories of military, ethnography, and social history collections, and listings of national heritage trusts have helped ensure a wide scope of institutions are researched. Additional thanks are due to the project Steering Group and to Professor Arnold Myers for comments and corrections, and for important information about individual collections.

One of the fascinating and exciting aspects we have found is how music and the development of musical instruments permeates throughout a wide range of collections and collection types, such as social history, decorative arts, design, military history, ethnography, religion, and beyond. When the project started, previously published directories pointed to around 100 collections holding instruments in the UK. We know already that the actual figure is higher, at over 300.

A searchable directory of collections is available online, and will evolve as the project, and contact with individual institutions, develops, until it is fully integrated



Ana Silva at Royal Botanic Gardens.

into the musical instruments interface for the MINIM-UK public launch.

For the development of the database itself, we have considered many aspects. For instance, how do we ensure relevant information is included?

We have included discrete fields of common descriptors for objects held in cultural institutions (object name, place of origin, maker), while other inclusions are particularly pertinent to musical instruments (nominal pitch, Hornbostel-Sachs classification). We have made use of the existing Cataloguing Standards for Instrument Collections, combined with a data structure already available thanks to the work of the MIMO project, who developed a guideline using the Lightweight Information Describing Objects (LIDO) XML schema. LIDO was developed to describe museum objects across many types, and is now a common framework for digital sharing of object information. Additional-



Matthew Hill at the College of Piping.

ly, the MIMO project developed a vocabulary of musical instrument classifications and names, which is being used as an authority for object designations.

Next, how do we acquire the right amount of information within the time limitations for cataloguing fieldwork?

For this purpose, the MINIM-UK standards are simplified into fourteen key fields of object information to be populated through field cataloguing. Two project Cataloguers, Ana Silva and Matthew Hill, have been appointed to travel and work in situ until September 2017, and support collections in adding records about musical instruments to the MINIM-UK interface. They will inspect and catalogue musical instruments, take appropriate photographs using the MIMO Digitisation Standards, and, where possible, make audio and video recordings.

Since joining the project they have visited a wide array of locations, including the Museum of Army Music, the Royal Botanic Gardens at Kew, the International Anthony Burgess Foundation, the College of Piping, the Inns of Court and City Yeomanry Museum, and the Royal Conservatoire

of Scotland. Their work will not only allow information on the instruments to appear on the MINIM-UK website, but also help collections to present more detailed information about their instruments to researchers and to the wider public.

Anna Edwards, Archivist at the International Anthony Burgess Foundation (IABF), reached out to the MINIM-UK team when the project was announced. The IABF holds

a number of historical instrument examples collected by the author Anthony Burgess, who was also a talented and prolific composer: 'Burgess composed for several of the instruments within our collection and we are fortunate to have copies of a good number of his scores within our archive. The data created will be a great help to us and we're really grateful to be involved in the project!' Nearly 50 instruments catalogued at the IABF by Matthew Hill, including a previously unidentified English guitar, will appear in the resource.

We hope that the sharing of knowledge and expertise from the project group will aid participating institutions in both understanding and distributing information about their instruments, and raise awareness about digital information management relevant to these objects. Most importantly, we hope that MINIM-UK will encourage interest in historical musical instruments and their place in the fabric of our culture, improve the visibility of the collections both nationally and internationally, and provide a timely and useful resource for those wanting to learn about and research musical instruments.

More information on the project is available at www.minim.ac.uk, which will be updated regularly with news and reports on the findings of our Cataloguers. Comments and enquiries about the project are welcomed, and can be directed to contact@minim.ac.uk.



Museum of Army Music.

INTERNATIONAL SYMPOSIUM PROKOFIEV. 21ST CENTURY SAINT PETERSBURG

The International Symposium **PROKOFIEV. 21st CENTURY** is being held on December 1-3, 2016, as part of the 5th Saint Petersburg International Cultural Forum. This event was organized by the Ministry of Culture of the Russian Federation, Glinka National Museum Consortium of Musical Culture, and the St. Petersburg International Cultural Forum. Cultural Forum is a unique platform for fruitful and open dialog, as well as for exchange of experience between experts in the field of culture and cultural policy, government officials, politicians and businessmen. One of the main topics of the Forum became Sergei Prokofiev's Year in Russia, announced by the President of the Russian Federation in 2016. The idea of the Symposium is to bring together, around the name of Sergei Prokofiev, the leading researchers, artists, composers, Russian and foreign figures from all genres of art and culture, and to draw a wide audience to discuss the novelty and relevance of Prokofiev's music in the arts, its reception, and the wide range of diverse influences that this 20th century composer's work has on contemporary culture.

The main themes of the Symposium include the topical issues related to Sergei Prokofiev's cultural legacy, and its impact on the contemporary school of composition; the embodiment of the music of this outstanding modern composer in contemporary art; performances and theoretical interpretations of his works. Symposium participants include representatives of the leading cultural and educational organizations of Russia, USA, Great Britain, France, Netherlands, Belgium, Israel, and Japan. The study of the creative works of the composer-innovator requires innovative approaches. Therefore, the event was held in the unusual format of synthesis of classical and modern disciplines.

CLASSIC – international academic conference, with the participation of leading experts and young researchers. Forms of presentations: reports, messages, discussions and debates. The academic conference of the Symposium was attended by Simon Morrison – Professor of the Princeton University (USA), Leonid Gakkel – Professor of the Rimsky-Korsakov St. Petersburg State Conservatory (Russia), Rita McAllister – Professor of the Royal Conservatory of Scotland (UK), Konstantin Zenkin – Professor of the Tchaikovsky Moscow State Conservatory (Russia), Natalia Savkina – Associate Professor of the Tchaikovsky Moscow State Conservatory (Russia), Tatiana Tsaregradskaya – Professor of the Gnessin Russian Academy of Music (Russia), Keiko Kamikate – Researcher of the Hokkaido University (Japan), and many others. The innovative music of Sergei Prokofiev's expanded notion of musical time and space, has had a powerful impact on such genres as jazz, which the composer himself was very fond of, as well as rock, and electronics. This was one of the basic ideas that formed the basis for the Symposium block called **NON-CLASSIC**.

NON-CLASSIC combines different genres of music and interesting creative projects. Here, discussed freely are prospects and opportunities in electronic music, interrelation of classical music, jazz and rock. The program includes presentations, panel discussions, interviews, master classes, public performances, and televised broadcasts, as well as an extensive program of open topical music events at various sites in Saint Petersburg. Participants of the Non-Classical format were famous musical figures, including composer, producer, DJ Gabriel Prokofiev (UK), jazz musicians known in many countries of the world, folk artists of Russia Anatoly Kroll and Igor Butman, laureate of international contests, honored artist of Russia cellist Boris Andrianov, producer Igor Sandler, guitar virtuoso Dmitry Chetvergov, and others. International Symposium **PROKOFIEV. 21st CENTURY** is one of the most significant events that have become a worthy conclusion of Year of Prokofiev in Russia.



Non-Classical at the Symposium »Prokofiev. 21st Century«.

UNIQUE INTERACTIVE EDUCATIONAL EXHIBITION PROJECT »SOUND AND...«

The year 2016, marked the beginning of new, and mostly experimental, direction of exhibition activities at Glinka National Museum Consortium of Musical Culture. The large-scale multimedia exhibition »Sound And... The Universe. Man. Games«, which opened in May in the Central Museum of Musical Culture, not only introduces visitors to the theory of sound creation, but also gives them the opportunity to put the acquired knowledge to the test.

This is the first time in Russia, that such a major permanent museum exhibition has been developed, using the latest technical achievements and a large number of multimedia tools.

The idea of the project is to tell, in a simple and understandable language, about the nature of the sounds around us, about their properties and how they affect people. The exhibition includes scientific data about sound, based on the current realities and needs of the people.

One of the aims of this exhibition was to attract the general public to the museum, especially teenagers and youth. During development of the concept, a sociological study was conducted with the participation of about 100 people, aged 16 to 65. The exhibition contains unique exhibits, starting with the drum set made of shovels and pans, to complex multi-media installations. Each visitor, regardless of age and interests, will be able to find something interesting: scientific facts are inextricably linked with entertainment and interactive components of the project.

The researchers, musicologists, psychologists, musicians and other professionals – over 300 people – worked to create this permanent exhibition. The famous violist and conductor Yuri Bashmet recorded a special master class in conducting, which has become one of the central objects of the exhibition.

The exhibition is located in 9 halls of the Central Museum of Musical Culture. The visitor, step by step, follows all the stages of sound emergence, and encounters various forms of its existence – from noise and vibration, to the classical models of musical art and modern sound technologies. At the same time, the audience is constantly involved in the educational process: they can create their own melodies and use touch screens to send them by e-mail, play the electric piano, electric violin, electronic drums, take lessons from a beatbox master, visit the room of absolute silence, conduct scientific experiments, hear the voices of world capitals,

and much more. And for the young visitors, there is a special children's room, with lots of unusual percussion instruments and informative interactive attractions.

In an age of rapid development and continuous updating of information technologies, permanent multimedia exhibitions attract particular attention. Interactivity and colorful visualization of exhibition space allows working very closely with the audience, constantly maintaining contact with it. Real scientific experiments and an opportunity to explore the exhibits help each visitor better remember the theoretical information and, thereby, enhance the educational effect of the project.



Museu de la Música, Barcelona

EVANS BARREL ORGAN (MDMB 35) AND MUSICAL CLOCK (MDMB 36)



Musical clock (MDMB 36). Photo: Montserrat Sagarra / Museu de la Música.



Musical clock label (MDMB 36). Photo: Museu de la Música.



Barrel organ (MDMB 35). Photo: Museu de la Música.

With the aim of expanding knowledge about our instruments as a footprint of human activity and social history, the Museu de la Música is developing a research project on a barrel organ by English maker James Evans and a musical clock by an unknown maker.

Both instruments are programmed with a wooden pin cylinder, with several additional cylinders in storage (4 for the barrel organ, 8 for the musical clock). Our teams have been listing all the tunes programmed in these instruments in order to establish authorship, former owners, exact periods and social uses. Research was shown that both instruments were stored in Royal Palaces during 18th and 19th centuries: the barrel organ was built under the reign of Charles III (1759–1788) and it shows evident modifications to adapt the instrument to Charles IV taste and style (1788–1808); the musical clock was probably made under Ferdinand VII (1808).

Both instruments traveled during the 1920's from the Royal court in Madrid to Palau de Pedralbes in Barcelona. In 1932 they were acquired by the Barcelona Museum Board to become part of the council instrument collection, a project that would become Museu de la Música a few decades later. The two instruments arrived

formally at the Museum in 1943, donated by the National Heritage Defense Service. Further research will be oriented to expand our knowledge on social uses and roles of these instruments. To complete the historical research, we will evaluate the possibility of a mechanical restoration to hear the tunes and songs programmed and extract more information about musical taste, aesthetics and social role at the end of 18th century.



Barrel organ cylinder (MDMB 35). Photo: Esther Fernández / Museu de la Música.

RESTORING A ZUMPE & BUNTEBART SQUARE PIANO

After a year of restoration, the Museu de la Música displays again a Johannes Zumpe & Gabriel Buntebart square piano, made in London in 1776, and now in full playable condition. The instrument has been restored by German specialist Kerstin Schwarz, who also made an extensive research on the sound and mechanism of the instrument.

The Zumpe square piano entered the Museu de la Música in 1954. Before that, several interventions were noticed during a preliminary examination of the instrument. The first part of the research was comparing it to other Zumpe instruments in Rome (Museo degli Strumenti Musicali), Amsterdam (Rijksmuseum) and Halle (Händel-Haus) in order to gather as much information as possible about Zumpe pianos and their mechanical, structural and design characteristics to distinguish original and non-original elements. This comparison showed original wooden case and internal structure are original, whereas the mechanism belongs partially to another Zumpe piano and partially to another English square piano from the same period. Most importantly, the soundboard, strings and some parts of the hammer mechanism were probably made after 1850. Thus, a new soundboard designed after the Zumpe square piano in Halle.

All removed elements have been documented and stored to preserve and make available all previous features of the instrument. After this intervention, the Zumpe & Buntebart square piano will give us its delicate sound again. Moreover, a lecture on historical keyboards and the Zumpe project was given in December 2016 and an ebook is planned to be published in 2017.



Square piano, Zumpe & Buntebart, London 1776 (MDMB 645).

Photo: Sara Guasteví / Museu de la Música.

Museum für Kunst und Gewerbe Hamburg

EXHIBITION: CHINOISERIE – A FEAST FOR EYE AND EAR

UNTIL 30 APRIL 2017

THE EUROPEAN VIEW OF EAST ASIA

China exerts a magical attraction. Maritime trade brings goods to Europa which are as precious as they are exotic: silk, lacquerware and porcelain. Europeans project their longing for a serene and contented life unburdened by cares onto the imagined Utopia of the far-off Empire. China in particular is all the rage in early 18th century Europe with its exotic customs and philosophical tradition, but Japan and the Orient are also important influences. The adaptation of Far Eastern culture is known as »Chinoiserie«.

European artists draw inspiration for their works from the Far East. Even after Europe too has discovered the secret of making porcelain, East Asian motifs are still copied for a long time. Furniture and dainty caskets are embellished on the Chinese and Japanese model with lacquer painting. In the musical world, too, the theme of China finds a multifarious echo. Operas are composed on exotic subjects, scientists study the sonorities of Asian music and instruments are decorated with motifs inspired by Chinese art.

CHINOISERIE IN THE ARTS AND CRAFTS ...

This exhibition in Hamburg shows some of the finest pieces in the Museum collections. A real eye-catcher is one of the monumental Chinese porcelain vases made for export which the Elector of Saxony and Polish King, Augustus the Strong acquired in exchange for mounted troops of dragoons from the King of Prussia in 1717. On top of this, the first successful manufacture in Europe of the new material, invented in China, is at the court of Augustus the Strong in 1708. The two amusing figures of Chinese boys with cabbage-leaves as hats are from the porcelain manufactory founded in Meissen by the porcelain-loving monarch in 1710. Their masterful artistic execution by the court sculptor and master modeller Johann Joachim Kaendler bears witness to the admiration felt by Europeans for China and its coveted porcelain. Lacquerwares



Figure 1: Exhibition CHINOISERIE – A FEAST FOR EYE AND EAR, Museum für Kunst und Gewerbe Hamburg



Figure 2: Porcelain figures of Chinese Boys with cabbage leaves on their heads, Meissen, 1749, Museum für Kunst und Gewerbe Hamburg.

were made in Dresden, too. Visitors can also admire a wall cabinet in the possession of Augustus the Strong exquisitely decorated with lacquer painting in the Chinese style by the court lacquerer Martin Schnell.

Two harpsichords on show in the Museum are no less luxuriously appointed. The two-manual harpsichord built by Christian Zell in Hamburg in 1728 is world-renowned. Here too, the fashion for China



Figure 3: Lacquer Cabinet made by Martin Schnell, Dresden, c. 1720, Museum für Kunst und Gewerbe Hamburg.

in the Baroque triumphs. The instrument is decorated on the outside with lacquer painting sometimes thickly applied like a relief "à la chinoise". The other harpsichord dating from 1789, which belonged to a prominent French aristocrat, the Marquis Jean-Benjamin de Laborde, is from the Parisian workshop of Pascal Taskin. This too

is embellished with delicate chinoiseries, here executed in gold lacquer painting.

... AND IN MUSIC

While ceramics manufacturers, lacquer artists and court painters are already able to base their works on original East Asian models exported to Europe in the 17th and

18th centuries, it is much more difficult for composers to find ways to create an exotic atmosphere in their music, since the authentic sonorities of East Asian music were hardly ever heard in Europe at that time. Accounts by travelers and missionaries were for a long time the only source of information about Asian music. Despite this, China is also decidedly "en vogue" in 18th century music. Innumerable operas on Chinese subjects are written, aristocrats amuse themselves at Chinese costume balls and musicologists devote intensive study to the musical traditions of China, going back thousands of years. The history of the reception of East Asian music in Europe is dealt with comprehensively in the media on offer in the exhibition. Digital media stations present the main sources and there are also many sound examples given.

Dr. des. Christine Kitzlinger, Curator of the European Decorative Arts and Sculpture Department, Museum für Kunst und Gewerbe Hamburg // Olaf Kirsch, Curator of the Musical Instruments Collection, Museum für Kunst und Gewerbe Hamburg

www.mkg-hamburg.de. Opening times: Tue-Sun 10 am-6 pm, Thu 10 am-9 pm



Figure 4: French Double-Manual Harpsichord made by Pascal Taskin, Paris, 1787, Museum für Kunst und Gewerbe Hamburg, Sammlung Prof. Dr. Andreas Beurmann

A New Research Group at the Deutsches Museum

Summer 2016 saw the beginning of a new research group at the Deutsches Museum in Munich. The group's project, "Materiality of Musical Instruments: New Approaches to a Cultural History of Organology," will be funded by the Leibniz Association for three years. Our objective is to investigate the role played by materials in the invention of musical instruments and the sensory experiences that the use of these instruments engenders. The focus is on instruments from the latter half of the eighteenth century to the present day. By approaching instruments from the multidisciplinary angles of materials science, acoustics, cultural history, and aesthetics, our research contributes to the integration of organology with the disciplines of musicology and the history of science and technology.

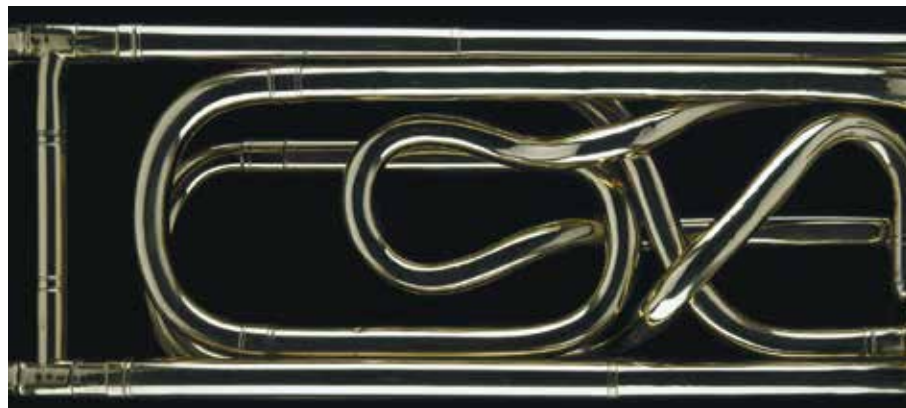
The group is led by Rebecca Wolf, who is engaged in an individual research project, "Materiality of Sound: Experiments in Musical Instrument Building, 1830–1950," which takes materiality as the starting point to investigate such fundamental questions as, how did the craft of instrument building affect the demands that instruments placed on musicians and the expansion of instrumental capabilities? The project of our postdoctoral researcher, Leon Chisholm, is "Organic Material: Wood, Organs, and the Industrial Revolution," which explores how wood has contributed to the tonal identity of organs, and how it has tied the profession of organ building to other wood-related industries. Doctoral student Katharina Preller's

dissertation, "Researching Sound and Materials: The Case of Helmholtz's Steinway Piano," examines the development of the so-called "duplex scale" against changing sound ideals. Our administrative assistant, graduate student Johanna Spangenberg, is interested in connections between materiality and literature. In addition to these core members, the group expects to host several short-term associate researchers over the next two years.

Our collective activities include hosting a monthly reading group that brings together scholars, curators, and students at the Deutsches Museum and other universities and museums in Munich and its environs. The group's readings are multidisciplinary and juxtapose current research in organology, musicology, and sound studies with texts from media theory, anthropology, philosophy, and the history of science. Early in 2017, the research group will host the first of six colloquia on questions related to the materiality of musical instruments.

We are very pleased to be partnered with the Music Departments of Ludwig-Maximilians-University, Munich and the University of Vienna, the Centre for Building Materials of the Technical University, Munich, the research group "Epistemes of Modern Acoustics" at the Max Planck Institute for the History of Science, and the research network "Auditory Knowledge in Transition." We'd be delighted to hear from other researchers and curators with overlapping interests. Further information is available on our website:

www.deutsches-museum.de/en/research/projects/focal-point-ii/cluster-1/



*J.G. Ottensteiner, Contrabass trombone, Munich, c.1868.
Deutsches Museum Inv. No. 1996-158. Photo DM]*

The Bendré, symbol of deposition of memory in moaga's society in Burkina Faso

In Burkina Faso, as everywhere in Africa, There is no difference between the musical traditions and the realities of social life that they express. It is difficult to conceive an important activity without the assistance of an appropriate music. The music is present everywhere, guaranteeing the social cohesion in political, social and ceremonial activities by offering opportunities of communication between visible and invisible word during the funeral ceremonies and therapeutically rites.

As soon as the death arises, the rites are accompanied by a succession of specific music to this event. Thus, the rhythms of the drummers announce the baleful new through distinct rhythms which can permit to know from far the sex of the defunct in the moosé's society which practice initiations. They locate with precision the social place the function and the secret names of the defunct. The instruments of music are used during the interrogator of the defunct in order know the causes of his death and accompany him during the burying.

Among the instruments, figure the Bendré which the rhythm is the truthful expression of lamentation language of the people that the pain make silent. The Bendré in mooré language is an instrument made with a bag spherical calabash cut to the fifth. On the orifice is extended a skin of goat made with straps of leather bound to a metallic coil. It is played with the hands and the different striking compose a veritable language know by the initiated people. The Bendré is a secret instrument essentially attached to the royal courtyard in the moosé community. However, it is also used during the ceremonies of feast and in the cabarets in order to cheer up the people. Very elegant musical instrument, it integrates itself easily in the modern music in chorus with others instruments.

The players of Bendré are called Benda. Officially attached to a royal courtyard, they are composers specialized to a royal courtyard music highly appreciated by the moosé's dignitaries. There are exceptional musicians exclusively proposed to the service of the traditional power which they

are also the official organ of information. The music of royal courtyard is savant music, under the conduct and the responsibility of "Ben Naaba", chief of drummers, for whom no error is allowed. They are chiefs in the art of musical transposition from verbal language to the coded language often hermetic to the no initiated.

The drummer (Bendré) was for a long time a tool of mass communication and ideological control. Its function is to permit the authority to express its power or its generosity and to dissuade the veritable or potential adversaries. It appears thus as a source for the story of our society, even isn't an official story. In a period relatively recent, the story was essentially cheeped by some entire families, the benda or the chiefs of the speech according to the appellations. The bendré (singular of benda) is the caretaker of the traditions, the guarantor of the customs, the depository of collective memory, and a repast against every form of acculturation.

This musical gender is actually objects of many studies in order to the better apprehend this phenomena of drummer's language its technics, its ideological, historical and socio-religious sense. It is an instrument which count again nowadays and make the pride of moosé societies. It represents the best object of the collections of many museums in Burkina Faso. According to a popular wisdom of South America, "the man can't retreat to his shade". The Bendré represents nowadays a symbol of the transmission of the memory an element of union of Burkina Faso Society.

Moctar SANFO, *Conservateur-Restaurateur de Musée, Conservateur du Musée de la Musique*
Georges OUEDRAOGO, *Ouagaddougou, BURKINA FASO*



The Italian Violin Tradition 1650–1850
06–08 April 2017
Faenza, Ridotto del Teatro Masini

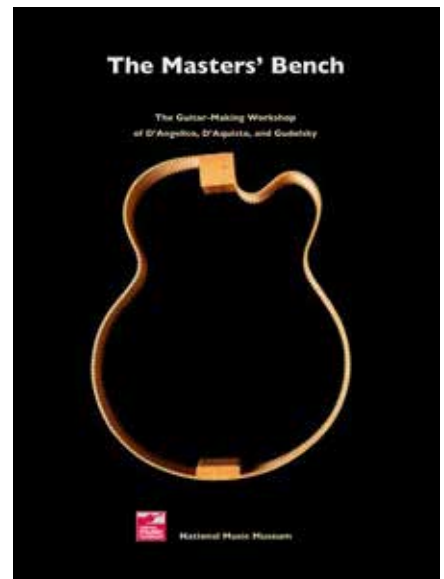
On the occasion of the 300th anniversary of the birth of Tommaso Paolo Alberghi organized by Centro Studi Opera Omnia Luigi Boccherini (Lucca) in collaboration with Ad Parnassum Journal Locatelli Italian National Edition Ensemble Symposium

This conference aims to investigate the characteristics of the Italian violin tradition, alongside the figure and work of Tommaso Paolo Alberghi. The scientific committee welcome proposals addressing the themes listed below, although other, related topics are also welcome:

- The geographical expanse of the Italian violin tradition
- Violin ornamentation
- Violin improvisation and the bravura tradition
- The Italian violin tradition in contemporary treatises
- The Italian violin tradition in Europe
- The relationship between publishers and violinists/composers
- Tartini and the "School of Nations"
- Tommaso Paolo Alberghi (1716-1785): his life and work

All proposals should be submitted by email no later than Sunday 12 February 2017 to conferences@luigiboccherini.org.

Cristina Ghirardini



National Music Museum publishes book on acclaimed guitar makers

The National Music Museum, in Vermillion, South Dakota, showcases an extraordinary collection of archtop guitars by some of the finest makers – including the instruments, tools, and archives of American craftsmen John D'Angelico, James D'Aquisto, and Paul Gudelsky. To document those holdings and lives of these luthiers, the NMM has issued a photo-rich new book on their own imprint, *The Masters' Bench: The Guitar-Making Workshop of D'Angelico, D'Aquisto, and Gudelsky*.

Regarded as two of the greatest archtop-guitar builders, Americans John D'Angelico and James D'Aquisto set the bar for craftsmanship and design. According to author Paul Schmidt, "The designs and instruments of John D'Angelico and James D'Aquisto have shaped and guided the work of every serious archtop guitar maker." When John D'Aquisto's protégé Paul Gudelsky visited the National Music Museum in the early 1990's to see the NMM's rare Antonio Stradivari guitar there, he compared D'Angelico and D'Aquisto to that great Renaissance master.

The Masters' Bench explores the lives and practices of D'Angelico and D'Aquisto, through the memories of people who knew the men and through the material evidence of the masters' workbench. Guitar-expert Schmidt offers an insightful first-hand perspective on the master craftsmen's motives and methods. NMM Curator of Stringed Instruments Arian Sheets discusses why conserving the makers' pro-

cess and products matters.

James D'Aquisto's own words on guitar-making are preserved here as well, along with exclusive photo essays by guitar-world insiders Spencer Lowell, Ira Landgarten, and Tim Olsen; plus rare NMM archival images; reproducible guitar patterns and forms; workshop inventories; and revealing handwritten documents – all of which build out the history of these remarkable artisans.

"The book was conceived to allow readers to peer almost apprentice-like behind the shop door into the makers' unvarnished lives, their livelihood (and ledger books), and creative achievements," says NMM spokesperson Patricia Bornhofen. "The Masters' Bench is a great research resource or gift for luthiers, guitar fans, and music-history lovers alike." The book is available for purchase at the Museum or online via the NMM website gift shop (www.nmmusd.org) or Amazon.com.

The Masters' Bench: The Guitar-Making Workshop of D'Angelico, D'Aquisto, and Gudelsky. Softcover, 289 pages, with over 400 photos. Published by the National Music Museum, 2016 ISBN: 978-0-9848269-4-0



Andreas Michel & Philipp Neumann: *Gitarren, 17. –19. century.* Musikinstrumenten-Museum der Universität Leipzig. Catalogue, Leipzig 2016, p. 296, 245 color pictures, 69 black & white ill., 47 technical drawings. Paperbound, 21 x 21 cm, Verlag Janos Stekovics, Döbel & Verlag des Musikinstrumenten-Museums der Universität Leipzig: ISBN 978-3-89923-364-3 and 978-3-9804574-8-4 34,80 Euro

With this volume of the Museum of Musical Instruments of the University of Leipzig continues the catalogue series on the plucked instruments. After the publications on zithers, citterns and guitars made by Weissgerber in Markneukirchen, the guitars from the 17th to the 19th century are now being described. The authors investigated and described the valuable but also very heterogeneous collection of more than 120 guitar instruments. In this catalogue with numerous new results about thuringian and saxonian tradition of guitar making, are 72 guitars from the period before 1900 described in detail.

'Unearthing the Early History of the Musical Instrument Collection at the Deutsches Museum in Munich and Tracking a Lost Collection of Instruments in Berlin'

Panagiotis Pouloupoulos, *New Voices in Old Bodies: A Study of 'Recycled' Musical Instruments with a Focus on the Hahn Collection in the Deutsches Museum.* Deutsches Museum Studies 2 (Munich: Deutsches Museum, 2016).

A large number of historic musical instruments that survive in museums have been drastically transformed through a process of 'recycling'. Although often leading to the loss or distortion of original features, these 'recycling' transformations can also reveal a wealth of information about the history of these artefacts and how they were valued and treated by their various owners and users during their lifetime.

This book presents and analyses several representative cases of 'recycled' stringed instruments focusing on the Hans Hahn collection, the first major collection of musical instruments that was acquired by the Deutsches Museum in 1906. Using a combination of object-based and archival research, the book provides a comprehensive insight into the foundation and development of the musical instrument department at the Deutsches Museum in the beginning of the twentieth century while discussing issues of provenance and authenticity of historic instruments.

The book is published in print form (ISBN 978-3-95645-885-9, 29,90 Euro), but is

also available for free downloading (ISSN 2365-9149, PDF-Download) at the website of the Deutsches Museum using the following link:

http://www.deutsches-museum.de/fileadmin/Content/010_DM/050_Forschung/studies-2-gesamtlayout.pdf

During my research for this book, in which I was greatly assisted by the previous work and helpful suggestions of my colleague Silke Berdux, curator of the musical instrument collection at the Deutsches Museum, I found out that between 1906 and 1910 the museum acquired many instruments from four collectors, who until now have remained relatively unknown in organological circles. These include Hans Hahn (1855-1936), an instrument manufacturer and collector in Munich; Karl Haake (1849-1908), a piano manufacturer and instrument collector in Hannover; Charles Hautstont (1863-1929), a maker and dealer of musical instruments in Brussels; and Georg Steingraber (1858-1932), a keyboard instrument manufacturer and restorer in Munich. Interestingly, these collectors seem to have possessed instruments of varying degrees of authenticity, ranging from heavily modified, restored or 'modernised' instruments, to reconstructions and replicas, and even to fakes and forgeries (figure 1).

Figure 1: A 'recycled' guitar from the Hahn collection (Inv. No.: 5429, left), a converted 'guitarised' lute from the Haake collection (Inv. No.: 17196, middle), and a fake archlute from the Hautstont collection (Inv. No.: 24499, right) in the Deutsches Museum, Munich (photographs by Hans-Joachim Becker, © Deutsches Museum).

Moreover, in 1906, shortly before the purchase of the Hahn collection, the museum had been offered for sale the instrument collection of Adolf Gutsche, a musician and collector active ca. 1894-1906 in Berlin, but eventually decided not to buy it, opting instead for the Hahn collection. So far virtually nothing has been written on this collection, although from surviving evidence it is known that Gutsche owned numerous historic musical instruments of all kinds. Interestingly, around the end of the nineteenth century Gutsche had been in contact with Oskar Fleischer (1856-1933), professor at the Berlin Musikhoch-



Figure 1



Figure 2



Figure 3

schule and director of the royal musical instrument collection in Charlottenburg, regarding the sale of his collection. Additionally, a list of instruments offered for sale by Adolf Gutsche to the Deutsches Museum is included in the correspondence preserved in the Deutsches Museum Archiv, Verwaltungsarchiv (DMA, VA). In particular, two surviving letters in these archives, the first from Gutsche to the direction of the Deutsches Museum, dated 28 March 1905 (DMA, VA 4041), the second from Oskar von Miller, the founder of the Deutsches Museum, to Oskar Fleischer, dated 5 June 1906 (DMA, VA 1752-2), provide an thorough overview of Gutsche's collection. In the first letter Gutsche listed 40 different European wind, stringed, and keyboard instruments and related accessories, in some cases mentioning multiple examples of instruments of the same type in a single entry. Furthermore, at the end of his letter Gutsche stated that he had several items not included in

those that the museum wished to acquire ('Ausser diesen habe ich noch mehrere, in Ihrer Aufstellung nicht angegebenen Sachen'). Moreover, it is important to mention that photographs of several instruments in Gutsche's collection were reproduced in the second edition of Hermann Ruth-Sommer, *Alte Musikinstrumente: Ein Leitfaden für Sammler* (2nd edition, Berlin: Schmidt & Co, 1920). However, until now I have not been able to locate the present whereabouts of Gutsche's instruments. It is possible that these instruments were dispersed to various private and public collections or that they were destroyed or lost during World War II. Since I am planning to continue this research on the early history of the musical instrument collection at the Deutsches Museum it would be particularly useful for me to receive feedback from colleagues whose collections may house instruments from any of the above mentioned collectors. I would also be grateful for any

additional remarks on the subject of 'recycled' instruments in museums and the role of such artefacts in previous and current museum exhibitions. Those wishing to exchange information can contact me at: p.poulopoulos@deutsches-museum.de. I am looking forward to hearing your comments and I would be happy to provide print copies of the book for reviews in related journals.

Panagiotis Poulopoulos