CIMCIM
ICOM international committee for museums and collections of instruments and music

PROCEEDINGS

Global Crises and Music Museums: Representing Music after the Pandemic.

Proceedings of the 2021 CIMCIM Conference, 6–8 September, London, Royal College of Music / Horniman Museum and Gardens

Edited by Gabriele Rossi Rognoni, Mimi Waitzman and Esteban Mariño

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CIMCIM Proceedings Annual Meeting 2021

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International Committee for Museums and Collections of Instruments and Music (CIMCIM)
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Contents

Papers

COVID-19 and Music Museums: National and International Overviews

Music Museum Responses to COVID-19

New Displays and Temporary Exhibitions

Research

About CIMCIM

CIMCIM is the acronym for Comité International pour les Musées et Collections d'Instruments et de Musique (International Committee for Museums and Collections of Instruments and Music; Comité Internacional para Museos y Colecciones de Instrumentos y de Música). It is one of the 31 international committees of ICOM, the International Council of Museums, and was established in 1960.

CIMCIM aims to promote high professional standards in the use and conservation of musical instruments in museums and collections.

As an international committee, CIMCIM works within the framework of ICOM in fostering connections amongst, advocating for and advising museums and collections of musical instruments and music of all kinds.

As an organisation that promotes high professional standards, CIMCIM supports ICOM's Code of Ethics in providing a global platform to discuss state-of-the-art, best-practice solutions related to tangible and intangible musical heritage, particularly in the context of museums.

As a worldwide and inclusive committee, CIMCIM aims at a mutual understanding of different cultural practices and viewpoints with respect to musical instruments and music in supporting active dialogue and exchange between all stakeholders.

CIMCIM meets normally every three years during the ICOM General Conferences and in each of the other two years organises a special meeting, usually including symposium papers and museum visits. Meetings are held in different countries of the world aiming to represent the diversity and worldwide distribution of its membership.

Professional matters where international cooperation is advantageous are discussed in detail in CIMCIM's Working Groups, which are set up as needs arise. The deliberations of Working Groups are usually published as CIMCIM Publications.

Membership of CIMCIM is personal and is open to personal and institutional members of ICOM. Under special circumstances, non-members of ICOM can be co-opted. Benefits of membership include invitation to annual meetings, the CIMCIM *Bulletin*, voting rights at business meetings (held during the annual meetings), and the opportunity to participate in Working Groups.

Services offered by CIMCIM to members and non-members alike include a series of publications and CIMCIM-L, an e-mail discussion forum devoted to topics of relevance to the use and care of musical instruments in museums.

Introduction

Chaos Theory posits that even tiny events have the capacity to become, in retrospect, influential parts of history. But some events have so obvious a potential as turning points that we can say they inscribe themselves directly into history. These events are rare, but the 2021 annual CIMCIM conference, or as it may be called in the future, 'The 2021 London Conference', was certainly one of them, in having been the first ever CIMCIM conference that took place exclusively via virtual means. But why 'London'? Other online meetings, webinars, conferences, and so on, are taking place nowhere – or everywhere, depending on one's view on the World Wide Web's virtual space.

This conference went through three phases, the first two of which had been so closely linked to the real place that the label 'London' still seems justified. The initially planned conventional physical 2020 meeting that everybody had so eagerly anticipated, became, as so many events on the planet, a victim of the pandemic. The shift to 2021 had been much welcomed by the CIMCIM Board. Meanwhile, the concept of online conferences, and even hybrid conferences, had emerged. It may be considered in the aftermath as a historical footnote that the hybrid format seemed at that time the best way forward, but it also turned out to be the most challenging. In any case, after planning for 'hybrid', the hope of physically gathering at least a portion of the CIMCIM membership, and having the others join online, evaporated, and finally, the decision was taken to hold an entirely virtual conference. Now, all three formats – physical, hybrid, virtual – are well established, and organising more routinely in this three-phase planning and preparing has become another moment in CIMCIM history: in terms of efforts as well as in terms of experience, creativity and expertise.

The results exceeded all expectations: thanks to a perfect technical preparation, masterful planning and thoughtful guidance for the presenters, this was among the smoothest running, if not the best choreographed, CIMCIM conferences ever. It may also have been the most topical and far reaching, for the theme remains one of global interest. Topping it off, the usual attending fees were waived through engaged fundraising, and the conference became truly Open Access. With 213 attendees from 35 countries, the participation approached the CIMCIM membership figures, being about four to five times the average participation for past physical annual meetings. As we know, not all CIMCIM members attended, but instead, many visitors from other institutions and disciplines followed the talks. The London 2021 conference thus contributed much to an increased visibility and awareness of us and our activities in the circles of museums and music institutions. Finally, the preparations clearly had an effect on CIMCIM's own behaviour, prompting more online meetings, webinars and so on – in brief, a more concentrated mode of communication.

As all success stories, this one also has its flip side of melancholy. It was in missing the physical meeting of the 'CIMCIM family', as it is often called, in the coffee breaks and down-time where small talk leads to great projects, and in the common

meals where often long-lasting international cooperation is fostered. But perhaps most of all, this lack was felt in the long anticipated opening of the newly built musical instrument exhibition of the Royal College of Music. Fortunately, compensation was amply provided by the numerous virtual guided tours and concerts; nevertheless, despite their superlative quality, they seemed to emphasize once again that museums always merit visiting by real humans in real time.

My heartfelt thanks to Gabriele Rossi Rognoni, Mimi Waitzman and their team from the Royal College of Music and the Horniman Museum and Gardens – particularly Esteban Mariño Garza, Richard Martin and Joyce Lam – for their wonderful, pace making work!

Frank P. Bär, CIMCIM President 2019–2022

CIMCIM Board 2019–2022

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CIMCIM Annual Meeting 2021

Global Crises and Music Museums: Representing Music after the Pandemic

6–8 September, London, Royal College of Music, Horniman Museum and Gardens

Overview, Reflections, Highlights, Challenges and Statistics

Esteban Mariño Garza

The COVID-19 pandemic has led museums to transform profoundly their long-established activities for extended periods of time. Many have had to close to the public and some will never reopen. However, for others the crisis has presented an opportunity to refresh their identity and the way they interact with their audiences. Such reflections include a significant emphasis on digital platforms, reworked plans of sustainability and new methods of preserving, documenting, and sharing collections. The CIMCIM 2021 annual conference offered an opportunity to explore and discuss some innovative approaches that emerged over the past year in the world of music museums, with specific focus on curatorship, conservation, learning and participation, documentation, and research.

The conference, hosted by the Royal College of Music and the Horniman Museum and Gardens in London, was originally planned as a hybrid event, for in person and online attendance. However, the safety measures that were still in place at the time of the conference led to the decision to restrict participation to online attendance. This allowed the participation of 213 attendees from 35 countries. Larger delegations attended from the United Kingdom, Germany, United States, France, Mexico, Belgium and Italy, but representatives also attended from Argentina, Austria, Australia, Azerbaijan, Belgium, Brazil, Canada, Switzerland, Cyprus, Czech Republic, Germany, Denmark, Spain, Greece, Croatia, Indonesia, Israel, Japan, Lithuania, Netherlands, Norway, Philippines, Portugal, Qatar, Russia, Sweden, Turkey, Taiwan, and Zambia (See figure 1). The host institutions, in agreement with the CIMCIM Board, agreed to waive the enrolment fee for all participants, thanks to the generous support of the National Lottery Heritage Fund and the UK-RI Global Challenges Research Fund.

Fig. 1. Map showing the number of countries registered by the CIMCIM 2021 Annual Conference. Generated by Eventbrite®.

The paper and conference committee, composed of Gabriele Rossi Rognoni, Mimi Waitzman, Marie Martens, Arnold Myers, and Jen Schnitker and supported by Esteban Mariño Garza, selected 24 papers divided into sessions focusing on the COVID-19 pandemic and music museums, online displays, conservation and research, and new displays. The three-day conference was supplemented with video presentations on the new Royal College of Music Museum and the Horniman Museum Keyboard Instrument Project, both supported by the National Lottery Heritage Fund. Separate meetings were held for the three CIMCIM working groups on conservation, communication, and classification. Special gratitude was expressed by the CIMCIM Board and organisers to Richard Martin and Joyce Lam for the smooth technical management of the event and to the conference administrator Esteban Mariño, PhD candidate at the Royal College of Music.

Fig. 1. Mosaic showing the attendants of the CIMCIM 2021 Annual Conference.

The session, Museums during the COVID-19 pandemic, focused on the reaction of institutions during the recent pandemic. A first paper by Saskia Willaert and Alexandre Girard-Muscagorry described the process of acquisition of 600 sanzas while creating partnerships with museums of musical instruments in Burkina Faso, Congo-Brazzaville, Kenya and Gabon. This project continued despite the COVID-19 restrictions and disruptions thanks to a skilled team of professionals and a substantial inter-institutional cooperation between the Philharmonie de Paris and the MIM in Bruxelles.

Xiang Zhang & Yuanyuan (Anna) Wang (Hubei Provincial Museum, Wuhan, China), described the catastrophic effect of the pandemic in China and on Chinese people and museum professionals, and the measures introduced by the government to facilitate a technological transformation in digital learning with over 2,000 exhibitions opened to the public. The authors highlighted how the lockdown in 2020 accelerated a national long-term policy meant to create a wider public exposure of Chinese musical heritage. On a similar note, Emanuele Marconi, director of the Musée des Instruments à Vent, La Couture-Boussey in France, showed how the silence of the implemented lockdowns together with a substantial infrastructure allowed for the digitalisation team to focus fully on the documentation of the collection. According to the Italian conservator and organologist, the noise of the High Definition (HD) scans, digital cameras, and strobes formed the sound of a collective organological effort. Marconi highlighted how the pandemic, and France's privileged museum

sustainability model, together with a strong professional collective endeavour, accelerated the digitisation process of the Wind Instrument Museum of the community of Boussey. Such professional determination and institutional resources were also described in Marie-Pauline Martin and Delphine de Bethmann's presentation on the Musée de la Musique – Philarmonie de Paris *Virtual Experiences*. The paper highlighted the use of remote guided tours to allow schools to explore the museum's collection without leaving their buildings during France's prolonged lockdowns. The museum produced an attractive film series which introduced the visitor to a 'behind the scenes' experience. Nataliya Emelina's presentation discussed the digital offer of the Russian National Museum of Music. With a prolific series of videos and an increasing presence on several digital platforms – such as the 'Tik Tok ® Project' which received 85,000 views – the author reflected on the emergence of digital curatorship and a new breed of IT rooted museum professionals. She highlighted how her museum's strong professional community not only allowed them to continue their activities, but safeguarded the staff's mental health while coping with the long months of isolation implemented by the Russian government during the pandemic. Kazuhiko Shima, former director of the Hamamatsu Museum of Musical Instruments, focused on the feeling of unity which can be inspired by the spiritual aspects of musical instruments. His paper highlighted the connection between 'Gods and instruments' and the artefacts' quality of being a recipient of hope and love.

Ongoing exhibitions had to be momentarily stopped because of the several restrictions placed by European governments, many being rearranged in a virtual setting. Heike Fricke, from the Musical Instrument Museum in Leipzig, stressed the importance of the German government in supporting a series of important museum projects. Fricke explained how the lockdowns in Germany allowed for a 'giant leap in the development of data repository,' and expressed how 'If the urban society cannot go to the museum, then the museum goes to the city!' On a similar note, Sawako Ishii's presentation on online-based museum education showcased an impressive series of educational videos entitled 'Let's Make Musical Instruments Using Familiar Materials at Home'. Based on the common formats of TV programs, these simple yet delightful videos proved surprising and visually engaging. Moreover, Ishii showed important digital developments such as the Hamamatsu Museum of Musical Instruments' virtual museum, which opened in May 2021.

The impact of the COVID-19 health crisis on Music Museums was the subject of Fanny Guillaume Castel, Esteban Mariño and Arianna Rigamonti's work at the Royal College of Music under the supervision of Professor Gabriele Rossi Rognoni. Through questionnaires and interviews, the PhD candidates surveyed twenty-seven musical institutions from eighteen different nations, including nine museums from countries receiving the official development assistance (ODA) from the Organization for Economic Co-operation and Development (OEDC). Among the most interesting findings of this study is the fragility of music institutions in times of financial hardship or global crisis: 25.9% of the surveyed museums had to make redundancies, a striking number, when compared to the average of 10% registered across the broader museum community (ICOM, 2021). The digital offer can mean more accessibility and a more diverse audience, however, many people across the world do not have stable access to the internet, and virtual content can be difficult to navigate. As indicated by the RCM's researchers, not every music museum had the necessary infrastructure to produce 'digital curators'.

The inequalities of the global situation are made evident in considering Southern African musical instrument museums. Perminus Matiure from the University of Namibia carried out a survey of museums in three Southern African countries, Namibia, South Africa, and Zambia. He shared the devastating effect of the pandemic

on the sustainability and infrastructure of African museums, which is not only due to the global health crisis, but to a history of distressed and unstable cultural contexts. He also stressed the social necessity of Museums to be guardians of the inherited, cultural tangible and intangible values that need to be 'resuscitated' and promoted for the health of his nation. This is a task which should rely on governments which, according to Matiure, should 'aid museums of the world with funding and support for online activities and mobile museum systems'.

The *Online Displays* paper session brought interesting and fresh perspectives that kept evoking digital humanities as useful platforms for disseminating museum work. Panagiotis Poulopoulos showed how serial numbers can throw light on the social and cultural biography of Erard's Grecian double-action harps. The scholar highlighted the documentation value of creating databases of serial numbers as these 'pools' of information can facilitate the selection of instruments for demonstrations, concerts or conservation treatments. Moreover, as this database will be available online, this specific group of harps could become much more accessible for researchers and the general public. On a similar note, descriptive and historical information of musical instruments could be accessed through a 'simple' QR code, according to Angel Olmos from the Musicology Department at the Royal Conservatory of Music of Madrid in Spain, who defined his eCauda project as an 'ecosystem of applications using decentralised blockchain technology that ensures the traceability of any musical instrument'. The organological endeavour of making collections accessible through digital platforms was particularly impressive through Rebecca Wolf's research project, which enables the sound of a collection of glass instruments in Berlin's Deutsches Museum to be heard online. Moreover, Vilma Vilunaite from the Lithuanian Theater, Music and Cinema Museum, presented an interesting virtual exhibition on the Baltic box zither or *kankle*. Vilunaite elaborated on the traditional aspects of the instrument, how they are 'alive in people's memory' and represent the spirit of the Lithuanian nation and history. Such important and deep cultural connections were stressed by Matthew Hill from the Collection of Musical Instruments at the Rickenbacker International Corporation in California, United States. He encouraged the audience to 're-engage' by 'thinking small' and always remembering the famous words of scholar Marshal McLuhan: the medium is the message. For this organologist and sometimes rockabilly performer, the way we use digital tools such as social media can help tell personal stories and go behind the scenes of the curatorial world in order to engage and connect in a more personal way.

The paper sessions on *Conservation and Research* brought together the many interesting projects that are currently being developed by different museums. Pascale Vandervellen offered an insight into two new exhibition spaces at the Musical Instrument Museum (MIM) Brussels, devoted to the celebration of Belgian keyboard instrument making. She highlighted how the MIM is also focusing on disseminating research on Belgian piano making, which is considerably less known than the Flemish harpsichord tradition. With a noticeable interdisciplinary and inter-institutional team, 'The Vibration and Conservation' project, presented by acoustician Marguerite Jossic from the Musée de la Musique – Philarmonie de Paris, has been studying how vibrations from all sources affect the collection of instruments of the Parisian institution. She presented some preliminary results such as the vulnerability of the objects inside the Musée de la Musique and the need to implement immediate measures to directly protect the objects. From the same institution and in partnership with the Sorbonne University, Louise Condi presented her project focused on locating and documenting European sympathetic stringed instruments made before the 19th century. Condi stressed how this project, which has already harvested 500 artifacts classified in 13 organological categories, will be available online and facilitate

future research endeavours. Museum online databases are significant resources for researchers, especially when it is not possible to visit the facilities in person. Federica Colucci from the University of Pavia in Italy shared her research approach in the midst of the pandemic. Focusing on the conservation, study, and documentation of a French violin, Colucci highlighted how a dozen online collections allowed her to use 6,072 instruments and iconographic representations that were relevant for her research. Althea SullyCole, Fellow at the Metropolitan Museum of Art in New York, shared a methodological discussion on the many theoretical approaches that can be applied to collections of instruments. SullyCole, highlighted the intangible nature of instruments and the different ways this heritage interacts with networks of people and social groups.

New Displays was the title of the final paper session of the CIMCIM 2021 Annual Conference. Christina Homer from the Open University shared the vicissitudes of contextualising the Peter Crossley-Holland collection of pre-Colombian Mexican musical instruments and the need to connect the artefacts with their archaeological sites and contemporary community. Indeed, keeping musical instruments and their music culturally alive and in context is a fundamental task of the curator. At the same time, Eric de Visscher discussed his *Hotel Beethoven* exhibition focusing on the legacy of Ludwig van Beethoven. His described view re-interprets the significance of the Romantic idea of genius. Introducing a similar critical approach, Annabella Skagen and Verena Bart from the Ringve Music Musuem of Trondheim, Norway presented the renewal of the Museum's display, which changes the traditional chronological and systematic layout. The Norwegian scholars highlighted the biological aspects of music, instruments and the human body, and focused on the meaning of music in the lives of humans across time and space. Stressing the potential of musical instruments to be 'tactile connectors between our present audiences and the life-worlds and practices of other places, times individuals and groups', Skagen and Barth resonated with Mathew Hill's evocation of writer E.M. Forster, who, in his novel *Howards End*, wrote:

> *Only connect! That was the whole of her sermon. Only connect the prose and the passion, and both will be exalted, and human love will be seen at its height. Live in fragments no longer.*
>
> *E. M. Forster, Howards End, 1910*

The video recordings of most of the conference papers are now available on line at CIMCIM 2021 Annual Meeting YouTube channel.

CIMCIM Call for Papers
'Global Crises and Music Museums: Representing Music after the Pandemic'

The COVID-19 pandemic has arguably caused the biggest disruption to the museum and heritage sector since the Second World War. All over the world, museums have had to close, some never to reopen, and many have had to suspend their operations for prolonged periods. However, the disruption has also invited – sometimes forced – substantial changes in the way museums perceive themselves and their interactions with their audiences. This has included an increased focus on digital offers, a reconsideration of the human relationships with external as well as internal stakeholders, new ways to guarantee the preservation, documentation and availability of collections and revised financial and sustainability planning.

Some of these changes will be transitory, while others are likely to leave permanent footprints on the identity of museums and the way they operate even after the emergency has passed.

This conference will highlight and discuss some of the initiatives and innovations that emerged from the past year, with particular attention to curatorship, conservation, learning and participation, and documentation and research. Critical perspectives, as well as case studies are invited to focus on the long-term impact of the pandemic and on the way the identity of music museums, their value and relevance to society and research, and their ways of operating internally and externally may have been transformed.

Conference Format

The 2021 Annual CIMCIM Conference was originally planned as a hybrid event open to on-site and online participation at the Royal College of Music and Horniman Museum and Gardens in London. However, the further restrictions to travel which were implemented at the end of summer 2021, led to the decision to hold the conference exclusively online.

Most of the pre-recorded papers are available online at https://www.youtube.com/channel/UCt_i5avfNSPmmEqg1boUmEw

◄ Or by scanning this QR code.

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Marie Martens (The Danish Music Museum, Copenhagen, Denmark)
Arnold Myers (University of Edinburgh and Royal Conservatoire of Scotland, Glasgow, UK)
Jen Schnitker (Metropolitan Museum of Art, New York, USA)

Conference Administrator

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Joyce Lam (Royal College of Music and Horniman Museum and Gardens, London, UK)

Papers

COVID-19 and Music Museums: National and International Overviews

COVID-19 and Music Museums:
Impact, Mitigation, Reaction

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Abstract

The high level of interaction between different professions, disciplines and audiences makes music museums significant cultural crossroads. Since the early months of 2020, this interchange has been abruptly severed by the government's measures meant to contain the spread of COVID-19. While a number of research projects have been carried out to assess the impact of the pandemic on museums, no specific study has yet examined how it has affected music museums.

This presentation is the result of a study conducted by the PhD candidates enrolled in the Music and Material Culture programme at the Royal College of Music in London, coordinated by Professor Gabriele Rossi Rognoni. Through a questionnaire and a series of interviews with professionals from music museums around the world, this research provides insights on the problems music museums have faced since the beginning of the pandemic.

While the project covers more than thirty countries, the panel will give a voice to countries that do not have a long-standing museum culture, including the those receiving Official Development Assistance (ODA) from the Organization for Economic Co-operation and Development (OECD).

This paper documents the outcome of a study undertaken by the team of doctoral students in Music and Material Culture at the Royal College of Music. This research was conducted between February and August 2021, under the supervision of Prof. Gabriele Rossi Rognoni and in partnership with CIMCIM.

The abrupt closure of museums due to worldwide measures to stop the spread of COVID-19 has been assessed by several studies. However, hitherto no research has focused specifically on music museums.

This study provides insights into the challenges that music museums and collections have faced since the beginning of the pandemic, and highlights the many actions developed worldwide. This research can potentially help music museums and collections to learn from each other and to find inspiration in the many initiatives developed during these troubled times.

The first months of the pandemic were characterised by a prompt reaction of the world's leading museum organisations which, by the end of 2020, had published their assessment of the impact of the pandemic. Most of these institutions published a second and third report as the situation evolved. Informed by these endeavours, we decided to articulate our study in two phases.

For Phase 1 we drafted a questionnaire of twenty-eight questions, divided into six categories (Museum information; Physical visitor numbers; Lockdown measures; Museum characteristics; Economic impact; and Online activities). We identified forty-five targeted museums to take part in our study, aiming for the widest diversification and geographical representation. We particularly attempted to include institutions located in countries receiving the Official Development Assistance (ODA) from the Organization for Economic Co-operation and Development (OEDC), to reach a more global and balanced perception of the impact of the pandemic, particularly as these areas had received less attention in other surveys in the museum sector. As required by UK University Regulations, our study was examined and approved by the Conservatoires UK Research Ethics Committee in April 2021. We then presented

Museo de Arte Hispanoamericano Isaac Fernández Blanco	Buenos Aires	Argentina
Kunsthistorisches Museum	Vienna	Austria
Museum Vleeshuis	Antwerp	Belgium
Canadian Museum of History	Gattineau	Canada
The Plumbing Factory - The Henry Meredith Collection of Musical Instruments	London, Ontario	Canada
Hubei Provincial Museum	Wuhan	China
Hunan Museum	Changsa	China
Chimei Museum	Taiwan	China
The Danish Music Museum	Copenhagen	Denmark
Musikinstrumenten-Museum SIMPK Berlin	Berlin	Germany
Deutsches Museum	Munich	Germany
Münchner Stadtmuseum	Munich	Germany
Germanisches Nationalmuseum	Nuremberg	Germany
Iran Art Museum	Tehran	Iran
Museo Internazionale e Biblioteca della Musica	Bologna	Italy
National Center for Research, Documentation and Musical Information Carlos Chavez	Mexico City	Mexico
Private Collection	Mexico City	Mexico
Museum Geelvinck	Amsterdam	Netherlands
Rijskmuseum	Amsterdam	Netherlands
Ringve and Rockheim Music Museum	Trondheim	Norway
Russian National Museum of Music	Moscow	Russia
Museo de la Música	Barcelona	Spain
Horniman Museum & Gardens	London	UK (England)
St Cecilia's Hall	Edinburgh	UK (Scotland)
Museum of Musical Instrument History BarabanZA	Zaporizhzhia	Ukraine
Sigal Music Museum	Greenville	USA
Lusaka National Museum	Lusaka	Zambia

Fig. 1. World map showing locations of participant museums and countries.

our questionnaire to the CIMCIM board in early July, as their awareness of our study was important to create further feedback and collaboration with a wide network of institutions.

On 7th of July 2021, we distributed the questionnaire through two professional music collections mailing lists (CIMCIM-L and the AMIS-L), and a week later, we shared the questions directly with representatives from the forty-five targeted museums. For this first phase, we collected twenty-seven answers, from eighteen countries, including nine museums in ODA-recipient countries (Fig. 1).

In order to expand and enrich our understanding of the situation, we launched Phase 2, which consisted of a series of interviews, to expand the responses obtained through the initial questionnaire. Interested participants were sent an information sheet and a consent form, and interviews were scheduled for August 2021. Based on the answers gathered in the questionnaire, we prioritised which topics we wanted to discuss. Overall, for Phase 2, we interviewed fifteen museum representatives from thirteen countries, including four institutions in ODA-recipient countries.

Results

Physical Space

The most visible issue produced by the governmental measures directed to stopping the spread of the virus was the closure of museums. According to the participants, closures began between January (for the Hubei Provincial Museum, Wuhan, China) and March 2020. On average, the museums were closed for more than six months, with general shutdowns ranging from three months to a year and a half, and some have not reopened yet.

Without access to their usual space, some museums have found creative ways to continue their work as cultural and social institutions. For example, the Lusaka National Museum in Zambia chose to present exhibitions in shopping malls, which were the only public spaces that were still open.

When the reopening processes began, music museums had to re-think their use of audio-guides. For many, these have become 'private' items, meaning that visitors are encouraged to download an app (Museum Vleeshuis, Antwerp, Belgium) or to scan QR codes within the museum exhibits (Hubei Provincial Museum, Wuhan, China) in order to avoid sharing physical devices.

Staff

Many museum professionals feared that the pandemic would result in job cuts. The survey published by the Network of European Museums Organisations (NEMO) shows that the majority of museums did not lay people off. Among the interviewed music museums, however, only 65% of respondents declared that their institution did not let people go, suggesting that a third of sampled music museums had to end staff contracts.

Moreover, the pandemic accentuated previous issues, and the situation became difficult to navigate for institutions that were already struggling with a shortage of staff or a small team such as the Kunsthistorisches Museum (Vienna, Austria) and the Deutsches Museum (Munich, Germany).

Budget

As expected, the main loss of income derived from the lack of ticket sales, which many institutions depend on. Participants declared other areas of loss, including venue hires, and educational programmes. Only 11% of the respondents declared no loss of income during the pandemic. (Fig. 2)

Fortunately, governments across the world responded to the impact of the pandemic by offering emergency funds. Many of these financial aids were aimed at cultural institutions, that are heavily dependent on ticket sale. Our research found that 75% of our participants received such funding.

Fig. 2. This graph shows the major areas of loss of income for the museums that responded to the questionnaire.

Digital Space

With their facilities closed, many museums turned to digital technologies to maintain the link with visitors. In our study, we discussed this phenomenon with the participants to see the main trends adopted by their institutions and their feelings towards them.

Overall, 85% of the respondents stated that their museum increased their production of online content during the pandemic. The most widely used digital tool was social media (over 90%), which museums already used before the pandemic. However, several museums produced virtual exhibitions or livestreams for the first time (Fig. 3).

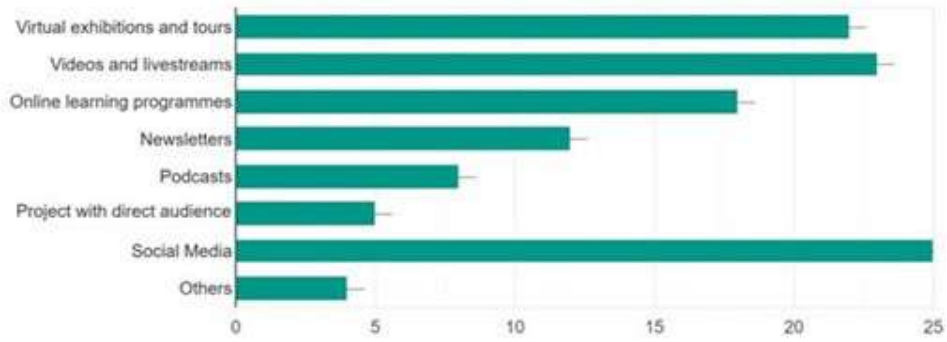

Fig. 3. Bar chart showing the digital tools used by music museums. Note how social media, virtual exhibitions and tours, videos and livestreams are the most popular means to share contents.

Mixing old and new ideas in this context presented some challenges to museum professionals. They had to think creatively about new ways to connect visitors to the museum, as was expressed by Helle Singsaas from the Ringve and Rockheim Museums (Trondheim, Norway) and Sarah Deters from St Cecilia's Hall (Edinburgh, UK). Several museums have taken advantage of these times to increase the accessibility of their collection. Some of our respondents, including Jimena Palacios from the CENIDIM and Guillermo Contreras (Mexico City, Mexico) advocated that, in order to both share and preserve the collections, digitalisation should be a priority.

The rapid advent of digital technology, however, has raised some concerns with some of our participants. Professionals often feel that they do not have the right

skills or tools to create the digital content they would want, as this was a new experience for many. Some, like Tayeebeh Golnaz Golsabahi from the Iran Art Museum (Tehran, Iran), expressed that this was also difficult for visitors, who were not used to finding and interacting with such content.

In general, many respondents felt that while digital tools are useful, they should not be used as standalone practices. This is particularly the case for collections that require a material analysis and thus an in-person study. Some of the participants, such as Mimi Waitzman from the Horniman Museum (London, United Kingdom) and Marisa Ruiz Magaldi from the Museu de la Música (Barcelona, Spain), mentioned the lack of regulation and certainty of digital practices, as we have yet to see their social impact in the long term. Digital platforms must be tamed by museum professionals before being used, and as Nataliya Emelina from the Russian National Music Museum (Moscow, Russia) expressed, professionals need to ponder why they use each platform, and how it can serve their content. Some, like Timothy de Paepe from the Museum Vleeshuis (Antwerp, Belgium), were positive that digital content could complement the physicality of museums.

Physical Audience vs Virtual Audience

The pandemic and subsequent lockdowns brought forward the question of a museum's virtual audience, particularly as the numbers of physical visitors drastically declined in 2020. Audiences turned to virtual platforms to interact with museums, but many participants declared that their institutions did not yet count online visitors. Some believe this could change in the near future.

Making content available online often means more accessibility and therefore a more diverse audience. Many saw this as a positive change because a broader audience, outside of their local community, could access their museum, like the Sigal Music Museum (Greenville, South Carolina, USA) which received online views from all over the world. While this is a valuable phenomenon for museums, several participants expressed concern regarding accessibility, as it highlights existing inequalities. Many people across the world do not have stable access to the internet, and virtual content can be difficult to navigate for people with disabilities such as dementia or visual impairments.

Education

For many music museums, schools are an important part of their audience. As pupils could no longer visit the galleries in person, there has been a rise in online learning programmes, as over 60% of the respondents offered this didactic modality. As with their other online content, music museums could thus reach a wider school audience, and attract schools from other parts of the world. However, this was not completely successful everywhere. In Norway for example, some schools decided to cancel online appointments with the Ringve and Rockheim Music Museums (Trondheim, Norway), as they felt children had enough digital activities and preferred to come back in person when possible.

Some museums managed to offer participatory projects to schools, like the Lusaka National Museum (Lusaka, Zambia). They asked school children to draw and create models about the coronavirus, and their production was exhibited at the museum, with the children as guides. The museum will keep this exhibition in the Children's Corner, demonstrating how the pandemic sparked new projects.

Concerts

Without the possibility of offering their usual live performances, many music museums turned to live-streamed concerts. Several participants expressed how important it was to maintain the link with their usual audiences, but it also allowed them to continue their collaboration with local musicians, who were also struggling to find an audience. Some, like the Museum Vleeshuis (Antwerp, Belgium), even collaborated with local filmmakers to produce these concerts, which were filmed in various parts of the museum. All surveyed museums that offered live-streamed concerts plan on continuing to offer these even after the pandemic, possibly in a hybrid format, letting the audience choose whether to attend the concert in person or virtually.

Time

One trend that emerged from almost all the interviews was that museum professionals had more time to dedicate to projects that had been set aside. For example, the Museo Internazionale e Biblioteca della Musica (Bologna, Italy), was able to create a virtual tour of the museum and an app for physical visitors: two initiatives that were planned before the pandemic. For other participating museums, this time was spent reflecting on long-term strategies and on their role within their community, thus creating an environment for the development of new ideas.

Emotions

While our study dealt with objective data regarding museums, a series of emotions from museums professionals arose from the interviews. We witnessed the passion and dedication to their work. It appears that the difficult feelings of the early months of 2020 were met with a strong will for community, shared among the staff of museums, with their colleagues around the world, but also with the museum's audience. Several respondents expressed that visitors had been eager to maintain a link with museums, and to physically return once possible. In May 2020, when some museums began to reopen, respondents enthusiastically told us that their visitors booked their tickets in numbers, impatient to return to the emotion of standing in a gallery.

Conclusions

We hope that our study can add a further layer of understanding of the problems caused to museums by the pandemic. We acknowledge that the sample of institutions surveyed could have been more diverse, as we would have loved to receive more contributions from Africa, Latin America, and Asia. However, we knew that launching such a study in the summer would mean a smaller number of participants, and we are happy that our project was met by enthusiasm from all the participants.

Overall, our research found that music museums were particularly impacted on an economic level. Fortunately, most of them were aided by government emergency funds. These results are aligned to the global situation of museums, reported in the studies of NEMO, UNESCO and ICOM. One aspect differs from these reports: ICOM recorded 10% of terminated employments while NEMO reported no redundancies for European museums. Conversely, our study counted that over 25% of surveyed music museums had to make redundancies. This might mean that music museums

lost more staff than other museums, which indicates that music institutions appear to be at a greater risk.

The advent of the digital space as part of the museum remains one of the most fascinating outcomes of these troubled times. While the focus on digital audiences is greater than ever, participants agree that there is a need for proper measurement and study of these interactions. Nonetheless, some museums have expressed concerns regarding the accessibility of online content, notably as digital audiences tend to be from a specific social class. Overall, many were enthusiastic about integrating digital elements to the physicality of their museum, while they also wondered how long this will last, as we still lack hindsight on this phenomenon.

Throughout this study, we have witnessed the potential for music museums to take a position as a place that brings people together. We hope that the dissemination of our study will allow institutions to learn from each other, while celebrating the common resilience of museum professionals, as well as their adaptability and passion for sharing musical heritage. We are truly looking forward to the reopening of the world, to see music museums taking up their role as places of exchange, socialization, entertainment, and learning.

We would like to thank all the institutions that took part in our study. (Fig. 4)

Fig. 4. Photo mosaic showing the interviewees. From left to right: Marisa Ruiz Magaldi, Museo de la Musica, Barcelona, Spain; Esther Kabalanyana Banda, Lusaka National Museum, Lusaka, Zambia; Thomas Strange, Sigal Music Museum, Greenville, South Carolina, USA; Tayeebeh Golnaz Golsabahi, Iran Art Museum, Tehran, Iran; Timothy De Paepe, Museum Vleeshuis, Antwerp, Belgium; Jimena Palacios, Centro Nacional de Investigación, Documentación e Información Musical Carlos Chávez (CENIDIM), Mexico City, Mexico; Beatrix Darmstädter, Kunsthistorisches Museum, Vienna, Austria; Helle Thomassen Singsaas, Ringve and Rockheim Music Museum, Trondheim, Norway; Mimi Waitzman, Horniman Museum and Gardens, London, United Kingdom; Sarah Deters, St Cecilia's Hall – Concert Room and Music Museum, Edinburgh, United Kingdom; Jenny Servino, Museo Internazionale e Biblioteca della Musica, Bologna, Italy; Guillermo Contreras Arias, private collection, Mexico City, Mexico; Silke Berdux, Deutsches Museum, Munich, Germany. The following two interviewees are missing from this photo mosaic as they collaborated in our study throughout written form: Emelina Nataliya, Russian National Museum, Moscow, Russia; Anna Wang, Hubei Provincial Museum, Wuhan, China. (Photos by the authors.)

Online or On Site:
Chinese Music and Instrument Museums after the Pandemic

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Abstract

As of 00:00 5th May 2021, based on the reports from the 31 Chinese provinces (including autonomous regions and municipalities) and the Xinjiang Production and Construction Corporation, there were 339 confirmed COVID-19 cases (including 26 severe cases). The aggregated numbers showed that there were a total of 77,911 recovered cases, 4,633 deaths, and 82,883 confirmed cases. There were still five suspected infections, and about 735,577 people had been traced as close contacts of confirmed cases, and 6,971 of them were still under medical observation. The pandemic is a catastrophe that impacted the entire world, and it caused enormous damage to China, its people, as well as Chinese museums. On 5th December 2020, the Chinese Museum Associates held an exclusive conference for its branch committees' managers in Hangzhou and shared information about Chinese museums after the pandemic. Recently, there were more than 6,000 museums in China. While 26.6% of them were private museums which were struggling and facing shutting down after the pandemic, public museums, following a long closure by the epidemic prevention policy, gradually opened to public and were able to maintain normal running from 7th April 2020 onwards. In addition, the public museums had been required to offer online services to audiences while they were closed and, since then, Chinese museums have experienced a kind of internet boom-time. In some ways, the pandemic accelerated Chinese museums' digitalisation, and Chinese music and instrument museums as a part of this, held exhibitions and lectures both online and offline, as well as participating in the establishment of two-dimensional community spaces. These, remarkably, were most welcomed by the public. The extreme environment of the pandemic encouraged us to consider whether online interaction with our audiences was an inevitable pathway for development.

The end of 2019, saw the first COVID-19 case confirmed in Wuhan. Without any preparation, an unknown virus caused a serious outbreak in China before the Spring Festival 2020. The pandemic was disastrous for China and the whole world. In order to halt the continuing outbreak and block the virus from spreading inside China, on 23rd January 2020, all walks of life in Wuhan were paused. In response to the COVID-19 prevention regulations, public gathering places, including all the museums in Hubei province, were shut down. Until March, more than 6,000 museums shut down across China. Nevertheless, the connections between the museums and their audiences were not completely cut. Instead, museums began to offer various online museum activities to the public, including 5G cloud museum tours, virtual

exhibitions, online lectures, training sessions, concerts and festival blessing ceremonies. Series of special topic posts began to turn up on museums' official social media accounts. Those online activities gained huge exposure, increasing fan bases, and inspriring favourable comment. Before the pandemic, museum online activities were regarded more as supplementary forms of offline museum events. But after the pandemic, we began to consider whether the blossoming of museum online interactive activities, although hastened by the pandemic, were in fact an inevitable progression of the museums' development. This paper will introduce the background and the general pandemic effect on Chinese museums; then it will analyse the reason why the blossoming of online interactive activities was an inevitable progression of museum development, spurred by governmental policies which responded to the pandemic.

Since China's Reform and Opening-up stage, most Chinese museums form part of the nation's assets. These national acquisitions were formed from archeological excavation, cultural relics, repair to the museum exhibitions and public education programmes. In contrast, the online format had been very slow to develop. Then in 2016, China formulated a series of policies to support Chinese museums in the development of the internet, applying science and technology.

There were three specific encouragement polices issued in 2016. The Guidelines of Science and Technology Innovation in 'The 13th Five-Year Plan for Cultural Heritage Protection and Public Cultural Service', pointed out the working priority of the museum from 2016 to 2020, which was to focus science and technology innovation towards the application of the internet:

> *...to enhance the innovation capacity as the strategic goal, to cultivate the scientific innovation capacity as strategic reserve, to integrate scientific and technological resources and optimised innovation services as the strategic support, to implement numbers of essential scientific and technological plans as a strategic breakthrough, to improve the capacity in cultural heritage protection and public cultural services to promote national transformation from cultural heritage protection service-oriented country to the strong country.*

The 'Internet+Chinese Civilization Three-Year Plan', encouraged museums to build up the system and regulation of authorisation, and to open up and cooperate with organisations and companies:

> *...to build up cultural relics information and copyright resources authorisation regulation. It is encouraging museums via general, separate or special authorisation to transform the resources advantages into market advantages.*

Meanwhile, 'Towards Strengthening the 13th Five-Year Cultural Relics Technology Working Handbook' pointed out that:

> *...to clear the main working target. And there are seven working priorities, including enhancing the research in basic application programme, promoting the preventative protection technology innovation, building the technological system of cultural relics repair, building modern information technology system, improving the upgrade of cultural relics protection equipment and application, building and improving the standard system, enhancing the publicity of technological achievement.*

In 2017, 'The Management Measures of Internet + Chinese Civilization Special Fund' described three different of ways that the government would offer financial support, including the budget of museum related bureau level department, the central governmental support fund of cultural industry, and the special fund for national essential cultural relics protection. These were established and funded especially to support 'Internet + Museum' projects. After the series of policies were issued, Chinese museums entered a new phase of experimentation in 'Internet + Museum'. Numerous museum official social media accounts emerged, and official museum websites started to upgrade and post links to virtual exhibitions free to the public.

On 28th January 2020, five days after Wuhan locked down, the Chinese National Cultural Relics Bureau released 'The Proposal for Offering Online Exhibition to Museum Online Exhibition Platforms' to encourage museums to support free virtual exhibition resources to audiences. Thirteen hundred museums responded to the proposal, and more than 2000 virtual exhibitions opened in 2020, which might might not have happened without the previous five-year policy and the financial in support it offered to technology and innovation.

The blossoming of museum online activities also needed to attract extensive public attention and huge numbers of users with internet access. Based on 'The 45th Statistical Report of Internet Development in China' by China Internet Network Information Centre, until March 2020, there were 904 million internet users in China; the national internet penetration rate reached 64.5%. Smart phone users reached 897 million, and 99.3% of them surfed the internet via mobile phone. Based on the statistical report from the National Cultural Heritage Administration, the continuing influence of Chinese Museums Free Tickets policy implemented in 2008, Chinese museums experienced 10 years' golden development time from 2010. The total number of museums in 2010 was 3,145, but this had increased to 5,535 by the end 2019. The annual visitors numbered 407 million in 2010, increasing to 1,227 million in 2019. Among them, there were 4929 museums free to the public which received ten billion two hundred and twenty million visitors in 2019. About 28,600 exhibitions and 334,600 educational activities were held by Chinese museums. Since the 13th Five-Year Plan, about every two days, a new museum was established in China. On average, there was one museum to every 250,000 Chinese people.

In 2020, COVID-19 broke out over the whole country. During this period, there were 29,000 exhibitions and 225,000 educational activities held by Chinese museums both on and offline. During the control measures of the pandemic, with the preventive and limited museum entrance regulations, there were 540 million visitors to Chinese museums. Although the pandemic caused annual visitor numbers to drop dramatically, museum online events mitigated the limitations, and 2000 online exhibition brought 5 billion page views. Public appetite for attending museums online and in person was still very strong in China.

In 2020, various online activities were offered by Chinese museums. Chinese music museums and comprehensive museums related to music, as an essential part of it, also offered numerous online events to the public.

Wuhan completed its 5G network covering the whole city programme in 2019, making Hubei Provincial Museum the first 5G museum in China. During the lockdown, Hubei Provincial Museum offered a 5G museum programme including a Museum App and a 5G panoramic tour, virtual exhibitions, Rites and Music Online Classroom, with series of topical articles, short films, Museum Q&A, and Online manual training classes. Also, an online interactive education programme for the temporary Ukiyoe exhibition in the museum was designed. Visitors to the museum and its exhibitions, could check the exhibition content using their phone or computer. To entice online visitors, one exclusively online activity was arranged: entering

the biggest exhibition showcase to see the Chime-bells of Marquis Yi of Zeng without the glass cover. Rites & Music Online Classroom held more than 100 activities during the Wuhan lockdown, and the topics were not only focused on music, but also related to the pandemic situation, spreading the important message of washing hands and wearing masks. The museum opened two classes for telling the story of how ancient people washed hands, and how they fought the disease Hymenolepiasis (tapeworm) during the Qin dynasty. The two classes were very well-received by the public: the number of reposts, viewed and liked reached around 1000, about four times more than before the pandemic.

Hubei Provincial Museum also cooperated with Sina entertainment. The museum made a series of six short films, 'The Inner Words from the Cultural Relics'. This series revealed the deeper meaning of the six most important collections to comfort, encourage and entertain the viewers, especially the people still in lockdown, and included:

1. Lacquerware Duck jewelry box – Girls have their special glow.
2. Sword of Goujian – The difficult situation can allow us to rethink and centre ourselves.
3. Painting of Horse and Carriages – There are still lots of dreams and journeys expected in the future.
4. Bronze Camel Lamp – Keep the light in your heart, we will finally arrive at the destination.
5. Bronze Utensils Ice Container – Trust the intelligence power of humans.
6. Chime-Bells of Maquiz Yi of Zeng – Music will come back to us again.

Many museum live broadcasts on various platforms were displayed. According to the record of the People's Daily, 8 million people watched them simultaneously. After museums reopened, the museum continued to offer the online activities, in order to enhance the periodic pandemic control measures as necessary, and to encourage people to cancel trips during the Spring Festival holiday in 2021. The Rites & Music Online Classroom held digital festival greeting activities, and was warmly welcomed by the public. There were 200 million people watching the 2021 Spring Festival Live broadcast. And other museums in Hubei also opened online activities, like joint live museum tours and free lectures.

The scale of the outbreak was much smaller outside Hubei province, and there were more kinds of online activities offered by the music museums to enrich the online visitors' experience, such as live concerts, Spring Festival Praying Ceremony live – Ringing the Big Bell, and numerous live museum tours on social media. More direct, innovative and interactive experiments were tried by museum directors and online trading platforms. On 23rd February 2020, eight museums including the National Museum of China, Gansu Provincial Museum, Suzhou Museum, Shouguang Vegetable Museum, Sanxingdui Museum, Dunhuang Museum, Liangzhu Museum, and Forest of Stone Steles Museum cooperated with the biggest online trading platform of Alibaba, TAOBAO. One by one, the museum directors introduced the museum, collections and museum products from the gift shops via the live broadcast. Held over a period of 12 hours non-stop, 7 million people entered the live channel in the first two hours, and in the peak period, 10 million watched live simultaneously. Daily turnover was four times greater than in the past. It also brought a positive effect to other museums' official online shops on TAOBAO: Claude Monet T-shirts from the State Hermitage Museum, Anderson Cat table pieces from the British Museum, lipsticks and cat cups from the Palace Museum of the Forbidden City all benefitted, and the gross sales of museum products on the platform on 23rd and 24th February 2020 was 6 million RMB.

Online activities brought massively increased public attention and positive impacts. In 'The Analysis Report of Internet Attention in Hubei Province Tourism – June 2020', Hubei, compared with other cities/provinces, became among the top three location names related to tourism. 'Museum Reopens' flew to among the top ten hot topics of search engines. At the same time, Hubei Provincial Museum had 19,755 online information requests, 6,922 exposures by media, and was rated the top scenic spot in Hubei Province.

In conclusion, Museum online interactive forms represent inevitable progress of Chinese museum development. The achievement that was seen during and after the pandemic was not built up in a short three-month lockdown, but rather reflected long-term continuing policy support as part of a clarified direction of whole national development, established and improved regulation, clearly articulated mission priority and resourcing, a wide public appetite and a large number of users. The efforts of museums, staff and related companies, contributed comprehensive elements for creating the blossoming of museum online interactive activities, and the pandemic objectively accelerated the progress in an unexpected way.

COVID-19 Pandemic and the Sustainability of Museums in the Southern African Region: Challenges and Mitigating Measures

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Abstract

The unbearable and treacherous effects of the COVID-19 pandemic have not only been devastating to people's social life and economic growth, but also to museums. Museums have a mandate to preserve both the tangible and intangible heritage of communities that risk extinction. Apart from just displaying and storing the materials, museums enable access to these materials, visitors, and scholars. To have an insight into the extent to which museums in the Southern African Region were impacted by the pandemic, the researcher conducted a survey of museums in three Southern African countries: Namibia, South Africa, and Zambia. For ethical reasons, the writer will refer to these museums as A, B, and C. The researcher was not able to visit museums in Zambia and South Africa due to COVID-19 travel restrictions. Alternatively, a novel methodology called 'netnography' was adopted. This consists in six questionnaires which were distributed to museum administrators from the two countries using online platforms. However, the researcher managed to hold face-to-face interviews with three participants from the Namibian National Museum. The findings indicated that the pandemic had a devastating effect on the sustainability and operations of the museums. The number of visitors declined drastically. Also, the collection of materials came to a halt, especially from March to November 2020. The museum reopened this year in 2020, but there are still very few activities taking place. From the suggestions provided by the participants on ways of resuscitating their museums, they indicated that they intend to digitise and create an online platform where museum materials are showcased. One participant suggested that the use of mobile museums may be another way to mitigate the problem. It is recommended that governments should aid museums all over the world with money to fund online activities and mobile museum systems.

Introduction

Personally, I have never thought that it might be possible for the world to come across a situation where nearly everything comes to a halt; a time where travelling by air, sea or land would stop and a situation where industries vital to the economy are closed, professionals stop going to work in offices, schools, institutions, and factories also stop. Stadia for sporting activities become white elephants, and people become housebound under the mantra of lock down. Instead of having camps for soldiers or prisoners, you have isolation camps for ordinary people presumed affected by a

pandemic. Such was the situation from the beginning of 2020 to date, although there are variations here and there where such restrictions have been reduced.

COVID-19 has caused the world to be in the predicament alluded to above. The impact of this pandemic did not spare museums in the countries of the Southern Africa region. This article aims to identify the broad mandate of the museums, establish the activities performed by the museums before and during the spreading of the virus, and identify challenges caused by it and the measures taken to mitigate them.

Background

The Southern African Region has several traditional cultures which are distributed across countries including Zimbabwe, Zambia, Malawi, Botswana, Namibia, and South Africa. Each ethnic group has its own culture. However, there are a number of parallels and commonalities among the cultures. One of the most glaring commonalities is traditional music, which acts as the core of every culture. In addition, these ethnic groups possess songs, idioms, and traditional musical instruments that are shaken, blown, beaten, and squeezed. The songs and musical instruments, which are usually inherited from ancestors, form the deepest part of their heritage and endow both sacred and secular practices. From time immemorial, these ethnic groups have been safeguarding these idioms, songs, and instruments through performances and taboo. There was a lot of respect invested in these traditional treasures, and the elders, who are the custodians, made sure that both tangible and intangible cultural products were preserved for the benefit of future generations. This is so because '... the arts in indigenous Africa evoke both sacred and secular emotions in the process of coping with both the tangible and intangible realities of life in a distressed or stable cultural environment.'[1]

However, due to technological changes, migration, dismantling of the extended family system, colonisation, cross-culturalism, as well as a paradigmatic shift in religious beliefs, most of the Southern African countries' traditional idioms, songs, and musical instruments are slowly disappearing or rendered useless. One way of preserving these genres and instruments is to preserve them in an archive in their tangible and intangible form. It is apparent that most Southern African countries have established music museums which archive cultural products in tangible and intangible form. These embrace sound recordings of idioms like language, dance, rituals, tales, myths, festive events, knowledge, totems, practices, proverbs, techniques and skills songs, folk tales, riddles, videos of performances of traditional dances and rituals and displays of still photos of musical instruments and traditional objects and also tangible musical instruments. The main aim for establishing these materials is to preserve them and also create a repository for indigenous knowledge and materials for scholars and tourists.

The works of these museums were affected by the advent of the COVID-19 pandemic when it spread from China to almost every part of the world, with Southern African countries particularly involved. The unbearable and treacherous effects of the COVID-19 pandemic have not only been devastating to people's social life and economic growth, but also to museums. Museums have a mandate to preserve both the tangible and intangible heritage of communities that are rendered vulnerable to extinction. Apart from just displaying and storing the materials, museums enable the accession of these materials by visitors and scholars. The advent of the virus in

1 Meki Nzewi, 'Discussing Music as Science and Arts', in *Emerging Solutions for Musical Arts Education in Africa* (Cape Town: African Minds, 2005), 25.

late 2019 had a negative impact on health, industries, education, the economy, social relationships, politics, the transport system, as well as tourism. As a result, museum pieces were not spared. All along, no measures have been put into place. The focus was on aid, climatic change, and war. The virus caught everyone by surprise. Museums are not exceptional, hence this paper.

Museum Work and the Preservation of Cultural Heritage

Every African society has a cultural heritage which is passed on from generation to generation. This heritage includes cultural resources, such as idioms, traditional objects, songs, and anything that forms part of the culture of a people. Cultural heritage is;

> *... the legacy of cultural resources and intangible attributes of a group or society that is inherited from past generations. Heritage is the full range of our inherited traditions, monuments, objects, and culture. Most important, it is the range of contemporary activities, meanings, and behaviors that we draw from them. Heritage looks to the past, but it is something that is produced in the present for a particular purpose within human groups and societies.*[2]

Tangible Traditional materials and intangible heritage belonging to African communities have managed to outlive their term of existence due to the valuable work of museums. Seeger postulates that 'The objective of archives is to outlive their individual contributors'.[3] The majority of the countries in the Southern African region have one or more museums which house materials in the form of tangible and intangible states. This is in line with Serageldin et al., who suggest that '...the preservation of cultural heritage is central to protecting a sense of who we are, a meaningful reference in our culturally diverse world'.[4] Among these materials are musical instruments and recorded songs. In addition, Serageldin et al. have this to say about intangible heritage:

> *There are many ways in which a cultural identity is formed and maintained. Much of...the process has to do with the intangible cultural heritage of a body of traditions and usage, rites, poetry, song and dance. A great deal of all this is passed on orally through generations. Consequently, its survival is always threatened.*[5]

Heritage is part of culture, and culture is a complex whole comprising all the attributes that constitute a people's life. Since culture is dynamic, so is heritage. The dynamism of culture makes it vulnerable to change. Governments established museums in order to conserve heritage. A museum is a building where tangible and intangible material culture is conserved. It is a 'non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves,

2 *What Is Heritage?*, 2019, https://www.youtube.com/watch?v=nf8DyjCz8UE.
3 Anthony Seeger, 'The Role of Sound Archives in Ethnomusicology Today', *Ethnomusicology* 30, no. 2 (1986): 265, https://doi.org/10.2307/851997.
4 Ismail Serageldin, Ephim Shluger, and Joan Martin-Brown, *Historic Cities and Sacred Sites: Cultural Roots for Urban Futures* (World Bank Publications, 2001), xix.2001
5 Serageldin, Shluger, and Martin-Brown, 4.

researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purpose of education, study and enjoyment.'[6]

Before the advent of COVID-19, museums performed their mandate quite diligently and effectively. Although scholars like Spalding have since noted a problem, museums have almost experienced a paradigm shift in their roles due to a number of impingements. He mentioned in a paper that:

> *On the whole, museums have remarkably lost their nerve about collecting, and lost the purpose of collecting; it's ceased to become the main purpose. They have become much more concerned with trying to communicate, trying to provide access, trying to reach new audiences, trying to educate, and they are much less concerned about actually acquiring and actually adding to those collections. And I think this is symptomatic of something that's a real fundamental change and turning point in the whole of the museum business which is happening now.*

Contrary to Spalding, all of the museum officials consulted indicated that they performed the duties of collecting songs, folk tales, and musical instruments that are endangered by change and technology. They also collected traditional objects that are of cultural, historical and spiritual significance. They preserve tangible and intangible materials by depositing them in the museum. The other roles were cataloguing materials in the museum and enabling access to the materials by community members, scholars, and tourists by hosting them. Some museums, like the one in SA have been busy transferring intangible information like songs, tales, poems, and riddles from one medium to another. For example, from vinyl to CD or from CD to MP3 format allows more ways of transmission and sharing. They also analysed the materials deposited in the museum in order to generate indigenous knowledge which can be shared with scholars and other researchers. They indicated that they are doing research on aspects that involve indigenous knowledge systems.

However, the roles of museums have been challenged by many scholars in that they need to travel an extra mile in their mandate. They should go beyond the generic roles indicated above. In a public lecture, Arinze, President of the Commonwealth Association of Museums (May 17, 1999) made these suggestions about the additional roles of museums: that museums must show leadership in the promotion of the heritage of the nation. They must have the capacity to broker peace, unity and understanding in times of conflict and disorder. They must speak out when there is fear and danger in the land and tackle current problems in society, be they the problems of drugs, street children, prostitution. Lastly, they must speak through their exhibitions and programmes for the good of the nation and organise festivals that can attract an international audience.

Aims of Museums

In order to collect information about the aims of museums, the researcher sent some online questions to which the participants, especially museum officers, responded in writing. The questions related to their perceptions about museums before COVID-19 and about the visions of their museums. One participant indicated that the museum's mandate is to preserve the rich movable cultural and natural heritage for posterity

6 'Resources', International Council of Museums, accessed 15 July 2022, https://icom.museum/en/resources/.

and to promote its use for national identity, research, education, enjoyment, and economic development through tourism. Another one had the vision of upholding the traditional styles by recording, documenting, and preserving this history. This is done through research, publication, education, and community outreach. The last said its aim is to collect, preserve, and exhibit the material culture that characterizes the societies that exist in the country.

To support the mandate of museums, MacGregor has this to say:

> *The Museum itself is a site or 'theatre of memory'... It has acquired its own cargo of memories. Memory is not however, a static, nostalgic condition, but an active and ongoing dynamic, and museums must respond to its perpetual reverberations. Accommodation and responding to memory is a central, but rarely articulated responsibility of contemporary cultural institutions.*[7]

In other words, museums are social memories, which are at the core of conservation of historic heritage, without which a society's history and future are undetermined.

Situation before COVID-19

Museums have not suffered much since their inception. The only setbacks were caused by wars and climatic changes. Hooper-Greenhill suggested that:

> *The identity of museums has sometimes been firmly held and, until recently, little has disturbed it. But it is a mistake to assume that there is only one form of reality for museums, only one fixed mode of operating. Looking back over the history of museums, the realities of museums have changed many times. Museums have always had to modify how they worked, and what they did, according to the context, the plays of power, and the social, economic, and political imperatives that surrounded them. Museums, in common with all other social institutions, serve many masters, and must play many tunes accordingly. Perhaps success can be defined by the ability to balance all the tunes that must be played and still make the sound worth listening to. At the present time, in many areas where decisions are now being made about the funding and maintenance of museums, hard questions are now being asked about the justification of museums, about their role in the community, and their functions and potentials.*[8]

By making a follow-up of Hooper-Greenhill's sentiments, the pandemic has indeed disturbed the role of museums in the community.

In order to establish clearly the impact of COVID-19 on the works of museums, the researcher consulted participants on the conditions of their museums before the pandemic. All of them confirmed that everything was normal. They were involved in the collection of materials and songs, depositing the works in the museums, making sure that accession was easy and receiving visitors day in and day out. One of the participants indicated that before COVID-19, the Museum recorded a total of more than 18,000 visitors over a period of 12 months. The other one said before COVID-19, they used to receive over 10,000 visitors a year. Below is the graph with the

7 John Mack and British Museum, *The Museum of the Mind: Art and Memory in World Cultures* (British Museum Press, 2003), 8–9.

8 Eilean Hooper-Greenhill, Museums and Their Visitors (Routledge, 2013), 1.

statistics of the visitors to the museums from Namibia, SA, Zimbabwe and Zambia up to 2019 (Fig. 1):

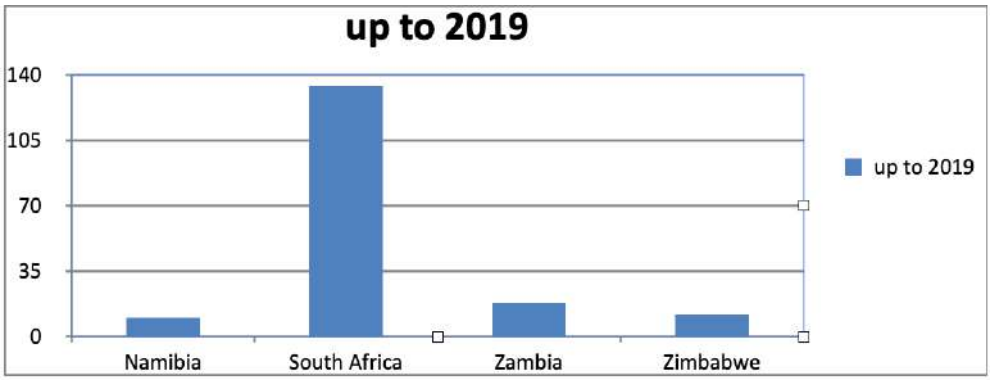

Fig. 1. General impact of the pandemic. Note in the vertical column the number of visitors against the selected African countries.

The data collected shows that the impact of COVID-19 on the operations of museums in the Southern African region was severe and left these institutions in a jeopardized state. The entire system of collection, preservation, and accession was disrupted. In some cases, the museums were literally closed for at least six months. One participant indicated that:

> *The museum first closed its doors to the public in the second week of March 2020, as the country started recording increased cases of people contracting the COVID-19 virus. As the museum is a public institution, both the staff and visitors become potential transmitters of the virus and are also at risk of contracting the virus. The second wave had no impact, and the museum's operations continued following guidelines put in place by the government through the Ministry of Health. However, during this third wave, the museum is currently closed with effect from 5th June 2021, until further notice. Only research staff report to check on the condition of objects both on display and in the storeroom from time to time. (Interview 2021)*

Others indicated that there was a drastic decline in the number of visitors to their museums. They also experienced disturbances in their working conditions and operations. Some were totally closed and others were coming here and there to give room for sanitisation or to adhere to their countries' COVID protocols like shutting down. One participant (D) said that there was a disconnect between materials and curators. Curators had fewer opportunities for constant intimacy with their materials. Collection of materials almost came to a halt. Curators were unable to continue collecting materials from the communities. It was also indicated that it was difficult to come up with a workable programme that could attract visitors during this period. The graph below summarizes the statistics during COVID-19 by providing a comparative analysis of statistics of up to 2019 and in 2020 to early 2021 (Fig. 2):

From the graph, it can be noted that COVID-19 affected museums in a big way. Museums were struggling to perform their duties. Some museum workers lost their jobs. In some cases, museum officials passed them on. Loss of relatives caused depression and thus affected work. Some museums, like one in Namibia, were only established in early 2020 and are currently struggling to launch.

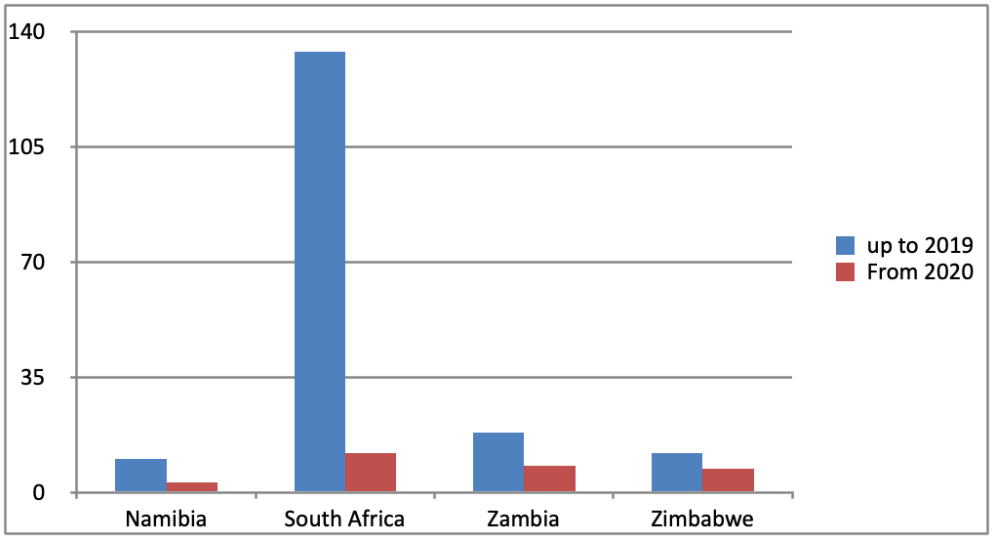

Fig. 2. Comparative analysis of statistics of up to 2019, 2020 to early 2021. Note in the vertical column the number of visitors against the selected African countries.

Extenuating Ways of Addressing the Situation

The data collected indicated that museums had to put in place some measures to deal with the devastation caused by COVID-19. The common ones were that they had to be more creative in their use of online presentations. However, one was lucky in that it had started long before COVID to develop a website where scholars could access the materials in the museum. One museum indicated that they were thinking of developing mobile museums, which they think may foster decongestion. Some have commenced the process of converting tangible materials to still photos for sharing on websites. All the museums confirmed that they are busy seeking financial support from governments and organisations so that they can recover and also fund the development of websites.

Conclusions

The paper has examined the effects of COVID-19 on museums in Southern African countries, particularly Zimbabwe, Zambia, Namibia, and South Africa. It is concluded that COVID-19 had devastating effects on museums in the Southern African region. Museum personnel never thought things could be like that and had no precautionary measures put in place for eventualities such as COVID-19. Most of them were caught unawares, and hence the effect was severe. Social ties were broken as people were asked to maintain a distance, and in some countries, the numbers of people gathering at a particular place were limited. It has indeed become a global crisis. However, measures which are being used to mitigate the problem are the intensification of online facilities. This includes creating websites where interested members can access the materials. In other words, there are concerted efforts to digitalise recordings and upload photographs of materials to the websites. Other museums have adopted the use of shifts. They come to work in small numbers on different days. There is a need for individuals, organisations, and associations to assist in resuscitating these museums financially where possible.

Music Museum Responses to COVID-19

The Museum's Virtual Experience:
Opportunities and Sustainable Perspectives

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Abstract

During the crisis that we experienced in 2020, the priority of the Music Museum was not only to keep contact with its public, but also to invent a virtuous and sustainable way of existing 'virtually'. How can we take our place on the Internet and on audio-visual channels without rendering site visits redundant? How can we reconcile digital communication with the scientific requirements of a museum?

The scientific and cultural teams of the Musée de la Musique will share two experiences: the creation of musical videos dedicated to its collection, and the implementation of a sustainable offer of remote visits to the Museum. Both are digital resources that are not only valid in times of crisis, but capable, in the long term, of renewing the image of the museum, while deepening the knowledge of works or parts of the collection.

Introduction

When the pandemic struck and museums closed their doors in the spring of 2020, the digital transformation of our institutions was the obvious solution. The recent context of the epidemic gave rise to and spread the term 'social distancing'; to tackle this, we had no choice but to find alternative ways to keep in touch with the public and needed to find a way to maintain those moments of collective emotion with regard to music, and also to knowledge and heritage.

There were several possible solutions, via social media for example, which is very efficient for broadcasting interviews, online participative games and other short content. But, faced with the – often very creative – abundance of content posted online by museums all over the world, we decided to take our time to refine a strategy that I would call 'sustainable'.

The museum's scientific and educational teams, came to the table to address these questions together. Can a museum really live and fulfil its fundamental missions 'remotely'? Should this virtual existence serve only to mitigate the crisis, or is it a chance to invent sustainable, lasting content that remains attractive beyond a crisis situation?

This soul-searching involved rethinking our museum's communication strategy. For a long time, at least for us, digital communication was, above all, a marketing issue, and managed by a marketing team. But what if it were now possible to reconcile a museum's digital communication with its scientific mission?

Our modest efforts were focused on a small number of projects: a line-up of virtual or remote guided tours, and a film about the museum's electric guitars, called *Guitar Eros*, with artist Seb Martel.

Guitar Eros: a Film Produced during Lockdown

For almost nine months, this film kept the Museum's teams busy – not only our production and communication teams, but also, and especially, our curators, researchers and educational specialists. During these nine months, we ended up more or less silent on the internet to concentrate on producing it.

– More than just Promotional Items: Films of Heritage Interest

We wanted this film to be more than a promotional tool whose use would necessarily be limited in time, as if for advertising. We wanted to make it an 'item of heritage interest'. *Guitar Eros* is the result of many years of research by Philippe Bruguière, Alexandre Girard and the Museum Laboratory into our collection of electric guitars. For several years, the team studied both the instruments' history and their conservation and maintenance in a playable condition. The film we have made promotes not only this scientific work on our guitars, but also expands and opens it up to the future in concrete experiments by the guitarist Seb Martel. In the film, you'll see that the musician is dramatised by director Paul Ouazan. He wanders, guitar in hand, alone in a now-deserted, locked-down museum. This solitary site becomes a place for original sound explorations, interesting both artistically and with regard to heritage.

– Promoting Creation and Activating Collaborations with Living Musicians and Artists

The film's other aim is also, from a sustainable perspective, to consolidate contemporary musicians' and artists' connection with our historical collections. In this film, the musician Seb Martel is discovering and getting to know our guitars. Seb Martel is one of France's greatest guitarists and, among other things, is also the close collaborator of Matthieu Chedid. As the 2020 lockdown began, as museums closed their doors and concert tours were cancelled, we got in touch with him. Despite the lockdown, we invited him to the Museum to prepare the film. There, Alexandre Girard spent many days with him to follow and guide him in his choice of instruments. Working with Martel enhanced our understanding of these instruments, especially their sound potential. And vice versa, working with us, Martel contemplated the history of guitars (Fenders, Stratocasters, Gibsons, and so on) and began composing with their history in mind. We believe that this type of collaboration can also serve our museums in the long term by updating its message and potential and by engaging in a fertile and much-needed dialogue with the present.

– Dismantling the boundaries between erudite and popular cultures

Unlike with short-lived marketing videos, we did not want to target one specific audience, for example, a young audience, or rock and pop fans. On the contrary, we wanted our film to encompass all the wealth and various identities of the museum,

in a way that was sustainable and consistent. There are two ways of doing this: here, during his wanderings, Seb Martel encounters the entire history of music since the Renaissance. And, again to blur any boundaries, he plays musically with this long history. The repertoire he's chosen moves from Annie Lennox to Purcell, from Elvis to Schubert and from Carl Perkins to Britten. Beyond distinctions between popular and learned cultures, he shows that the revolution born in the twentieth century with the invention of the guitar still permeates the entire musical field today.

This film is still on-line at the moment. Made in extraordinary circumstances during lockdown, it speaks about the museum and about its ambitions, which we hope will be sustainable over the long term.

II – Remote Guided Tours

– A New Educational Formula for 2021–2022

Usually, the museum offers around 40 visits, workshop visits and storytelling tours in its permanent collection and its exhibitions, for groups from kindergarten to high schools and students. We also schedule activities for adults and families as well as for people with disabilities.

Next November, the Musée de la Musique will offer students the chance to explore its extraordinary collection without leaving the school building! Presented live by one of the museum's specialist tour guides, these activities combine learning about the museum's instruments with musical games, and meeting musicians and museum experts via video-link. The activities – fun, lively, and filled with music – are a different way of visiting the museum, in addition to a possible class visit (Fig. 1).

Fig. 1. Musée de la Musique students online (Photo: Gil Lefauconnier / Philharmonie de Paris.)

Origin of the Project

The idea for the project originated during the last pandemic. With the Museum's closure, we wanted to stay connected with our visitor family and maintain work for the museum's lecturers and guides (employed for the season), sometimes with live guest narrators and musicians.

We created a video-link format for some visits (for holiday activities and for the annual cycles that began in October). One hundred sessions were held via video with

over one thousand participants. Children and their parents were delighted, and we have received many thanks for this offer. The Philharmonie Communications Department helped us market these tours, which sold out in 24 hours.

The museum wished to prolong this experience and develop a new educational formula for school children that would be sustainable and adapted to the new health context, so our 'Remote Guided Tours' will also be on offer for the 2021–22 season.

–How a 'Remote Guided Tour' works – The Process

A lecturer-tour guide gives a video presentation from one of the Museum's education rooms, while a class logs in from school. During the session, the guide explores a musical theme and converses live with the class. He or she shares photographs, musical extracts, Philharmonie concerts and videos specifically shot in the collection, but also in the Museum's storerooms or Laboratory (Fig. 2). The session concludes with musical games and quizzes.

Fig. 2. A remote guided tour from the workshop room. (Photo: Gil Lefauconnier / Philharmonie de Paris.)

The educational team sent the class a file beforehand to prepare for the session, which lasts for an hour. This visit is intended to schoolchildren only, from CE2 to the 3rd and costs 70€ for a class.

This formula can be adapted for other audiences: adults, teachers, 'socially disadvantaged' groups, disabled people and so on. The educational team is already working on a version for Alzheimer's patients for whom the Museum already have an adapted offer in situ.

Then, after a brainstorming session, the team had to select themes to consider the entire museum and that may correspond to school curricula. Finally, five themed Remote Guided Tours will be on offer next season: Mini-Maxi; Voyage, Voyage; The Museum's Treasures; The Era of Inventions; Pop Museum.

They will explore the collection in a cross-disciplinary approach and focus on the collection's flagship instruments, and key figures in musical history.

Creation of Specific Content

Twelve videos were produced this year specifically to be used during the Remote Guided Tours. The duration of each video is about 5 minutes (Fig. 4). The curators and the museum guides, supervised by the head of the mediation centre, wrote the screenplays of the videos. We hired an outside production company to make all the films. To avoid spoiling the surprise effect, the films are not visible on the internet, but reserved exclusively for this offer.

Fig. 3. A remote guided tour from the storage room. (Photo: Gil Lefauconnier / Philharmonie de Paris.)

Some will explore unusual instruments, visit less-known areas of the museum and discuss various museum careers. Others will present the musicians who play regularly in the museum's halls.

Outlook for Educational Offer of the Museum

The 'Remote Guided Tours' open up several horizons by encouraging the Museum's outreach and scope: reaching out to geographically distant audiences or those that cannot make the trip physically.

It makes this activity a permanent feature of the Museum's offer. One of the goals of this educational proposal is also to convince people to visit the Museum for real.

Now it remains to communicate about this new offer to reach a new audience and to produce a teaser to be able to sell this activity. At last, the educational team still needs to do tests with schools and check that the technical supports are suitable.

The Museum management have to find a room dedicated to these remote activities and should invest in audio-visual equipment and appropriate instruments to ensure that speakers have the best conditions to make these new visits.

Digital Resurrection of a Silent Museum

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Abstract

Voices, noises, music, are all part of the aural landscape with which we are familiar when walking through the entrance of a museum. The pandemic has silenced most of these, and new sounds have replaced the old familiar ones, symbolising the transition from inertly suffering the consequences of the pandemic to a resilient reaction.

The noise of High Definition (HD) scans, digital cameras, and strobes has slowly replaced the silence caused by absent public and empty galleries, in a collective effort to digitise the collections as much and as quickly as possible, to exploit the imposed suspension of traditional museum life. To fight the state of uncertainty, we decided to launch the ambitious project to catalogue and digitise the entire collection, a project needed for years and always previously postponed for logistical and organisational reasons.

A partnership between Google Arts & Culture and the museum has allowed the museum to make accessible online new documents from the archives, create stories and presentations, translate them into English, and share them worldwide. When the museum reopens, it will benefit from being georeferenced on the Google Arts & Culture app. The lack of public has allowed the museum to use the two galleries as working space. The staff, as well as an intern, have been working on cataloguing the objects with newly acquired database software and, in parallel, a website project has started, which will become the main access point to the collections, thanks to an integrated Online Public Access Catalogue (OPAC).

The pandemic situation has accelerated a process that was already perceived as necessary for a long time. This includes making available the collections to the public worldwide, enabling the study of woodwind instruments and preserving, promoting, and keeping alive the memory of all people who have worked in the region of La Couture-Boussey in northern France.

Introduction

The Wind Instruments Museum is located in the village of La Couture Boussey, an historically active woodwind instrument production area, about 90 kilometres west of Paris, in the Normandy country in the north of France.

It features an important collection of instruments made between the 18th century and the present day. It also houses archives, tools and machines that retrace the economic, artistic and social history of the village and its surroundings.

The lack of sound does not belong to a museum, especially one with musical instruments. Voices, noises, music, are all part of the aural landscape with which we

are familiar, when walking through the entrance. COVID-19 has silenced most of these, and for many months new sounds have replaced the old familiar ones, symbolising the transition from inertly suffering the consequences of the pandemic to a resilient reaction.

In 2020, following the lockdown announcement of the President of the Republic on 16 March[1], caused by the uncontrolled rise of COVID-19 cases in the country, the museum has been closed and almost silent, from 17 March to 11 May, and then, again, as response to the second wave of cases, from 30 October to 19 May 2021, as any other French museum or institution.

The two lockdown periods differed very much, the first being a complete rupture in our daily lives as individuals and museum professionals, the second being a long uncertain interruption of a normality that many thought as fully reconquered in May.

The impact on the museum activities was quite different: if during the first lockdown we devoted a lot of energy to social media, as a response to, or in line with what many institutions did all over the world, during the second one, we went back to our regular pre-COVID regular social media activity.

First Lockdown

During the first lockdown we had to reinvent ourselves and focus on new priorities. The physical distance from the collections forced us to rethink how to connect with the public, and there was a sort of need to provide our audience, now completely dematerialised, with contents to fill-up their long days at home. The augmented social media activity has allowed the online public to keep in touch with the museum and discover some behind the scenes aspects.

The number of Facebook posts doubled, varying the topics, for example from the usual publications on 'just' our collection, to a series featuring instruments and makers of La Couture-Boussey, but housed in European and American museums, in an effort to make people forget for an instant the lockdown and dream about traveling again.

In parallel, an Instagram account was launched, to exploit that communication opportunity, too.

Finally, to keep a more direct connection, in collaboration with local radio, we developed a few 3-minute-long podcasts on the museum, its history, and the history of some selected woodwind instruments. That was a first for us, with the staff happily accepting the challenge to produce a new format of content, including learning new software, and a new approach to storytelling.

In preparation for the reopening, it was decided to update the old gallery material (single sheets) with a new small bilingual booklet, that was designed and intended for the visitors to keep, and to reduce as much as possible the manipulation of materials.

After the first weeks of lockdown, the new situation being very uncertain – and not knowing for how long it would continue – I decided to focus more on mid- and long-term curatorial activities such as the digitization and the inventory of the collection, projects that were only possible during (and thanks to) the absence of the public, the museum being extremely small and without dedicated research or study areas, and with over-crowded offices.

The inventory and digitisation were a core, essential, and strategic project long-awaited: if a first photographic campaign took place in 2007, nothing else was

1 Macron, Emmanuel. 'Adresse aux Français, 16 mars 2020.' elysee.fr, March 16, 2020. https://www.elysee.fr/emmanuel-macron/2020/03/16/adresse-aux-francais-covid19.

done until 2019, when photographing and cataloguing the new acquisitions started again.

A combination of three events made it possible: 1) the switch in 2019 to a local server and to the complete desktop virtualisation of our computers, allowing the staff to have constant and remote access to data; 2) the signature of a collaboration at the end of 2019 with the Google Cultural Institute, to be included on the Google Arts and Culture platform; 3) the purchase in early 2020 of a new collection database (Micromusée v.7) including an OPAC (online public access catalog) module and one for the creation of a website which will become the main access point to the collections[2], the old one being out of date and hosted on the village website.

The lack of the public allowed the museum to use the two galleries as working space. With the administrative tasks reduced to the bare essential and an empty building, the staff and an intern could fully devote themselves to digitisation and cataloguing: the first goal was to prepare all the necessary contents for the Google project and successively integrate this information into the new collection management software.

The silence occasioned by an absent public and empty galleries was slowly replaced by the noise of High Definition (HD) scans, digital cameras, and strobes, in a collective effort to digitise the collections as much and as quickly as possible, to exploit the imposed suspension of traditional museum life.

The Google project was an exceptional occasion to showcase our collection, finalising the project begun at the end of 2019 the Google Arts and Culture Institute. The collaboration allowed the museum to have over 350 photographs from the historical collection digitised, a large boost to our fledgling digitising campaign.

That project required a decent amount of time to learn how to use this new tool, and to write the several stories that would feature different aspects of our institution.

The Google project has allowed the museum to make accessible online more than 380 documents from the archives, create bilingual stories and presentations, and share them worldwide. The project was made public on June 11, a week after the museum's reopening after the first lockdown. Since reopening, we are now able to benefit from being georeferenced on the Google Arts & Culture app and in one year 25,000 virtual visitors connected with the museum.

In parallel with digitisation and cataloguing, a second goal was to continue the preparation of the temporary exhibit *Léon Leblanc 1900–2000. A Man, a Century*, and the 148-page bilingual catalogue dedicated to the iconic French clarinet maker, initially scheduled for June 2020.

The exhibit required the transformation of the small gallery used for mediation activities into an exhibit space, improving the thermo-hygrometric condition, building a small central wall to increase the vertical hanging space, and installing a new LED lighting system.

Due to the pandemic, the works were delayed to late spring and the temporary exhibit finally opened in September – only to close exactly 2 months later due to the second lockdown (30 October 2020), having hosted very few visitors.

A mini website was prepared enabling the viewing of a portion of of the displayed objects[3].

2 'MIV – Le Musée Des Instruments à Vent – La Couture-Boussey', accessed 15 July 2022, http://lemiv.fr/fr/.

3 'ArcGIS StoryMaps', ArcGIS StoryMaps, accessed 15 July 2022, https://storymaps.arcgis.com.

Second Lockdown

In fall 2020, during the second lockdown (30 October 2020 to 19 May 2021 for museums), while continuing the photographic campaign, the digitisation and the cataloguing, for which a second intern was hired, the planning of the 2021 temporary exhibit, devoted to Camille Saint-Saëns (on occasion of the centenary of his death) immediately started, in partnership with the Institute for Research in Musicology of the Sorbonne University.

The project was greatly influenced by the pandemic. The genesis of this exhibit, in early November, well represents the degree of uncertainty to which we were exposed: not knowing if or when a temporary exhibit would have been possible in summer 2021 but suspecting that the second lockdown would last long, we decided to tackle the project with a pragmatic approach. To still pay homage to Saint-Saëns, in coordination with the Institute for Research in Musicology, we decided to concentrate all efforts on preparing a large musicological publication on Camille Saint-Saëns and wind instruments, postponing all decisions about a possible exhibit to the future or to better circumstances.

With traveling restrictions and limited access to archives and libraries, the preparation of the volume was challenging. What had seemed at the beginning a 'simple' exhibition project, developed quite quickly into a complex research project. If a large part of Saint-Saëns's life corresponded with the golden age of wind instruments, very little bibliography was available, nor was there a complete catalogue of the composer's works for such instruments.

The volume was the result of more than 6 months of intense research, mainly in the Saint-Saëns archives kept in Dieppe[4] (specialising in the composer's correspondence and the manuscripts) and through the collections of the museum for the information concerning the organological aspects.

If all meetings with the authors and the scientific committee were organised online, the digitisation of documents and the photography of all objects to be featured in the book had to be done in person, with all technical difficulties overlaid with the strict COVID-19 health regulations. Lending museums and private collectors successfully collaborated, showing great flexibility and adaptation, allowing photography and digitisation of documents, even at a very short notice.

In March 2021, with the book finally on its way to the graphic designer, it was time to focus on the temporary exhibition: the release of the vaccine and the subsequent vaccination campaign advancing quickly, the possibilities of a reopening of the museums started becoming more realistic.

On 29 April 2021[5] the President of the Republic announced that museums could reopen on 19 May and we started working fulltime on the finalisation of the temporary exhibition: almost 90 objects and documents were selected, new display cases ordered, mounts and frames prepared, labels and gallery text printed and installed.

The exhibition opened on Saturday 10 July, accompanied by a 296-page bilingual book, and a CD of Saint-Saëns's historical recordings. It is interesting to remark how the entire organisational process was reversed by the pandemic: the book, which was originally intended to accompany the exhibit as a traditional catalogue, became the heart of the project and the exhibit was built around it, which is quite the opposite of what is traditionally done.

4 The Dieppe Museum and the Jean Renoir Dieppe Library.'Site Officiel de La Ville de Dieppe (Seine-Maritime – France)', accessed 15 July 2022, https://www.dieppe.fr/.

5 'Terrasses, musées, cinémas... Découvrez l'agenda des réouvertures.,' April 29, 2021. https://www.elysee.fr/emmanuel-macron/2021/04/29/terrasses-musees-cinemas-decouvrez-lagenda-des-reouvertures (accessed 15/07/2022).

Conclusions

The *vernissage* represented for the entire staff and all the people who collaborated on the project, a cathartic moment, the symbolic end of a long stressful period characterised by uncertainty. The pandemic situation has accelerated a process that had already long been perceived as necessary: making the collections available to the public worldwide, organising temporary exhibits and publishing catalogues, as well as studying our own collection.

As French museum workers though, we cannot forget that we have been highly privileged during the pandemic: with no risk of losing our positions or getting pay cuts, we could work in total safety and focus on several challenging, entertaining and interesting projects, with the goal of preserving, promoting, and keeping alive the memory of all the people who worked in the region of La Couture-Boussey.

Fig. 1. Staff working in the permanent gallery on a recent acquisition of archival documents. (Photo: MIV.)

Fig. 2. Temporary positioning of objects in a display case. (Photo: MIV.)

Fig. 3. Checking the positioning of objects and documents before installing the plexiglas top. (Photo: MIV.)

Fig. 4. The finished saint-saëns exhibit, a few hours before the inauguration. (Photo: MIV.)

Online-based Museum Education under the Impact of COVID-19: the Case of Hamamatsu Museum of Musical Instruments

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Abstract

The impact of COVID-19 brought about a drastic change in educational activities at the Hamamatsu Museum of Musical instruments. Before the pandemic, the museum had solely valued on-site learning experiences, providing opportunities to look closely at the real musical instruments, to touch some of them, and to listen to their music in concerts and other appreciation programmes. However, temporary closure under the state of emergency has required us to initiate online-based learning programs. For instance, the museum made videos which introduce the way of making instruments such as the musical spoons, thumb piano and cajon using familiar materials available at home, and playing them. In addition to demonstrating how to make and play them, those videos show some previous museum activities such as fieldwork and public 'Lecture Concert' programmes. With this sort of video, the museum has intended to familiarise the audience with musical instruments and cultures from around the world, as well as to be informed about museum activities. This attempt has also aimed to enrich the experience of people spending time in quarantine. Now that the COVID-19 pandemic has made our lives more reliant on online content, the museum found it more significant to deliver educational opportunities through music and musical instruments online to a greater number of users and potential visitors.

Despite that, now the museum faces the difficulty of keeping its balance with daily work on site. Now that the museum has reopened, its curators and educators have gone back to work mainly for on-site visitors, leaving less time for making online video programmes. For the museum, therefore, a new challenge is how to combine offline and online approaches.

COVID-19 brought a drastic change in museum activities overall. The Hamamatsu Museum of Musical Instruments experienced a rapid shift transferring its on-site educational activities to online platforms. This paper shows online-based educational activities of Hamamatsu Museum of Musical Instruments under the pandemic and discusses future perspectives and challenges for the Museum.

The Hamamatsu Museum of Musical Instruments, located in the city of Hamamatsu in the Shizuoka prefecture, has been the only municipal museum of musical instruments in Japan since its establishment in 1995. It displays nearly 1,500 musical instruments from all over the world, aiming to communicate the values of each musical instrument and the cultures it reflects. Before the pandemic, the Museum had focused strongly on on-site learning experiences. For example, in addition to exhibitions, it actively worked on daily programs such as 15-minute 'Gallery Talks' and 30-minute 'Guided Tours', in which the museum staff introduced particular musical instruments from various perspectives with talks and demonstrations (Fig. 1). The

Museum has a hands-on room also set up for providing on-site learning experiences (Fig. 2). The visitors can touch and play a variety of musical instruments including, among others, *morin khuur*, *angklung* and *djembe*. Craft and play workshops were also a popular hands-on programme at the museum, where the participants create and play instruments such as *hitoyogiri*, a small type of *shakuhachi*, and *gamelan* (Fig. 3). It also held various series of concerts to provide opportunities to listen to live music and sounds of the instruments. Thus, the museum education at Hamamatsu Museum had been based on on-site learning, which relies on visitors to use multiple senses to get familiar with the instruments and cultures related to it.

Fig. 1. Gallery talk at the exhibition room. (Photo by the author.)

Fig. 2. Hands-on room. (Photo by the author).

Fig. 3. Workshop or concert and kids learning gamelan in a workshop. (Photo by the author.)

However, the COVID-19 pandemic has made it impossible for the Hamamatsu Museum of Musical Instruments to continue delivering its on-site learning programmes. In April 2020, the Japanese government declared a state of emergency and following its administrative measures, the museum was temporarily closed for nearly two months. Although it reopened on 1 June, it has not been allowed to provide educational opportunities at the same level as before. All of the concerts and other events, including the daily programs planned until July 2020, were cancelled or postponed. The museum also had to close the hands-on room for a while. Needless to say, the number of visitors has decreased (Fig. 4). In this way, the COVID-19 pandemic has caused serious damage to educational activities at the museum.

2016	2017	2018	2019	2020
88,139	87,370	87,902	82,617	32,523

Fig. 4. Comparison of the annual number of visitors. (Photo by the author.)

At the same time, however, this offered an opportunity to the museum to start online-based learning programmes. The museum began to deliver educational contents online while it was closed. They included three kinds of online programmes: 1) 'Let's Make Musical Instruments Using Familiar Materials at Home' video series, 2) a video version of Gallery Talk and 3) a virtual museum.

'Let's Make Musical Instruments Using Familiar Materials at Home' Video Series

'Let's Make Musical Instruments Using Familiar Materials at Home' is a video series which introduces the ways of making and playing instruments using familiar materials available at home (Fig. 5). Under the emergency measures implemented in 2020, not only our museum but also schools were closed. Therefore, the museum decided to make this video program mainly for kids staying at home. It also aimed to assist audiences in familiarising themselves with musical instruments from around the world and its cultures without visiting the museum. Six episodes have been posted in this series, featuring such instruments as the lamellophones, the Japanese taiko drum called *tsuzumi*, *cajón*, etc., and received approximately 8,000 views in total so far.

This video series has four defining characteristics. First, it incorporates a common format in educational TV programmes. In every story, two characters talk and work on a handicraft together: one is a museum staff member 'Gottu' and the other is a rabbit 'Gakki', the latter of being named after the Japanese word meaning 'a musical instrument'. This format was inspired by one of the most popular Japanese TV programs for kids, in which one knowledgeable person and a bear character work on handicrafts together. Adopting the format made it easier for kids to become familiar with the content. Secondly, it shared information about the original musical instrument being made. In the first episode, for example, Gottu and Gakki make the lamellophones (called 'the thumb piano' in the video). Before making the instrument, Gottu explains to Gakki that the instrument is differently named in each region of Africa and that it is played with the thumbs (Fig. 6). With this kind of video, the museum intended the audience to get familiar with musical instruments from around the world and the cultures to which they belongs. Thirdly, it shows some video recordings of fieldwork and public concerts hosted by the Museum. By doing so, it informs audiences about the Museum's activities as well. Lastly, the videos sometimes include collaborations with a professional musician. In the latest story, in which Gottu

and Gakki make *tsuzumi*, they visited a professional *tsuzumi* player. The player explains the history of the instrument and shows how to play it and how it sounds (Fig. 7). By collaborating with professional musicians, the museum further encourages the audience to encounter real sounds of the instrument and increase interest. Consequently, this video series suggested fruitful ways of spending the time in quarantine, as well as bringing the audience into contact with musical instruments and rich cultures from the world without visiting the museum.

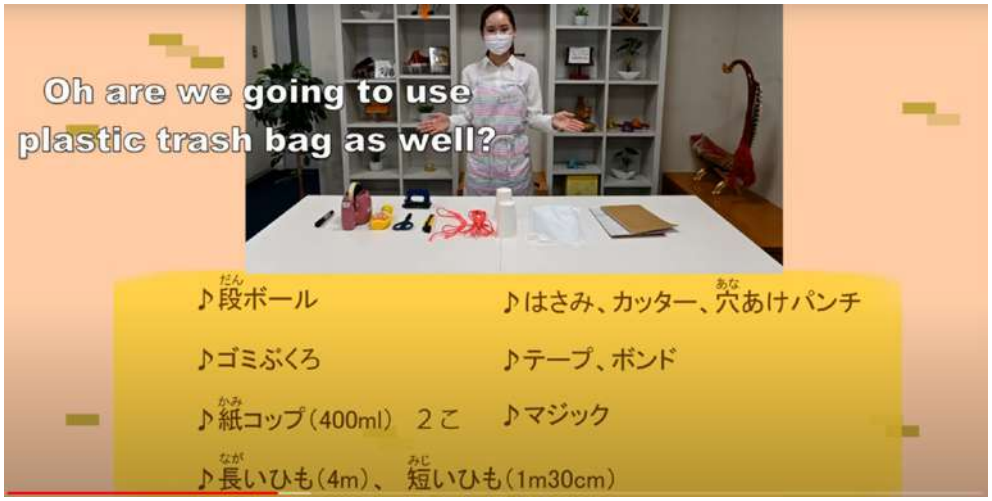

Fig. 5. All the materials use are available at home. (Photo by the author.)

Fig. 6. Gottu explains to Gakki about the lamellophones. (Photo by the author.)

Fig. 7. The professional musician explains to Gottu and Gakki about Tsuzumi. (Photo by the author.)

Gallery Talk Series (Video Version)

A video version of the Gallery Talk series was created as a substitute for the face-to-face Gallery Talk programmes held at the museum. Even though the daily gallery talks restarted on site, it is still a reduced format, and visitors have less opportunity than before to hear the talk and demonstration. For this reason, the museum decided to create the video version of the gallery talks targeting online museum visitors (Fig. 8).

Fig. 8. The video image of gallery talk. (Photo by the author.)

In the video, the museum staff talk in the same way as they do in the face-to-face gallery talk (Fig. 9). Following basic information, such as where and how the instrument has been played, and what it is made of, the staff give short demonstrations so that the audience can hear the sound and learn the concept of its music. Also, past recordings are used for deeper understanding. The videos were made to be very similar to the real gallery talks so that visitors could enjoy the programmes as they would in the exhibition rooms.

Nine videos are published and have received approximately 1,400 views. Even though the staff found it challenging to speak alone, without any response from the audience, this programme turned out to be beneficial for the visitors as they can watch it anytime. They can scan the QR code in the exhibition room to watch the video, seeing the real instruments played. At the same time, however, this would be a significant resource in making other online museum content for the public in the future.

Fig. 9. Video gallery talk 2. The QR code for the movie is put near the exhibit. (Photo by the author.)

Virtual Museum

In addition to making educational videos, Hamamatsu Museum of Musical Instruments opened its virtual museum in May 2021. This attempt was encouraged by a development of digital learning in compulsory education. Under the pandemic, the Ministry of Education, Culture, Sports, Science and Technology in Japan made tablets available in elementary and junior high schools. Hence, the museum expected schools to be able to use the virtual museum as a part of their education. Virtual museums let the users move around across the exhibition rooms and see the exhibits freely with their smartphone or tablet. They can also watch the video displayed in the rooms as well.

The opening of the virtual museum attracted attention and the total views reached 11,335 by the end of June (Fig. 10). It also gradually began to be used for educational purposes. A worksheet made by a teacher of a private music school requires her students to visit the virtual museum and answer questions such as 'what's the name of Chopin's favourite piano maker?' and 'how do harpsichords make a sound?'. The worksheet supported students to deepen their knowledge of keyboard instruments (Fig. 11). Even though they can rarely come to the actual museum due to its distance, the virtual museum enables them to experience the exhibits and enrich their learning experiences. As with this case, the museum would like to promote the wider use of the virtual museum.

Fig. 10. Virtual museum. Flyer of the virtual museum.

Fig. 11. Worksheet made by a teacher of a private music school. (Photo by the author.)

As already mentioned, the Hamamatsu Museum of Musical Instruments initiated various online approaches to facilitate people's learning experiences at the museum, which were more or less driven by the impact of COVID-19. Now that the pandemic has made our lives more reliant on online content, the Museum recognises the significance of utilising the internet to deliver educational opportunities through music and musical instruments. By creating online educational contents, the museum

could fulfil its potential to reach a larger audience and more future visitors. This attempt also enabled users to enjoy an opportunity for museum education without being limited by time and location.

At the same time, however, the museum faces several challenges. Firstly, the outcome was hard to gauge because there were only a few reactions. Now the museum struggles to raise public awareness of its online activities and contents. Secondly, the museum faces the difficulty of balancing its daily work on-site with the creation of new digital contents. After the museum reopened, its curators and museum educators went back to work mainly for visitors, which has left less time for making online video programmes.

Yet still, being aware of the benefits and great potential of online content, the museum needs to keep searching for a better way to combine offline and online approaches effectively to enrich educational activities at the museum.

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Activating European Collaborations in Time of COVID-19:
the Example of the Joint Acquisition of the Boulanger-Bouhière Collection of African Lamellophones

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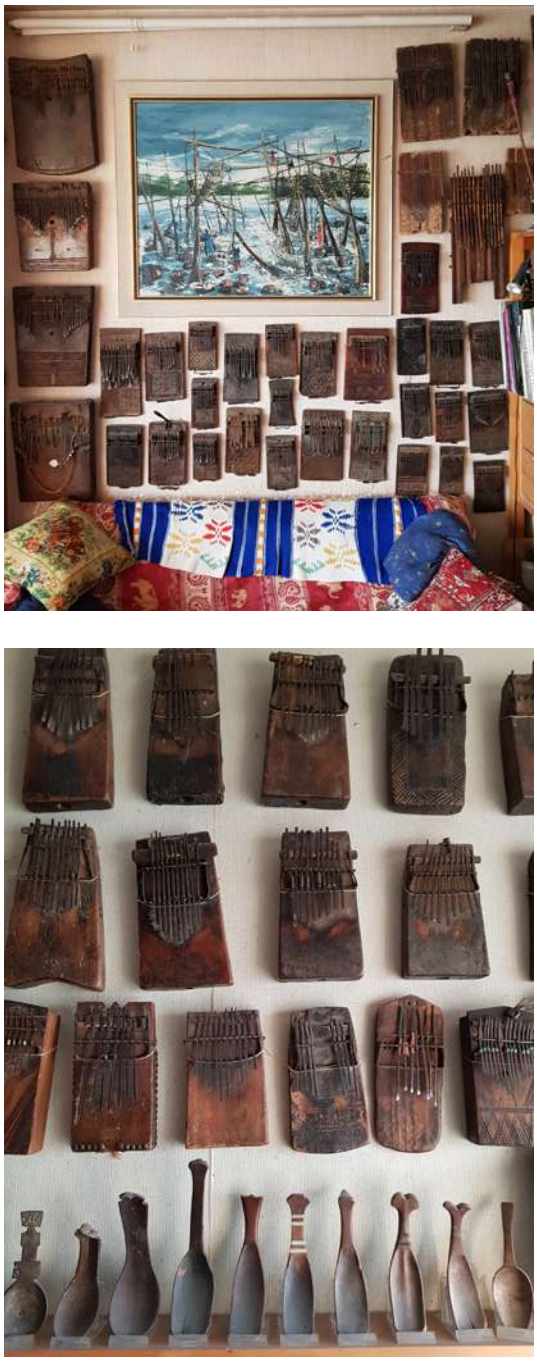
Abstract

In April 2021, the Muziekinstrumentenmuseum (MIM) and the Musée de la musique completed the first step of an ambitious collaboration leading to the joint acquisition of the most important collection of African lamellophones still in private hands and its equal division between Brussels and Paris. This impressive ensemble of 600 sanzas – as they are usually referred to in Europe – was assembled by Françoise and François Boulanger-Bouhière, two Belgian collectors who, by the early 1990s, developed a firm passion for this iconic instrument from Central Africa. Exhibited twice, in Brussels in 2011 and at the Musical Instrument Museum (Phoenix) in 2012, the collection is highly regarded by African art collectors and scholars not only for its impressive scale but also for the quality, diversity and rarity of the instruments.

Initiated in October 2019, the acquisition spanned over a year and a half and was directly impacted by COVID-19, forcing both museums not only to think of original ways to conduct together the complex inventory prior to this acquisition, but also to experiment with an original division process built on the use of digital tools and, above all, on trust. The paper will show how this project successfully (re)activated the collaboration between two historic music museums which, since Gustave Chouquet's and Victor Mahillon's time, have always mirrored each other. We will also present a roadmap for the joint management, study and promotion of this collection, taking into account both the consequences of COVID-19 on our museums, and the pressing issues regarding the future of African (musical) collections in Europe.

A Lifetime of Collecting

During thirty years of intense collecting, François and Françoise Boulanger-Bouhière gathered over 600 lamellophones, forming the most important private collection in the world (Fig. 1).[1] Although they bought several instruments from prominent French and Belgian African art dealers and auctioneers, they also acquired numerous pieces during visits to flea markets and on E-bay and traded many African artefacts for sanzas as their overwhelming interest in this delicate instrument grew. Rather than famous 'provenances' – usually a key parameter of African objects on the Western art market – or aesthetic appeal, the collectors were led by a desire to assemble the most exhaustive typology of sanzas. For some specific exemplars, such as the massive 'orchestra-sanza' from the Northern Democratic Republic of Congo (Aruwimi region), they searched for several years.



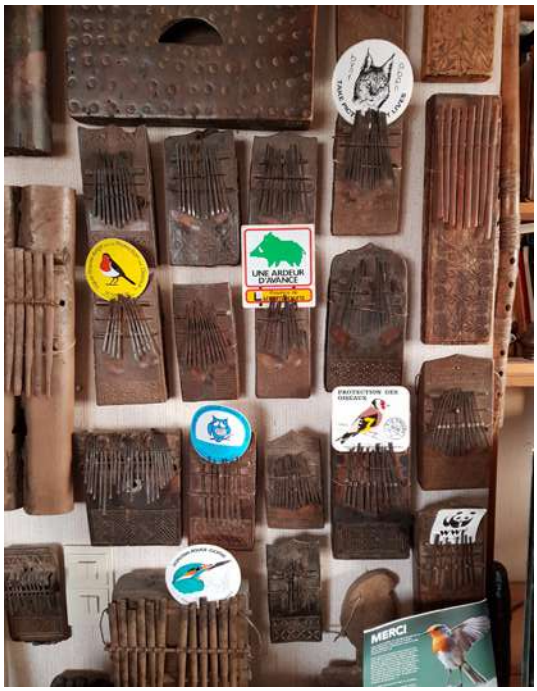


Fig. 1. Views of Françoise and François Boulanger's apartment, October 2019. (Photo: Alexandre Girard-Muscagorry.)

1 For the history of the Boulanger collection, see Françoise Barrier, 'François Boulanger. Chronique d'un collectionneur de sanzas,' *Tribal Art Magazine* 60 (2011): 120–23.

All the main types of sanzas are thus represented in the collection, often by dozens of specimens, such as the Tabwa kankobele (Eastern Democratic Republic of the Congo) or the Tshokwe lungandu (Southern RDC and Northern Angola) which offer ample opportunity to study and admire the infinite diversity of decorative patterns and organological features (e.g. buzzers, tuning wax, vibration needles).

Considering, on the one hand, the history of the instrument, which developed as early as the first millennium B.C.E., in two distinct clusters (Western Cameroon and Lower Zambezi Valley) before spreading throughout Central Africa,[2] and, on the other hand, Belgium's colonial past, it come as no surprise that sanzas from the Congo and, to a lesser extent, from Cameroon, Angola, Zimbabwe and Tanzania, are the most numerous. However, the collectors also acquired rare pieces from Western Africa (e.g. Nigeria, Burkina Faso, Ivory Coast) where the practice of the lamellophone developed more recently and is less widespread.

While Western world culture museums, as well as musical instrument collections, are striving to switch from an ahistorical and essentialist narrative on 'world music' to more nuanced and dynamic views, the Boulanger-Bouhière collection is precious in that it gives a sense of the African makers and musicians' adaptation to the colonial and global context. Numerous pieces include, for instance, recycled materials such as food cans used as sound boxes, beer caps as buzzers, umbrella ribs and bicycle spokes as lamellae, or are adorned with upholstery nails or vivid industrial paintings.

The Process of Acquisition

Over the years the Boulanger-Bouhière collection gained international recognition. After a first exhibition in Brussels during the 2011 BRUNEAF art fair, the collection provided the star pieces for a 'Sanza' exhibition at the Musical Instrument Museum in Phoenix, Arizona, in 2012.[3] Boulanger's 'Sanza Blog' (hosted by Skynet) became an important reference tool for sanza research. One of the first websites dedicated to African art, it catalogued Boulanger's entire collection, but also documented numerous exhibitions and art fairs in Paris and Brussels.

When in May 2018 Skynet decided to deactivate its blog platform, Boulanger's website was taken down. This was a hard blow for François Boulanger: 'over 12 years of work, 1,500 notes and thousands of photos, references and links [were] irretrievably erased', as he announced on the blog during the last days of its existence. From then on, the couple began to consider disposing of their sanzas. Both the MIM and the Musée de la Musique were highly interested in this ensemble, not only to fill the gaps in their respective collections – Brussels had 67 sanzas, Paris only 5 – but also to avoid the dispersal on the art market of this unique collection. To be able to meet the financial and conservation obligations to acquire and maintain this huge collection, the possibility of a division over both museums was explored, an option which would reinforce the 150-year-old historical link between the two institutions.

2 Kubik, *Kalimba*, 22–27.

3 François Boulanger, Pierre Loos, e.a., *Sanza. Exposition des lamellophones de la collection F. & F. Boulanger-Bouhière* (Brussels: BRUNEAF, 2011), and Manuel Jordán, ed., *Sanza: African Thumb Pianos from the Collections of F. & F. Boulanger-Bouhière, the Royal Museum for Central Africa, and MIM* (Phoenix: Musical Instrument Museum, 2012).

A Shared Collection, a Shared History

The Paris and Brussels museums of musical instruments were both created in the second half of the 19th century, as part of a Conservatory. The *Musée Instrumental du Conservatoire de Musique de Paris* opened in 1864, the *Musée Instrumental du Conservatoire de Musique de Bruxelles* followed thirteen years later. Both served as an educational tool for the benefit of the students who could get acquainted with historical European instruments and instruments from all over the world. Notably, this ambition did not avoid the pitfall of evolutionist and primitivist narratives; comparison was meant to illustrate the so-called superiority of modern Western music and instrument-making.[4]

Clearly, the Boulanger-Bouhière collection is not the first collection shared by both museums. The early curators, Victor Mahillon in Brussels (from 1877 until 1924) and Gustave Chouquet in Paris (from 1871 until 1886), regularly attended the same auctions of major musical instrument collections. The most famous auction, where both of them were present, was the public sale of Adolphe Sax's private collection in Paris, in December 1877. Chouquet and Mahillon were among the main buyers.[5] As one of the results, Paris and Brussels are, as far as is known, the only public museums which hold instruments from the famous collection of Guillaume André Villoteau (1759–1839), gathered during Napoleon's campaign in Egypt between 1789 and 1802. They are among the oldest known Arabic instruments preserved in public museums.[6]

Other significant nineteenth-century collections of which instruments arrived in both museums include the collection of Edmond Coussemaker (1805–1876), a French musicologist and researcher of Flemish folksongs, and the well-known Indian collections donated by Sourindro Mohun Tagore (1840–1914). More recent shared collections include Ethiopian instruments collected by the American musicologist Jean Jenkins (1922–1990).[7]

An acquisition in the midst of the COVID-19 pandemic

Françoise and François Boulanger were quite taken by the idea that their life work would be preserved safely in two established museums with historical ties. Financial means for the acquisition of the Brussels part were quickly provided by the Belgian King Baudouin Foundation, a private institution which supports important heritage projects in Belgium.[8] However, when the second lockdown hit Belgium in October 2020, the actual process of division had to be postponed. A provisional inventory

4 Jann Pasler, 'The Utility of Musical Instruments in the Racial and Colonial Agendas of Late Nineteenth-Century France', *Journal of the Royal Musical Association* 129, no. 1 (2004): 24–76; Saskia Willaert, 'The Growth of an "Exotic" Collection. African Instruments in the Musical Instruments Museum, Brussels (1877–1913)', in *Annual Meeting of the International Committee of Musical Instrument Museum and Collections. CIMCIM 2011 – Tervuren*, ed. Ignace de Keyser (Tervuren: Royal Museum for Central Africa, 2012), 61–73.

5 See Mahillon's annotated version of Gustave Carré, *Catalogue du Musée instrumental de M. Adolphe Sax. Collection unique d'instruments de musique de tous temps et de tous pays* (Paris: Ves Renou, Maulde et Cock, 1877), preserved in the archive of the MIM (D640/15).

6 See, for example, the MIMO website, cataloguing the collections of musical instruments of over 230 public museums.

7 See the online catalogues of the Paris and Brussels museums: https://collectionsdumusee.philharmoniedeparis.fr/ and https://.carmentis.be.

8 See https://www.heritage-kbf.be/collection/sanza-collection.

was created in the meantime. The inability to travel or meet people because of COVID-19 forced us to imagine solutions to conduct the inventory of the collection remotely. We decided to rely on the catalogue carried out by François Boulanger since 1996 and bound in several volumes. The sanzas were organised by types based on the sophisticated classification created by Jean-Sébastien Laurenty, François Borel and Gerhard Kubik.[9] Each instrument was photographed, measured and carefully described. In 2007, François Boulanger continued this work online through the creation of the 'Sanza Blog' mentioned above.

After the blog was taken down in 2018, a WordPress version was still accessible, but with the original structure completely overturned and its searchability heavily reduced. For several weeks, we gathered and cross-referenced all the information related to the collection scattered in Boulanger's personal inventory, the Sanza Blog and the two exhibition catalogues published in Brussels and Phoenix. We compiled the information available in a massive, shared Excel file.

In March 2021, the actual move of the 600 sanzas could finally start. The Boulanger-Bouhière couple had been living for decades with their ever-growing collection, which covered all the walls and shelves in their apartment. Because of COVID-19 regulations, the packing of the collection was spread over four afternoons. The boxes were collected each evening by the museum's driver and transferred to the MIM. Meanwhile, a temporary storage and quarantine room had been set up in the museum, where the sanzas were unwrapped and arranged on the shelves, waiting for their new destination.

Inventing an Ad Hoc Division Process

Despite the third lockdown in April, we decided to organise the division of the collection. As Belgium required a week of isolation for travellers staying in the territory for more than 48 hours, we initially planned two sessions of two days to get through the entire collection. This long-awaited moment, as exciting as it was, also raised a series of thorny questions related to the method of division. On what legitimate criteria could we fairly split the collection? How could we work efficiently in such a short time? How could we avoid a situation in which one of us feels wronged in the process?

Beforehand, all the sanzas had been sorted out in the storage room, making it possible for the division to progress by types. We spread out all similar lamellophones on two large tables to have a global view of the ensemble. Then, we identified the instruments that were reproduced in the published catalogues, considering that this played a crucial part in their value. We created pairs of similar interest based either on their aesthetic quality or their distinctive organological features. We progressed from the most 'valuable' pairs to the more common instruments, each of us in turn picking one of the sanzas. We treated separately, at the end of the division process, the ten 'highlights', which could not fit into any of the previous batches in view of their unique shape, size or quality. A couple of hours was necessary to balance their division between Paris and Brussels.

Thanks to this efficient method, only two days – instead of the four initially planned – proved necessary to divide the entire collection. One of the interesting consequences of this technique was the downplay of the market 'provenance' (i.e.,

9 Jean-Sébastien Laurenty, *Les sanza du Congo* (Tervuren: Musée royal de l'Afrique centrale, 1962); François Borel, *Les sanza: collections d'instruments de Musique* (Neuchâtel: Musée d'ethnographie, 1986); Kubik, *Kalimba*; Gerhard Kubik, *Lamelofones do Museu Nacional de Etnologia* (Lisbon: Ministério da Cultura, Instituto Português de Museus, Museu Nacional de Etnologia, 2000).

Fig. 2. Saskia Willaert and Alexandre Girard-Muscagorry during the Division of the Collection in the MIM, Brussels, May 2021. (Photo: Simon Egan.)

Fig. 3. The Collection at the Musée de la Musique, May 2021. (Photo: Elisa Borde.)

the fact that a sanza belonged to a well-known collector or dealer) as neither of us took this criterion into consideration, focusing instead on the intrinsic organological or aesthetic interest of each instrument.

After two days of packing, 300 sanzas arrived at the Musée de la Musique in Paris a few days later (Fig. 3). Following their de-infestation through a thermic treatment,[10] a new intense operation awaited the instruments around mid-May: their complete processing – including description, measurements, condition reporting, photography and packing – by a team of ten students in curatorial and conservation studies from the French National Institute of Heritage and École du Louvre. The

10 Due to a very tight schedule, this method, consisting in heating heritage objects up to 55°C with a constant level of relative humidity during the heating, holding and cooling phases, was favored for its short duration (only 24 hours) compared to anoxia. Beforehand, samples of resins on the sanzas had been taken in order to ensure that this method was not dangerous for the instruments.

Brussels instruments remained in the quarantine room for another six weeks. Problematic sanzas were treated using anoxia. The lamellophones were then taken to the restoration workshop where they were inventoried, photographed and encoded in the MIM's Collection Management System.

We decided to use the same thesaurus names for the whole collection to guarantee optimal searchability and to stress the cohesion of the ensemble despite its physical and geographical splitting up. The entire Boulanger-Bouhière collection will soon be harvested by MIMO. Not only will the international portal be enriched with 600 new African instruments and more than 30 new object names, but the Boulanger-Bouhière collection will also continue to exist as a unity online, in this sense respecting the wish of the collectors.

Conclusions: Museum Lessons from a Pandemic

From October 2019 to May 2021, the acquisition of the Boulanger-Bouhière collection spanned twenty months, united three institutions (MIM, Musée de la Musique, King Baudouin Foundation), and mobilised more than a dozen people in Brussels and Paris. Obviously, the entire operation would have been easier and smoother if COVID-19 had not hit Europe so hard. However, we can draw some interesting lessons from this original project carried out during a turbulent period:

Trusting each other. From the beginning to the end, the acquisition was made possible thanks to a close collaboration between us based on the knowledge of our shared interests. We knew that this form of division was a chance to prevent a major collection from being dispersed on the art market, to enrich considerably the collection of our museums, and also to share the heavy burden of keeping and caring for such an important ensemble.

Accepting pragmatic improvisation and spontaneity. The pandemic prevented us from carrying out a certain number of operations that are, in principle, necessary for any acquisition project (such as on-site inventory), but also sometimes expanded or contracted compared to our initial calendar. It forced us to invent methods adapted both to the situation and the collection and to find a delicate balance between scientific rigour and 'pragmatic improvisation'. The division of the collection, whose roadmap emerged naturally in the action, shows how spontaneity is often far more useful than a strict, written protocol.

Rethinking museum acquisitions. Even though Paris and Brussels each own half of the collection and are therefore independent in their choices in conservation or promotion, this story is an interesting case of shared acquisition and concerted management of a precious heritage at a European scale. In a context of limited financial resources and in view of the increasing number of proposals for the acquisition of private collections in the coming years, this approach could be a promising strategy to enrich museums and to deal with large-scale collections.

Finally, in the case of the Boulanger-Bouhière collection, one of the most pressing issues is also to include African museums and scholars in the joint management of the collection. Partnerships have already been established with museums of musical instruments in Burkina Faso, Congo-Brazzaville, Kenya and Gabon. Their collections have been digitised and are, or will be, integrated into the international MIMO portal, together with the expertise in terminologies, makers, manufacture and use, provided by local experts. Including ensembles such as the Boulanger-Bouhière collection in worldwide accessible databases places these African objects back amongst their peers, allows the enrichment of their metadata with shared knowledge, and offers a first step toward reconnecting them with their African communities.

Acknowledgement

The successful outcome of this acquisition would not have been possible without the contribution of many people in Brussels and Paris. We would like to express our deepest gratitude to Françoise and François Boulanger-Bouhière who put everything in place to facilitate the transfer and the documentation of the collection. At the Brussels Musical Instrument Museum, the acquisition benefitted greatly from the expertise of the team of the restoration workshop, Joris De Valck, Stéphanie Caeymaex and Isabelle Deleuze, who organised the transfer of the entire collection from the collectors' apartment to the MIM and set up a temporary storage room where the division of the collection could be carried out. Simon Egan photographed the collection, with the help of Catho Menten, trainee. Matthieu Thonon made a very fine video of an interview with the Boulangers in their apartment, shortly before their collection was moved.[11] At the Musée de la musique in Paris, Christine Hemmy, curatorial assistant, took part actively in the gathering of the documentation and designed a database to navigate the collection. Marie-Anne Loeper-Attia, conservator, supervised the transfer of the lamellophones from Brussels to Paris – along with Francesca Beneforti, registrar –, the pest eradication treatment, as well as the cleaning and inventory process. Thanks also to Sylvain Paul Atintogbe, Camille Flèche, as well as Milène Cuvillier, Fanny Girard, Gaëtan Guillod, Esther Jorel, Laure Mendousse, Félix Taquet, Lucie Thauvin and Larissa Zang-Metogo of the team of trainee curators, conservators and registrars, who participated in the inventory work.

11 See 'François Boulanger & Françoise Bouhière sanza's collection' on Youtube: https://www.youtube.com/watch?v=bgLIr9gEjik&t=1s&ab_channel=mimbrussels

Closed but Open
Museums during the Pandemic

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Abstract

This paper shares some of the experiences of the musical instrument museum at the University of Leipzig during the pandemic. I would like to show three examples of the museum's activities during and after the pandemic.

1. Digital offers: our work on the TASTEN digitisation project was interrupted in the final phase. Some work had to be postponed; on the other hand, the forced work from the home office resulted in a giant leap in the development of our data repository. In addition, the musical instruments and piano rolls that we digitised gained a whole new perspective in their online use by our visitors.

2. The museum goes to town: a brand new project is made possible with the support of the government-supported initiative 'Neustart'. Here, the financial support of the Ministry for Culture and Media enables us to plan an innovative and humorous presentation of our research in the middle of the pedestrian zone that will attract the public and invite it to interact. It has to do with a hoover and a phonola, but more will not yet be revealed.

3. Curating an online exhibition: a planned exhibition *Lost and Found* on the clarinets used by Simon Hermstedt for the concertos composed by Louis Spohr had to be postponed in 2020. This year, we are planning this exhibition with our students and our colleagues from Digital Humanities as an online exhibition.

As a result of the COVID-19 lockdown in Germany in spring 2020, cultural institutions of all kinds nationwide had to close their doors to visitors. Since then, these institutions and cultural initiatives have been fighting for their continued existence. The Federal Commissioner for Culture and the Media (BKM) reacted to this with the project NEUSTART, which aims to support the cultural sector in the long term.

Situation in the Musikinstrumentenmuseum der Universität Leipzig (MIMUL) before the Lockdown

Before the COVID-19 pandemic, the museum enjoyed an increasing number of visitors, be they families, day-care or school groups, or amateurs interested in music, students, tourists, scientists or professional musicians. It was possible to play instruments, to learn about musical objects and the background of their creation via interactive and multimedia touch screens, or to take part in a guided tour with our multilingual guides. In addition, there were numerous events in the city of Leipzig that attracted interested visitors to the museum including the Bach Festival, the

Early Music Festival, the Grassi Festival or the Summer Theatre, and major events such as the Museum Night and the Wave Gothic Festival, to name but a few.

A significant part of MIMUL's programme work was dedicated to the transfer of culture and art to audiences with different social backgrounds. Various formats (guided tours, lectures, concerts, exhibitions, panel discussions, workshops, performances, conferences, publications, video clips) sought to overlap academic teaching and non-academic transfer. With the involvement of various museum audiences, events took place open to the public. Bachelor and master students prepared thematic tours, short lectures or object demonstrations, which they presented to museum visitors. Since April 2018, the MIMUL had been able to establish the 'Second Thursday', a monthly event in the afternoon at which current research projects of the staff and young researchers were presented in the museum – in guided tours, concerts and lectures.

Museums Closed – Concerts Cancelled

MIMUL's programme work could not be continued during the museum's closure. The aforementioned events were cancelled. Visitor numbers plummeted and did not recover even with the short opening of the museum during summer 2020. Virtual offerings with touchscreens and trying out musical instruments had to stop under pandemic conditions.

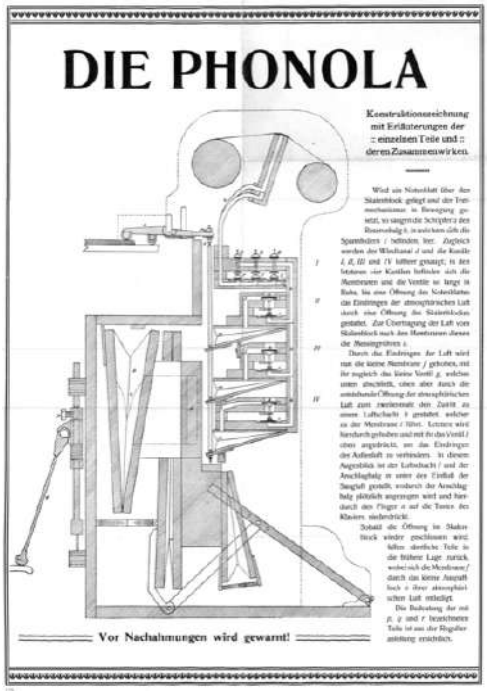
This loss of audience was particularly noticeable at the MIMUL during the events for the research project TASTEN, which, from previous experience, appealed to many areas of interest, not only music in general. Above all, the Schlager and dance music fashions of the 1920s, Leipzig's industrial history, the enthusiasm for technology of automata or the many celebrities who first became popular with the piano rolls were appealing to a younger audience.

Restart with Hoover

During the second lockdown in autumn 2020, we developed a new project: if urban society cannot go to the museum, then the museum must go to the city! In a highly competitive application process at the NEUSTART initiative we got funding from the Federal Government. We call this project the 'Staubsauger-Phonola' – a player piano operated by a hoover (vacuum cleaner).

We all know this from the cinema. As if played by magic, the keys of the piano move and music resounds. Our lead role plays the Phonola, a player piano made by the Hupfeld company in 1913 (Figs.1a and 1b). At that time, tens of thousands of such automatons were built in Leipzig and exported all over the world. For their pneumatic operation, the player had to pedal like a sewing machine of the period. Today, in our setup, a hoover takes over this energy-sapping task.

Around 1900, not only were masterpieces of the classical repertoire brought into the living room, but also popular and dance music. This reflected a new claim to 'culture for all', which we may regard as a contribution to the democratisation of art – and as a liberation from lengthy lessons and tedious practice, which are arguably prerequisites for any piano performance: 'What savings in time, money and bad humour are achieved by leaving ninety per cent of scales and piano etudes unplayed cannot be imagined', is the witty comment of the composer Engelbert Humperdinck



Figs 1a and 1b. After its restoration in the MIMUL, the Phonola can play all by itself with a hoover. Watching it do so is downright captivating and irresistible! Watch the video at https://organology.uni-leipzig.de/index.php/forschung/staubsauger. (Photo by the author.)

Figs. 2a and 2b. The empty shop window of the significant Leipzig piano firm Blüthner may be regarded as a symbol of the impending desolation of city centres and a portent of the COVID-19 pandemic. The project wants to fill it with playfulness, with fascination and with an urge to explore. We actively participate in the cultural life of the city and want to interact with it. (Photo by the author.)

in the heated contemporary discussion about the merits and shortcomings of mechanical musical instruments.[1]

We are already in the middle of the programme work of the museum, in the unplanned collateral effect of our TASTEN project, namely the repair and recommissioning of a player piano from the time before electrification.

The pneumatic motors and bellows, the technical marvel of gears, connecting rods and piano mechanics are clearly visible to the astonished observer. During the planning phase, Phonola and hoover were supposed to be in an arbitrary shop window in Leipzig's pedestrian zone. Actually, we could use the recently abandoned and defunct shop of the Blüthner piano company in the old town hall (Figs 2a and 2b).

1 Engelbert Humperdinck: »Mechanische Musik. Eine Frage«, in: Der Kunstwart 19 (1905/06), p. 39–40.

In this way, the Phonola is safely housed and separated from the viewers by only a shop window. The player piano is switched on by strollers using motion detectors behind the glass pane, and switched off automatically. The performance is accessible without restrictions in Leipzig's pedestrian zone. The visitors are not endangered by any road traffic, they stand in the open air. They see the fascinating operation of the player piano and they hear its piano playing through the shop window, albeit somewhat muffled.

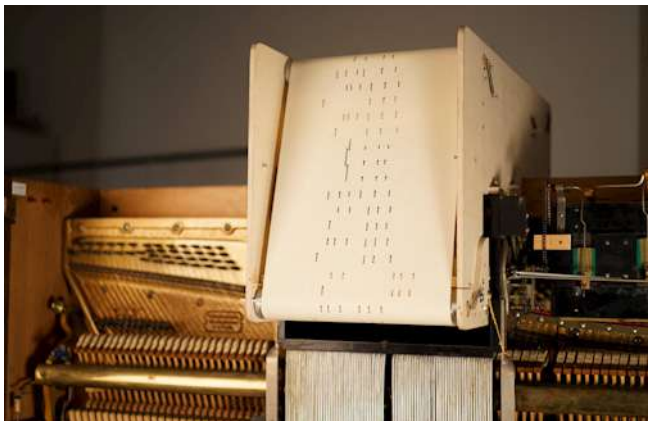
We regard this installation as an innovative transfer format, as an interactive advertising pillar that not only refers to the nearby museum on Johannisplatz, but also, invites people there. In addition, we include the strolling people in our research questions: how does such an apparatus work? Which pianists play there? Where did a phonola play for dancing in Leipzig's city centre around 1900? Where were these machines made? How did they get all over the world? Can I hear more of this music? We encourage people to stop and interact. We want them to talk to each other and to us.

TASTEN

The research on the Phonola is a natural associated result of the project TASTEN. The instrument and about 300 piano rolls were donated to us from private ownership in autumn 2019 (Figs 3a and 3b and Fig. 4). It was restored by Benedikt Justen, a member of the TASTEN project. Due to the pandemic, our work on the TASTEN digitisation project was interrupted in the final phase. Some work had to be postponed and we received funding for an extension from our sponsor. On the other hand, working remotely resulted in a giant leap in the development of our data repository, the musiXplora. In addition, the musical instruments and piano rolls we digitised, gained a whole new perspective in their online use by our visitors.

While the Staubsauger[2]-Phonola appeals to the public directly on the street, there are also offers to explore the museum online. The homepage of the Forschungsstelle Digital Organology[3] provides access to several of our research projects; TASTEN

Figs 3a and 3b. To bypass the rewinding process of the piano roll, an endless loop, and a device for a permanent unwinding of the roll were developed as well as an infrared power switch. We are happy to share technical details. (Photo by the author.)



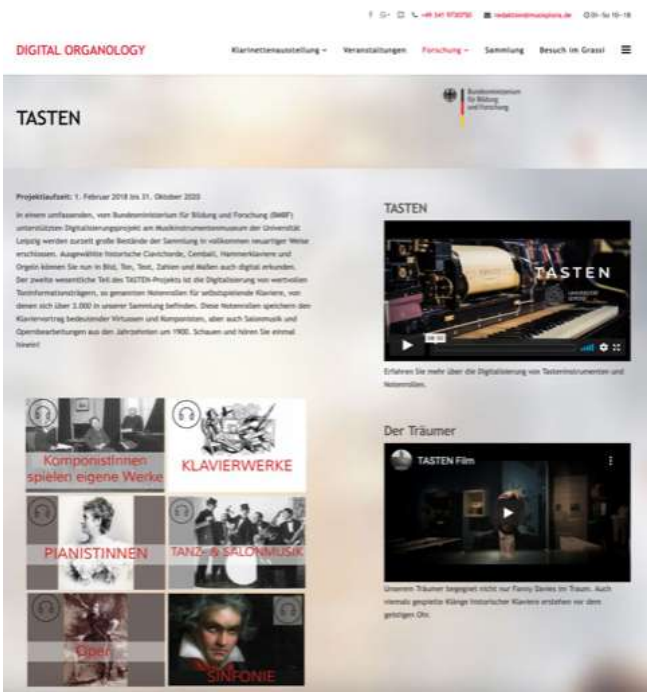


Fig. 4. Digitised not only for the eye, but also for the ear: our dreamer, for example, listens to a piano roll by Fanny Davies with Schumann's Träumerei on various pianos in the collection.

2 The hoover is a donation by the German firm Bosch.
3 https://organology.uni-leipzig.de/

Fig. 5. This object page offers some basic information about the properties of the pianoforte (MIMUL 1097), the number of keys, the compass of the instrument, some basic measurements, a top view of the instrument, an overview of the measurements we took etc.

offers two short videos to introduce the topic. Furthermore, there are low-threshold search entries via icons. The visitor can get information concerning a choice of piano rolls, like works played by their composers, works composed for a keyboard instrument, works played by female pianists, dance music, opera, and so on.

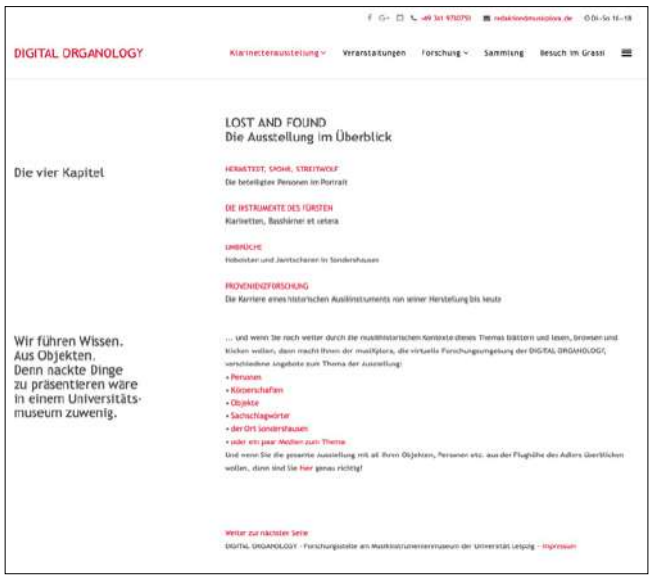
A choice of a topic will bring the visitor directly into the musiXplora. The musiXplora is a virtual data repository for organology and musicology. It includes central lexical areas for persons, corporations, works/objects, places, events, items and dictionaries. It thus consists of seven repositories. From here, the visitor can surf through the musiXplora in free association; they can click on the name 'Grieg' and receive information on biography, teachers and colleagues, on dedicatees, interpreters, recipients, places of activity and further 70 music rolls in the collection of the MIMUL. If the visitor decides to click on 'TASTEN Project' this will lead to an overview of the keyboard instruments that have been digitized in the project. An example is the pianoforte MIMUL 1097 made around 1800 in Vienna by Nanette Streicher-Stein (Fig. 5).

As the project recorded the compass of several keyboard instruments note by note, it is possible to choose the keyboard symbol to play the original instrument by clicking on the keys or by using the computer keyboard or any other keyboard to use the instrument's original sound.

The clarinets of the prince

The third example for public engagement during the lockdown is the virtual exhibition LOST AND FOUND (Figs 6a and 6b).

Figs. 6a and 6b. The virtual exhibition 'Lost and Found' can be accessed through the Digital Organology homepage. A starting page offers an overview of the four chapters of the exhibition.



Almost 200 years after it was made, a treasure box with the clarinet of the virtuoso Simon Hermstedt has been found again, an instrument that has been of interest to music researchers and musicians for almost as long. The clarinet of Prince Günther von Schwarzburg-Sondershausen, the patron and pupil of Hermstedt, was lost for more than half a century, yet both instruments are precious witnesses to a musical flowering that made the Sondershausen court famous far beyond the borders of Thuringia at the beginning of the 19th century.

After a short introduction, the visitor to the virtual exhibition can either choose to read page after page or get an overview of the exhibition. The contents of the exhibition are divided into four chapters: they dwell upon the constituents or actors of the historic situation, the instruments of the prince, the social upheavals after the Napoleonic wars, and the demands of provenance research.

On a second level, visitors can delve much more deeply into the research. They can browse and click even further through the music-historical contexts of this topic. As historical documents like newspaper articles and musical lexicons are digitised, these sources could be directly linked with our pages.

A page dedicated to the constituents of the exhibition introduces Spohr, the composer, Prince Günther, the patron and wind player, Hermstedt, the virtuoso, and Streitwolf, the instrument maker. The page dedicated to Hermstedt presents one of the most interesting findings, a picture of the virtuoso Simon Hermstedt, showing him with the very instrument that we had recently found. The page also offers a video to explain the features of the clarinets used by Hermstedt. *Hermstedts Diary* documents his musical background, his musical activities and his concert tours.

The page dedicated to Spohr offers some musical examples and a short video with the famous clarinetist Sabine Meyer talking about the fourth clarinet concerto of Spohr and its challenges.

> *Prince Günther was an ambitious amateur musician. He played the clarinet, bass horn and various wind instruments, in whose development he was also interested. In 1835 Günther was forced to resign, as a result of which he retired to this country estate where his personal clarinets were kept until they were lost during the Second World War. During our research for this exhibition, we were able not only to find the clarinet of Hermstedt, but also the lost clarinet of the prince. Prince Günther commissioned both instruments at the workshop of Johann Heinrich Gottlieb Streitwolf. The prince cultivated a network of makers, players, and composers. In Berlin, the clarinetist Franz Tausch founded the first conservatory for wind instruments, and developed in cooperation with the prince a new instrument, the basshorn – with Johann Streitwolf as the ingenious maker (Figs 7a and 7b).*

Prince Günther and his virtuoso Hermstedt had an exceptional reporter for the knowledge of music in Sondershausen: the lexicographer Ernst Ludwig Gerber. His lexicons remain among the most important sources, even to the present day. Gerber not only introduces the players covered here, but also spreads the myth of the unrivaled virtuosity of Spohr's 1st Clarinet Concerto. Furthermore, he reports on the development of musical instruments, which is, of course, an important source for our research.

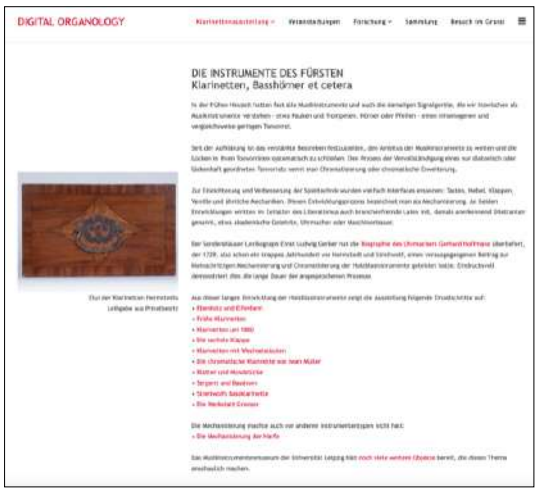
In the early modern period, almost all musical instruments and also the signal devices of the time, which we now understand as musical instruments – such as timpani and trumpets, horns or whistles – had an inhomogeneous and comparatively small compass. Since the Enlightenment, there has been an increased effort to broaden the ambitus of musical instruments and systematically to close the gaps

in their chromatisation. Interfaces have often been invented to facilitate and improve the playing technique: keys, levers, valves and similar mechanisms. This led to mechanisation processes. In the age of liberalism, amateurs from outside the industry, then referred to as dilettantes, such as academic scholars, watchmakers or mechanical engineers, were also involved in these developments.

In the second chapter, experts from instrument making and historical performance practice also have their say in videos. The visualisation of the objects (8b) involved in the exhibition offers a faceted overview as well as the possibility to get more specialised information (Figs. 8a and 8b). The pie charts representing the objects differ between terms, types and work forms. In order to refine a search, the user can click on them.

Finally, and intentionally not right at the beginning of our exhibition, we show the very precious instruments of Hermstedt and Prince Günther, made from ebony and ivory (Fig. 9). A video explains how we were able to identify the lost instruments, and the famous clarinetist Sabine Meyer tells the exciting story of how Hermstedt's clarinet came into her possession.

Figs. 7a and 7b. It is the advantage of a digital exposition that a visitor can go through it by clicking on key terms: 'Entstehung des Berlinischen Conservatoriums', for example, will lead to Tausch's article, published in 'Berlinische Musikalische Zeitung' in January 1805, digitised in the Bayerische Staatsbibliothek (8a). 'Basshorn' opens a page documenting preserved instruments and their use (8b).



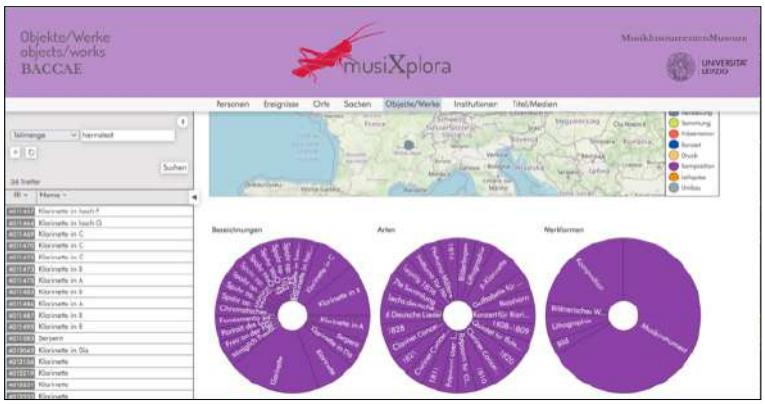


Figure 8a and 8b. The second chapter dwells in ten sections upon the history of the clarinet and opens up the context with the methods of Digital Humanities (9b).

This exhibition was created as part of a seminar LOST AND FOUND in the Master's program in Musicology at the University of Leipzig, which was originally conceived by Prof. Dr. Josef Focht and Dr. Heike Fricke for the summer semester 2020 and – postponed due to the pandemic – was finally held online in the summer semester 2021.

In addition to the students, the project groups TUBA, KLARINETTE and MIMUL STANDARDS of the DIGITAL ORGANOLOGY research centre at the Musical Instrument Museum of the University of Leipzig, as well as a number of interns from various courses of study and universities in Halle (Martin Luther University), Leipzig (University of Music and Theatre) and Potsdam (University of Applied Sciences), were involved in the preparation and implementation. According to the service-learning concept of the research centre, the interns were to get to know the interdisciplinary work of a university museum in research, teaching and transfer.

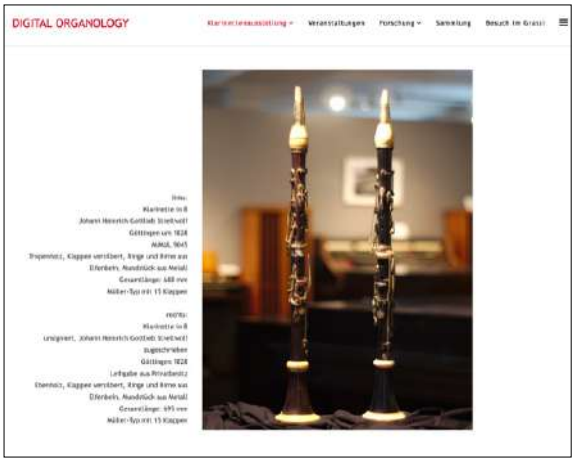


Fig. 9 The clarinets of the prince.

New Displays and Temporary Exhibitions

The Excellence of Belgian Keyboard Instruments Doubly Celebrated

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Abstract

From the 15th century on, the Belgian provinces distinguished themselves in the manufacture of keyboard instruments such as carillons and organs. Over the next two centuries, the members of the Antwerp Ruckers family gained worldwide fame for their harpsichords and are still regarded today as synonymous with extraordinary workmanship. The importance of Belgian piano making is probably less known internationally, but was, nevertheless, one of the strongest links of the national economy from the second half of the 19th century to the 1930s.

Two new museum initiatives, conceived in a concerted manner, pay homage today to this branch of instrument making.

At the Musical Instruments Museum (MIM), as part of the redevelopment of the permanent exhibitions, a space specifically dedicated to the 'Golden Age' of Flemish harpsichord making has been reserved on the second floor. In the southern part of Brussels, the Belgian Pianos Museum has opened its doors recently. Located in a former hat factory, it displays over some 250 square meters, a selection of instruments from Chris Maene's private collection. Among the pieces on display, one can find some of the oldest Belgian square, grand and upright pianos still preserved.

Together, the spaces demonstrate not only the extraordinary diversity and deep richness of keyboard instrument making in Belgium, but also its enduring excellence.

Two new exhibition spaces have recently opened in Brussels. Conceived in a coordinated manner, both celebrate in their own way the excellence of Belgian keyboard instrument making.

From the 15th century on, the Belgian provinces have, indeed, distinguished themselves by their keyboard instruments. The first such landmark instruments were probably the organs: large church instruments, but also small models such as the positive represented by the Van Eyck brothers in one of the twenty-four panels of *The Adoration of the Mystic Lamb* dated 1432, or as the portative – also called *organetto* – painted by Hans Memling in his *Angel Musicians* around 1490.

At the turn of the 15th to the 16th century, carillons made their appearance, and they quickly became a specialty, even a specificity, of the Low Countries. The oldest mention of their use seems to date from 1478 in Dunkirk where a bellringer named Jan van Bevere is reported playing 'on his bells all kinds of well-made tunes, and all hymns, sequences, and the Kyrie Eleison, and all kinds of liturgical songs. Things that had never been heard before, and which were a great novelty in the honour of God' (quoted in *Dits die excellente Cronike van Vlaenderen*, Antwerp, 1531). In the

Fig. 1. MIM: room dedicated to the golden age of the Flemish harpsichord. (© MIM. Photo: S. Egan.)

Fig. 2. MIM: reconstitution of a workshop showing by means of a video the different stages of harpsichord making. (© MIM. Photo: S. Egan.)

accounts of Oudenaarde, a city located between Ghent and Kortrijk, one also finds the trace of a payment made in 1510 for 'a keyboard in the tower in order to chime'.

Clavichords and virginals began to be constructed at around the same time. Alongside harpsichords, built from the end of the 16th century, they contributed significantly to the glory of the Low Countries and especially of Antwerp which became the main centre of keyboard instrument making in Europe around the middle of the 16th century. This was mainly thanks to the fame of the Ruckers, a family of makers represented by four generations that were active between *c*1580 and *c*1680 and who are to the harpsichord what Stradivarius is to the violin: synonymous with extraordinary workmanship. Their keyboard instruments acquired a huge reputation that extended not only beyond the borders of the Low Countries but also beyond the borders of Europe and lasted well after their active period. At the *Musical Instruments Museum*, on the occasion of the reorganisation of the permanent exhibitions that took place during the pandemic as the museum was closed to visitors, a specific room was designed in order to highlight this 'Golden Age' of the Flemish harpsichord (Fig. 1). It presents the different models of virginals and harpsichords that were built in the 16th and 17th centuries as well as a reconstitution of a harpsichord workshop showing, by means of a video, the various stages of harpsichord making (Fig. 2).

If Flemish harpsichord making is famous worldwide, Belgian piano making remains less known. It has, nevertheless, been a really important source of activity,

Fig. 3. Belgian Piano Museum, Argonne Street 37, 1000 Brussels. (© Pianos Maene. Photo: P. Meersschaut.)

Fig. 4. Belgian Piano Museum: room dedicated to the 18th-century keyboard instruments. (© Pianos Maene. Photo: P. Meersschaut.)

not only in cultural terms but also from an economic point of view. The first known Belgian piano maker is Henri-Joseph Van Casteel who arrived in Brussels from Lisbon around 1769. He was soon followed by a handful of craftsmen. But it is especially from the 19th century onwards that Belgian piano making experienced very strong growth.

Around 1840, some fifty piano makers could be found employing about 250 workers. They were producing nearly 1,750 instruments per year or 3.5% of the total production in Europe then estimated at 50,000 units. If quantitatively, the Belgian piano making was occupying a marginal position on the international market, at the national level this activity represented a significant economic potential – at least comparable to, if not greater than that of harpsichord making two centuries earlier. Piano making was also generating substantial employment indirectly, since many

other craftsmen were involved, whether for the wood, the leather, the ivory of the keys, the strings, the pegs and so on. The sale of the instruments, their tuning and adjustment also relied on a large workforce.

From craft to industry, piano building in Belgium reached its activity peak in the early 20th century. But unfortunately, like all luxury businesses, it was hit hard by the economic crisis of the 1930s. The impact of the Second World War was also heavy, while at the same time foreign competition, especially from Japan, started to intensify. Between 1955 and 1960, almost all the Belgian piano makers stopped production and turned to the sale of imported instruments.

A few years ago, Pianos Maene took up the torch and began producing high-end grands pianos with straight strings – the building of the instrument connecting tradition to innovation. The owner of the firm, Chris Maene, is also a great collector of historical keyboards. With more than 300 objects, many of them in playable condition, he owns today one of the largest private collections in the world. In order to showcase part of this collection – but also to pay tribute to all the makers that came before him – he decided to open a new museum in the southern part of Brussels: the *Belgian Piano Museum*. Located in a former hat factory that was built in 1875, this museum displays over 250 m² some of the oldest Belgian square, grand and upright pianos still preserved (Fig. 3 and 4). On display are also a foot keyboard (pedalboard), a clavi-harp, a harmonium and a pianola – different models of keyboard instruments which have their Belgian origin in common and which illustrate the specificity, but also the extraordinary diversity, richness and quality of keyboard instrument building in the Belgian provinces.

A New Concept for our New Main Exhibition

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Abstract

At Ringve Music Museum, we are currently revising our main exhibition, dating back to 1999. Though it still is modern-looking, it seems outdated in the light of recent research and developments in musicology, other socio-cultural disciplines, and museology.

Our overall aim is to focus on the meaning of music in people's lives across time and geographic region. We understand musical instruments as the tactile link between our reality and other places, times, individuals and groups, environments, and cultural practices – as mediators of traditions, meaning and functions.

We are trying to free the concept from more traditional, didactic methods such as showing Western chronologic music history, or musical instruments divided into the Hornbostel-Sachs system. What we instead are aiming for is a global perspective looking at 'music, people and instruments'.

Our starting point are the objects themselves, which are authentic, here, and now. The experience of playing on them is a living experience, even if the context of its origin might seem out of reach. The object can still serve as a starting point of an imaginary journey towards its context and meaning through mediation and narrative.

A cornerstone for the new exhibition is our belief that the premise for an instrument to be a living object is that it needs to be played on – either hands-on or via technological mediation. This is what we want our visitors to experience – though with the corona virus emerging during our conceptual work, we had to reconsider some ideas.

Introduction

A new instrument exhibition at the Ringve Music Museum in Trondheim, Norway, will open in early June 2022, based on Ringve's collections of more than 2,000 musical instruments from all over the world. As Ringve merged with Rockheim – the National Museum for Popular Music in January 2021, the exhibition will also benefit from having Rockheim's collections at its disposal.

The exhibition will replace what has been for more than twenty years our main permanent display of musical instruments, 'the Exhibition in the Barn'. This exhibition opened in 1999, in the former barn at the Ringve farm estate. It consisted of two large rooms. One of the rooms would display Norwegian and Western music history. In the other room, instruments from around the world were presented according to the Hornbostel and Sachs classification.

The exhibition was mainly constituted of 'silent' musical instruments, displayed in glass cases like objects of art, contextualised through text panels, narratives on audio guides, and occasional sound samples. Although the exhibition has stayed elegant and well-kept, we were concerned that it was no longer up to date. 'Not old-fashioned, but outmoded', was the conclusion of music researcher, Prof. Katrin Losleben, when asked to evaluate the exhibition in 2016.[1]

One aspect of the exhibition we wanted to reconsider was the traditional chronological layout. Another limitation was the primarily technical, organological perspectives of the Hornbostel-Sachs display. Even more problematic was the basic division between Norwegian and Western musical and cultural history in one room, while the other room dealt with 'the rest of the world'. For the new exhibition concept, we wished to disengage from the Eurocentric mindset of 'us' and 'them' implied in the exhibition. We also wanted to be free of the ambition to try to represent Norwegian or global music in any totality of history or genre.

Our ambition has been a turn towards a new focus on the meaning of music in the lives of humans, across divides of time and regions. We want to mediate the instruments as tactile connectors between our present-day audiences and the life-worlds and practices of other places, times, individuals, and groups.

While wishing to retain a focus on the objects themselves, we would like to disengage from conventional didactic approaches like scientific typology or linear Western musical development. Instead, we wanted to investigate a more overreaching theme of 'Music, Humans, and Musical Instruments'.

Music is inherently intangible, in the same sense that human cultural traditions are intangible. The connection to the past or to other contexts is often beyond our reach. Musical instruments are physical connectors between ourselves and earlier periods or other places. We understand the instruments as solid, or tangible, carriers of traditions, meaning, and social functions.

Similarly, we see the objects as a means of direct communication with the visitors. The object is here, it is now, and it is reliable, even if the original context of the instrument is out of reach. Through various mediating strategies, the object can engage with the visitor, eliciting concepts about its original context and meaning. Musical instruments on their own might be seen as 'dead objects', but they come alive in their interaction with humans as makers, players, or listeners.

While most of the museum objects cannot be played for conservation reasons, in the exhibition many will come to life through various forms of human interaction: in the conservation workshop, through demonstrations in the amphitheater, and through modern technological solutions, where the encased instruments are made to sound through hidden loudspeakers.

It should be pointed out that the new instrument exhibition is a work-in-progress. This presentation relies on texts, ideas and images that have not yet been finalised, and which should only be taken as documentation of the planning process, not of the finished exhibition itself.

What will the new exhibition look like?

The available space consists of two rooms or wings set at an angle. The larger section, of 345 m², is called the North Wing. The smaller room, of 170 m², is called the Central

1 Katrin Losleben, Hva sier vi? Vurdering av Låven på Ringve Musikkmuseum. Unpublished report (Trondheim, 2016)

Fig. 1. A digital rendering of the new musical instrument exhibition at Ringve Music Museum in Norway. Illustration: Sanden&Hodnekvam Arkitekter A/S. (Picture: Ringve Music Museum.)

Wing and has windows facing the courtyard on the west side. The museum's conservation workshop is placed to the east (Fig. 1).

Major architectural changes:

- The existing entrance and exit will switch places, changing the exhibition's floorplan and the visitors' main route.
- The conservation workshop will become an integral part of the exhibition. Floor-to-ceiling windowpanes will make it possible for the visitors to see the activities in the workshop.
- An amphitheatre will be installed along one wall in the North Wing, in front of a podium or stage, for live demonstrations and small concerts.
- The exhibition rooms formerly had a colour scheme of dark blue and grey/black. The new exhibition will be lighter, with a light grey hue on the walls and ceiling, and birchwood floors.
- To avoid unnecessary waste, we are retaining the long, built-in glass cases in the North Wing, and re-using most of the smaller cases.

What will the new narrative(s) be?

Our new main mediation strategy is to focus on how instruments act as interfaces between humans' capacity to make music, the human body, and the outer world, creating meaning and community. We believe these aspects are near-universal for the way music and humans interrelate, across time and space.

Fig. 2. Overview of the new exhibition layout. Central Wing (right): Chapters 1–3. Conservation workshop far right. North Wing (left): Chapters 4–6. Amphitheatre and stage in the upper corner. Illustration: Daniel Richards. (Picture: Ringve Music Museum.)

The new exhibition will be centered around 6 main chapters (Fig. 2). Each of them relates to a specific physical area.

- Music and the Human Body.
- A World of Musical Instruments.
- Instrument Makers and the Conservation Workshop.
- Instrument + Player + Audience = ♥
- Musical Medial Platforms (Make, Save, Listen, Like).
- Musical Instruments as Carriers of Meaning.

The first three chapters are placed in the Central Wing. We think of them as 'the birth of the instrument'. We see the following three sections, placed in the North Wing, as 'the life of the instrument'. In the following overview, these 6 chapters are in part presented through textual fragments (with quotation marks) originally developed to serve as inspiration during our own creative process, with a few examples of how these ideas might be mediated.

In chapter 1, Music and the Human Body, we focus on how music and musicality are basic parts of being human. We understand music as a precondition for the biology and culture of our species, embedded in us through millennia of evolution (Fig. 3). Communication, the expression of feelings, and social companionship are all built into our bodies' musical capability.

> *All humans begin life in their mothers' wombs. The first thing you ever heard, was your mother's rhythmic heart beats and the melody of her voice. Rhythm and melodic sound are the basic elements of music.*

In this area, an immersive installation featuring the 'corpophone' will show pictures of people moving and making sounds with their bodies, such as clapping their hands, snapping their fingers, and stamping their feet. There will also be a listening station with recordings of vocal techniques from all over the world.

> *The body is a musical instrument in itself. We can make music through rhythmic movement, gestures, and sounds; snapping, stamping, whistling, clapping and singing. Song is a universal human phenomenon.*

Fig. 3. From the museum collections: Nigerian drum and head of Norwegian zither. (Photo: Ringve Music Museum.)

We often think of music as sound, but it is also movement. When someone claps their hands, we join in. Pulse and breathing, the movement of body and mind, are closely connected. Many languages use the same word for dancing and music. And just think of the many meanings of the word play.

In many cultures we find instruments shaped after humans or animals. This section demonstrates examples of this, including anthropomorphe and zoomorphe musical instruments. This will be exemplified, for instance, by a Nigerian drum and a Norwegian zither which both demonstrate a clear physical affinity between the human body and the instruments themselves.

In chapter 2: A World of Musical Instruments, we investigate what musical instruments are, and why they look and sound the way they do.

Our innate musical potential has a much wider register than the body can produce on its own.

Instruments can bang, shriek, honk, tinker, or pipe. The instruments extend the human body, while feeding into it, emotionally as well as physically. The body and the instrument exist in a feedback-loop, a state of interplay.

The ambitions and experience of the player and the instrument maker are part of a constantly developing cycle. Human ability meets the instruments' potential and limitations, in an ongoing exploration of musical, technical, and existential frontiers.

New varieties of musical instruments appear, as impulses, desires, and ideas travel between peoples and cultures. Through trade, emigration, military strategy, slave trade, and tourism, instruments and technologies have traveled the world, and new instruments have come to light.

The instruments in these chapters are articulated in different sections featuring different aspects of these overall themes:

- Sound production principles.
- Interface and standardisation.
- The migration of sound.

The first section, dedicated to sound production principles, is about how sound is made and shaped in different ways by different types of instruments, such as wind-, string-, membrane instruments, idiophones, and electrophones.

The second section is dedicated to the interface between player and instrument. Here we try to distinguish the basic technology of sound production from the specific interface between player and instrument. The exhibited instruments show how different types of keys and valves offer the player means to vary the sound. This also relates to the development of standardisation of tempering and intonation.

The third section is dedicated to the migration of sound. One example is how the principle of resonance strings has travelled from the East to the West. In this way, we try to emphasise connections across cultures, rather than focus on national or regional distinctions.

Chapter 3 is dedicated to instrument makers and includes the conservation workshop. In this section, we are presenting instruments produced by some of Norway's most acknowledged instrument makers. We will also show an Amati violin, representing an enduring ideal. In addition, violins of different materials and unconventional forms are displayed to represent the wide range of variation. The importance of materials for the production of sound is demonstrated with the making of Hardanger fiddles as an example.

We will also be showing videos of three instrument makers in Norway at work. The resulting instruments presented in the film will be on display.

Chapter 4: Instrument + Player + Audience = ♥

Who makes the music, and who gives it meaning?

Musical instruments should be played. The musician makes the instrument come alive with music, but who imbues the music with meaning?

When a musician starts playing an instrument, the instrument becomes part of the music. The instrument and the musician inform each other through their technical prerequisites, traditions, and individual histories. In addition, the listeners interpret the music, giving it meaning based on their own lives and frames of reference.

With live music, musicians and listeners are present in the same space. The space affects the music as well as our experience of it. Music is relational, and the experience is individual as well as social.

This section investigates the relationship between instrument and player. It will include a selection of hands-on instruments for the visitors to explore, as well as an amphitheatre and small stage.

The Stage – Music in Space and Site as Musical Mediator

The amphitheatre and stage will be a place for the presentation of live music through instrument demonstrations and small concerts (Fig. 4).

We would also like to address the audience's preconceptions of different types of live music sites. Behind the stage, images of six well-known actual musical arenas

Fig. 4. A rendering of the amphitheatre and stage area. Illustration: Daniel Richards. (Picture: Ringve Music Museum.)

in Trondheim and Norway will be presented. With the aid of sound showers, we are hoping to connect with the visitors' expectations of the stage filling with music.

Chapter 5: Musical Media Platforms (Make, Save, Listen, Like). This chapter investigates these questions: how does music travel? How do we retain its memory? And how may music live on, freed from the human body?

> *All music is world music. As people travelled, music travelled with them. Music can also travel on its own. Through trade, along mail routes and train tracks, by ship and cable, written music, records, and digital signals travel the world.*
>
> *All kinds of technologies, from handwritten scores to digital streaming, have been used to store music. In this way, music and musical culture take part in a global network exchanging notes, impulses, money and objects.*

This chapter centres around the overlapping timelines of six basic groups of technology for making, storing, listening to, and enjoying music. In this way, we show how different musical practices interconnect, trying to avoid the projection of technological determinism.

The sections in this chapter centre on:

- Different techniques of notation, from the earliest examples of tablature to mass-produced prints.
- Mechanical instruments, from the musical clocks of the 18th century to the barrel organs of the 19th, and the self-playing piano from around the turn of the century.
- Acoustic recordings, from the phonograph and gramophone to Norwegian and international record companies around 1925.
- Electric recordings, amplified sound, and reproduction through loudspeakers, by telephone, radio, talkies, and gramophone from 1925 on.
- Magnetic tapes and multitrack recordings, LPs, and sound cassettes after the Second World War.
- Digital recording and virtual mediation; Midi records, CDs, the Internet, and Spotify.

What do musical instruments signify? What are the cultural meanings of different types of instruments; a drum, a grand piano, or a pair of castanets?

While musical instruments are tools, they are also messengers. They create sound, and they create meaning. When instruments are made or played, it takes place within a specific society and culture. The traditions and values of society become part of the instrument. A musical instrument can relate what is deemed important or beautiful within a culture, who has power, what is sacred – even what is laughable!

In this last section, we have chosen six topics we believe are relevant to human culture across borders of time and geography. A wide variety of instruments will be on display, contextualised according to the particular topics by means of text, sound samples, video, audio guides, and mediation by museum guides.

- Communicating with Animals
- Music of the Marching Bands
- Musical Instruments and National Identities
- Music and the Spiritual
- Musical Instruments and Gender

As formerly stated, this is still a work in progress. Although we have been free to reimagine this space as well as the conceptualisation and mediation of the objects, the challenge has been to go beyond what we already knew – the space such as it existed, and the collections such as we knew them, through research and previous exhibitions. The process has been long, with many twists and turns, and is still on-going. In the meantime, we are looking forward to opening our new exhibition to the public by the summer of ’22.

Between COVID-19 and Fire:
Curating an Exhibition about Beethoven in 2020

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Abstract

Beethoven's 250th anniversary, which was due to be celebrated worldwide with a wealth of concerts, exhibitions, symposia, and other events, has been enormously affected by the pandemic that struck the world in 2020.

Luckily, the Hotel Beethoven exhibition presented at BOZAR – Centre for Fine Arts in Brussels –, supported by Germany's presidency of the EU, managed to open in October 2020 and could welcome an – albeit reduced – audience for about 8 weeks, until a dramatic fire broke out at BOZAR on 18th January 2021; none of the works were affected, but the exhibition had to be dismantled about 4 weeks earlier than expected.

Curated by Eric de Visscher, Hotel Beethoven examined the meaning of the cult figure that Beethoven has become, seen through the eyes of artists past and present, against a backdrop of historical documents and original music.

Themed hotel rooms offered a contrasting and essentially contemporary view of Beethoven's legacy: Beethoven the icon, the originality of his creative process, his political view of the world, the meaning of hearing and deafness. The exhibition featured works by Antoine Bourdelle, Franz von Stuck, Andy Warhol, John Baldessari, Jan Vercruysse, Jorinde Voigt, Christian Marclay, Christine Sun Kim, Jeremy Deller and Katie Paterson. There were also original manuscripts and musical scores by the composer, on loan from the Beethoven-Haus in Bonn, and a specific installation expressing Beethoven's involvement with piano making, realised in collaboration with pianoforte expert Chris Maene and the Orpheus Institute (Ghent).

Next to a virtual tour of the exhibition, this paper will present the challenges that we encountered while preparing this exhibition during the COVID crisis, and how sound was delivered in this very specific context.

Beethoven's 250th anniversary, which was due to be celebrated worldwide with a wealth of concerts, exhibitions, symposia and other events, has been enormously affected by the pandemic that struck the world in 2020.

One of these events was the *Hotel Beethoven* exhibition presented in Brussels at BOZAR – Centre for Fine Arts, as part of Germany's presidency of the Council of the European Union and the commemorative year BTHVN 2020, with support from the German Federal Government.

Curated by Eric de Visscher, *Hotel Beethoven* examined the meaning of the cult figure that Beethoven has become, seen through the eyes of several generations of artists, against a backdrop of historical documents and original music.

Fig. 1. Installation view of Hotel Beethoven, Bozar, Brussels – pianos by Chris Maene, with Broadwood piano and Hearing Machine. (Photo: Philippe de Gobert.)

Themed hotel rooms offered a contrasting view of Beethoven's legacy: Beethoven the icon, the originality of his creative process, his political view of the world, the meaning of hearing and deafness,...

In this estranged COVID context, the exhibition first opened in October 2020, had to shut down for about a month in November, but could then reopen in December and welcome an – albeit reduced – audience for several weeks, until a dramatic fire broke out at BOZAR on 18th January 2021. Miraculously, none of the works were affected, but the exhibition had then to be dismantled earlier than expected for reasons of security and climate control. Conceiving the exhibition just before and during lockdown, opening it in very unpredictable circumstances and finally being forced to close down due to dramatic circumstances indeed proved to be quite an exhausting, but finally rewarding adventure!

But why a Hotel Beethoven? Indeed, all around the world, from Caracas to Amsterdam, Gdansk to Istanbul, there are dozens of hotels bearing the name 'Beethoven'.

But is it not ironic to thus associate the concept of a hotel – a stopping-off place for travellers, associated with curtailed times and condensed spaces – with an artist who himself travelled so little, leaving his native city of Bonn at the age of 22 to settle in Vienna, without ever returning? A man who allowed himself only a few summer stays at spa towns or the homes of his aristocratic patrons, and who was only able to pursue one single extended tour as a concert pianist, for his promising career as a virtuoso was gradually curtailed by his rampant deafness?

At the same time, within the very city of Vienna, he would become attached to no one place and moved many times, with his only belongings being his pianos, his library and his musical scores. He, indeed, embodied a form of nomadism, even if it amounted to no more than changing streets or neighbourhoods.

Yet, in a contemporary setting, the multiple ways in which hotels are being used echoes the polyphony of Beethoven's multi-layered music. For the hotel is at once a public place hosting political and business meetings, and a refuge of extreme intimacy; a stopover for rest and pleasure, whether urban or immersed in nature; it welcomes all manner of parties and celebrations; and it reflects society in its

Fig. 2. Installation view of Hotel Beethoven, Bozar, Brussels – works by Baudouin Oosterlynck. (Photo: Philippe de Gobert.)

differentiation into categories and classifications, while projecting the image of an ideal – and perfectly managed – world, existing only to please its pampered guests.

Likewise, there is more than just one Beethoven: the solitary (and deaf) creator, isolated from society; the ambitious, even opportunistic, social climber within the hermetic high society of the Viennese aristocracy, whose interests he served in exchange for adulation and a (certain) material comfort; the ever-demanding artisan, constantly revising his scores even post-printing, much to the chagrin of his publishers, while yet sternly negotiating his fees; the extremely expressive poet, exploring the deepest meanders of the human soul or the sensual intimacy of (often distant) lovers, not to mention the tortuous tectonics of a stormy nature; the heir to the Enlightenment, advocating freedom and humanity for everyone, all while favouring the stability provided by enlightened despots to the sometimes inspiring adventurism of the French Revolution… And what can be made of his fascination for 'Ponaparte' (thus spelled in one of his letters), ranging from adulation to brutal rejection – ultimately a Janus-like duality hinting at a certain identification, for both men shared and glorified the heroism of their destinies?

'I would have liked to live a thousand lives', he wrote to his friend Wegeler. Yet today, there are more than a thousand Beethovens, if one observes just how universal his presence has become, with not only hotels and biscuits bearing his name, but through musicians, writers, filmmakers, dancers, painters and other artists, of all genres and styles, living and creating all around the world, who never cease to re-explore and reinterpret his oeuvre. It has been said that posterity proved generous for Beethoven, for his mythification and heroisation began the day of his death, on 26 March 1827 – and undoubtedly much earlier, when the Prince-Elector of Cologne, under whom he had been serving in Bonn, sent him to Vienna, not simply to study with Joseph Haydn, but to receive – in the words of his patron, the Count Waldstein – 'the spirit of Mozart from Haydn's hands'.

A persistent icon, Beethoven has generously repaid posterity the glory he enjoyed when still so young. Today, everyone can stake a claim to and draw inspiration from Beethoven's heritage – even MacDonald's in some well-known ads! Yet, throughout

these myriad transformations and despite the great diversity of interpretations, from the most serious to the most outrageous, Beethoven has ever remained himself, just as he did throughout his life.

While there indisputably exists a unique Beethoven 'sound', immediately recognisable from the earliest notes of any Beethoven symphony or sonata, there also irremediably exists an embodied Beethoven voice of an assuredly moral nature. 'The moral law within us, the starry heavens above us. Kant!!!' he wrote in a conversation diary of 1820.

We should not be surprised by this reference to the great German philosopher, whom young Ludwig had studied during his student years in Bonn. As the composer Hugues Dufourt has written, Beethoven was undoubtedly more a man of the 18th-century Enlightenment than a 19th-century romantic revolutionary. He defended liberty, but with a respect for social norms. He thus presented a veritably higher set of moral standards, placed at the service of art and truth, even while the circumstances of life would force him to make certain compromises, or even conduct in behaviours more petty than amoral (in his business and familial relations, for instance). Does this not explain his rage at having to behave like some Handelsmann, so as to sell himself to publishers and patrons, while almost constantly suffering from a lack of money and the fear of being exploited?

If music is central and exclusive in Beethoven's life, then it must play a prominent role in any exhibition devoted to the composer. This was the case in Hotel Beethoven, where music was continuously flowing through the exhibition as a stream of multiple detours and junctions, at times enveloping the visitor, at others inviting one to lend an ear. Different modes of listening were designed, from immersive installations to individual headphones, from self-playing pianos to bone-conducting devices. One of the highlights of the exhibition was a specially conceived installation involving four pianos that Beethoven had encountered and used: copies of these four instruments (Stein 1786, Walter ca.1800, Broadwood 1817 and Graf 1826), all made by the Belgian piano specialist Chris Maene, had been previously recorded for the exhibition and the music was played back through loudspeakers which were embedded in the instruments themselves. This was the result of an exceptional collaboration between Maene, musician and researcher Tom Beghin, pianist Camilla Köhnchen (both from Orpheus Institute, Ghent) and sound engineer Johan Vandermaelen. A set of Bagatelles and other short pieces, played on these different instruments, witnessed the strong correlation between Beethoven's musical language and the exceptional changes that pianofortes underwent at the turn of the 19th century. Visual artist Jorinde Voigt added her own interpretation of these pieces through large drawings, somewhere halfway between mathematical analysis and musical score. One of the interesting additions was that the Broadwood piano carried, instead of its lid, a giant Gehörmaschine, or Hearing Machine: notes in the composer's conversation books as well as first-hand accounts have revealed that this device comprised a metallic arched dome and was delivered to Beethoven in September 1820. A team also comprising Maene and Beghin recreated this device and hypothesised on the device's influence on Beethoven's final sonatas. For instance, in his Sonata No. 31, the many repetitive passages of notes and chords suggest that Beethoven explored their resonance by turning his ear towards the interior of the Gehörmaschine. Combined with the vibrations transmitted to the structure of the Broadwood piano, the strengthened projection of sound directed towards the pianist probably contributed to the writing of these exceptional scores, at a time when the composer reached a state of total deafness.

As there are indeed many ways of listening and creating soundworlds, what Beethoven and later other artists such as Joseph Grigely (b.1956) and Christine Sun

Kim (b.1980) (themselves D/deaf) teach us is that listening is not a matter for the ears alone, for it calls upon the entire body. Current disability studies talk about 'Deaf-gain' instead of 'Deaf-loss', as indicating what can be obtained by exploring the multiplicity of ways through which we interact with the acoustic world. And thanks to the listening aids joyfully created by artists like Baudouin Oosterlynck (b. 1946) and his Prothèses, or John Baldessari's (1931–2020) gigantic Beethoven's Trumpet (with Ear), we discover that this embodied aural attentiveness constitutes a powerful window onto the world.

In a perpetual dialogue between past and present, *Hotel Beethoven* established a correspondence between this sonorous field irrigated by Beethoven and its subsequent or contemporary transpositions: starting with the composer's iconic image drawn from his famous Lebensmaske or life mask, or from his undoubtedly most overused sonata, with its un-Beethovenian title of Moonlight Sonata, the deforming mirrors placed by several generations of artists demonstrate the extent to which our perceptions of the man and his music have been moulded by these multiple sources of interpretation. It is so that the piano sonata op.27, n.2's famous first movement is being taken *à la lettre* by Scottish artist Katie Paterson (b.1981), when she decided to translate the score into morse code, send it by radio waves to the moon and decode the signal bounced back by the moon into musical notes played by a player piano! This kind of transformative action is also present in Andy Warhol's reinterpretation of the famous Beethoven portrait by Joseph Stieler or in the multi-faceted sculptural work by Antoine Bourdelle (1861–1929), who created no fewer than 80 portraits of the composer. In Mauricio Kagel's (1931–2008) film Ludwig Van, it is through a fictional recreation of Beethoven's birthplace, the so-called Beethoven Haus in Bonn, that new narratives proposed by invited guest artists such as Joseph Beuys, Dieter Roth or Joseph Filliou, exemplify the urgent need for constant updating of Beethoven's message, in which each epoch filters this so-called atemporal and eternal œuvre with its own ears and eyes.

The same can be said of the Black Lives Matter-inspired version of Beethoven's Fidelio by the New York-based opera company, Heartbeat Company: besides its all-black cast and setting in the context of a US prison, a striking aspect of this version is the famous Gefangenenchor, the prisoners' chorus, which is sung by black inmates from within the very walls of their penitentiary, as a result of an in-depth educational and community project held in several American prisons. This musical mise en abyme goes above and beyond Beethoven's ode to love, to extract a moral meaning challenging injustice and racism. The same issue remains of eminent topicality in the way that Terry Adkins' body of work around the 'Black Beethoven' gains a renewed relevance: without taking any stance on whether the composer was of African ascent or not, the Afro-American artist Adkins (1953–2014) just asks the question of what would have happened to music history if Beethoven had been black.

Similarly, when the British artist Jeremy Deller (b. 1966) links Beethoven's Symphony No. 7 and its renowned scherzo – rather than the preceding Pastoral Symphony – with the pro-climate demonstrations inspired by Greta Thunberg, it is once again the composer's moral voice that is summoned, rather than his too simplistic relationship with nature: 'My goal in making this film was to show Beethoven within today's world. I wanted to approach his music as the accompaniment to a political movement and observe its relevance to the children. From the outset, I realized that the children had to create something topical and of real importance to them'. The irony of this is that Beethoven's music, in particular the final movement of the 9th Symphony, has been used and abused in so many different political contexts.

On his death bed, two days before the fatal date of 26 March 1827, Beethoven is said to have uttered this phrase attributed to the dying Roman Emperor Augustus:

'Plaudite amici, la comoedia finita est' (Applaud, friends, for the comedy is finished). This ironic manner of facing the ultimate ending and retiring into absolute silence – he would fall into a coma only a few hours later – shows us Beethoven facing reality, but without resignation. If life is a comedy, then that of Beethoven, sometimes considered the first 'autobiographical' composer, echoes the unfathomable diversity of feelings and emotions expressed by his music, which reflects the composer's profound humanism, his faith in the redemptive power of art, and his refusal to accept unfairness and fatality. At the end of the exhibition, Christian Marclay's (b. 1955) silent video Mixed Reviews features a deaf actor using American Sign Language to express sound descriptions collected by the artist from printed concert reviews. With a humorous touch that Beethoven himself would have appreciated, it reminds us of the range of sensory and emotional responses that music implies, even if played in silence.

An earlier and shorter version of this text appeared in the exhibition catalogue of the exhibition, *Hotel Beethoven*, Bozar-Centre for Fine Arts, Brussels, 2020

A virtual tour of the exhibition is available on the Bozar website: https://www.bozar.be/en/watch-read-listen/hotel-beethoven (accessed 14th November 2021)

Focusing Inner World of Musical Instruments and People's Mind:
A Way for Roles of Musical Instrument Museum with/after COVID-19

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Abstract

The draft of a new museum definition, whose vote was postponed at the ICOM Kyoto Conference 2019, is now under consideration for voting at ICOM Prague Conference 2022. The COVID-19 Pandemic, which appeared unexpectedly after Kyoto Conference, has made us re-think about the meaning of museum's existence and activities. Moreover, it will affect the new definition of museum. When in comes to musical instruments, we will have to value more the relationship between people and instruments than the classification, structure, and the history of their development. The importance of re-finding aspects of instruments which give and guarantee the peace and stability of people's daily life, their mind, and their heart.

I retired from Hamamatsu Museum of Musical Instruments in March 2021. During my 27 years career, including 15 years as a director, I always tried to let people, especially those who were not familiar with music or musical instruments, discover lots of charms which instruments have other than making music, in other words, the importance of the instrument inner world which affects our mind. For example, sculptures of Naga, or big snake as God, seen on the Gamelan in Java, sculptures of Ryu, or Asian dragon as God, seen on the frame to hang bells. Those are not skills to play instruments but ways to show such representation as respect, fear, love, and faith, etc.

In this conference I would like to report the special exhibition 'Musical Instruments as Symbols: Sacred Shapes and Praying Sound' held in 1998, designed and produced by me. The relationship between instrument inner world and people's mind seems more remarkable in Asia, Oceania, Africa, and America than in Europe. This deep relationship seems to show us some guidelines for museums to carry out their new mission and activities after and with COVID-19.

Preface

First of all, I would like to thank you, the participants of ICOM Kyoto Conference 2019, for visiting Kyoto and Hamamatsu. It is really my great honour to have you in Kyoto and Hamamatsu and enjoy thinking about the future of museums. Especially having you in Hamamatsu was one of the final goals of my museum career of 27 years, including 15 years as director, which ended in March 2021.

The draft of new museum definition, which was expected to be approved in Kyoto, was decided to be discussed much further to suit the diversity of nations and is now under consideration for voting at ICOM Prague Conference 2022.

The COVID-19 Pandemic, which appeared unexpectedly after the Kyoto Conference, has made us rethink the meaning of museums' existence and activities, or missions with/after COVID-19. It is clear that the pandemic will affect also our thinking process of the new definition of museums.

After the opening of Hamamatsu Museum of Musical Instruments in 1995, I have always tried to encourage people, especially those who were not familiar with music or musical instruments, to discover their charms. The charms are not only as mechanical devices to play music but also as support of the people's heart.

The other point I have emphasised is that we must not cherish or respect only European musical instruments for classical music. As I presented at CIMCIM meeting in 2018, Switzerland, European classical music and its instruments have been so much loved and respected by Japanese people these 150 years since Meiji Era led by Japanese government. On the other hand, music and instruments of non-European areas while of equal importance may be less well-represented. So, focusing non-European instruments is very important for Japanese people to international understandings of the present world.

I would like to make my report at CIMCIM 2021 meeting, on the basic standpoint of those reasons above, that focuses inner world of musical instruments and people's mind.

1. Special Exhibition about Symbolism of Musical Instruments in 1998

I would like to look back briefly at the exhibition named 'Symbolism of Musical Instruments – Sacred Shapes & Prying Sound – ', held from March to May 1998 (Fig. 1). For I am sure now 23 years after the exhibition, that spiritual aspects of music and instruments are very important to revitalise the hearts of those who may have been damaged by natural disasters and of the pandemic, COVID-19.

Fig. 1. Poster of special exhibition "Symbolism of Musical Instruments – Sacred Shapes & Praying Sounds – "held at Hamamatsu Museum of Musical Instruments in 1998, which represents universe of musical instruments.

This exhibition was planned and managed by me. The purpose of the exhibition was to let people know and appreciate human culture which musical instruments have in and behind themselves. The value of a musical instrument is not only as a device for playing music itself, but also the diversity of messages which the instrument has; archeology, history, anthropology, folklore, geography, economics, social science, human spiritual activities, etc. Of course, these messages are given to the instruments by people themselves. It means that people have put lots of hope, respect, awe, fear, love, etc. into instruments. They are essential elements people need to live with. This is why I planned this exhibition. And I call this perspective 'symbol' or 'symbolism' for people, from young to old, to understand easily.

1. Easy Catalogue

In this exhibition I set the 5 viewpoints from which about 170 objects should be displayed:

A. World of Spirits

Displaying many examples whose tone represents the voice of spirits such as bamboo flutes of the Sepik district in Papua New Guinea. Carvings on the body of Garamut, a slit drum, is crocodile, one of the spirits there, representing the strongest power. Rainbow snake on the didgeridoo of Aboriginal people in Australia shows the mythology of their creation.

B. Awe for Sacred Animals

There are very important animals in Asia which have supernatural power, called Reiju such as dragon, phoenix, imaginary giraffe, turtle, snake, peacock, tiger, lion, etc. The first four we call Shirei, for sacred animals. They keep the cosmic order, give people rich lives. They are usually living peacefully, but can cause disasters when angry (Fig. 2).

Other than Shirei, we have Shishin, four Gods which protect four directions. They are dragon, protecting east, tiger-west, phoenix-south, and genbu-north. Genbu is a combined animal of turtle and snake. And each direction has its own colour. East is blue, west-white, south-red, and north-black. So, the dragon is blue, tiger-white, phoenix-red, and genbu-black. These Shishin animals are seen in the wall paintings of the stone chamber in the ancient tumulus in Japan. Some of them are national treasures.

And these animal paintings or carvings are seen also on the Asian musical instruments such as Javanese gamelan flames, Korean chime bells. Korean percussion named 'o' is itself, a white tiger shape.

In Java, a big snake called Nogo, is typical. Nogo is originally from Indian Naga, big snake God protecting Hindu Vishunu. In Java, Nogo is thought to be the spiritual wife of the king, giving him advice. Snake is thought to be a God also in Central and South America.

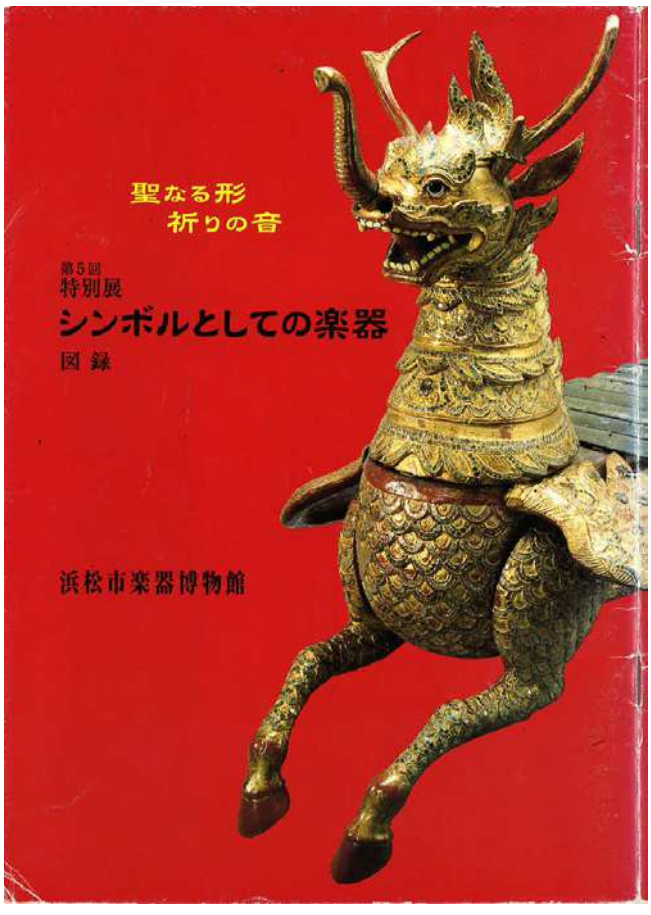

Fig. 2. Cover of the easy catalogue of the exhibition curated by Kazuhiko Shima in 1998.

C. Communication with Gods

There are two ways to communicate with Gods; one is to visit them, and the other is to call them to come. Examples of exhibits are Dohtaku, a bronze bell in ancient Yayoi-period in Japan. It is thought to be a tool to call and communicate with Gods. Bronze Drum in Southeast Asia is used at the rain-making ceremony. Carvings of the sun, bird, and frog represent sun-worship, vehicle to heaven, and calling rain.

We can see the connection of Gods and instruments. Examples are the Saraswatiand vina in India, Pan and panpipes in Greece, Kinnari or Kinnara and gongchime in Thailand. Human bones drum and trumpet have magical power to treat diseases and calm the demon.

D. Power and Status

Musical instruments sometimes have a social power. In a country of Africa, a drum is a symbol of king's succession. Carvings on the surface of the African drum body show the victory of the battle. The player piano, especially in USA, was the symbol of modern life. Tomoe pattern on the East Asian drums represents the cosmic power of vortex.

E. What we Love

Carvings on the instruments show what we love and cherish in our daily life. Animals on bagpipes, head figures on the top of neck of European string instruments Morin Khuur in Mongol, Tonkori of Ainu people in Japan are good examples. Tonkori's body just represents the human body. People play it as if they are holding a child. The relationship between instruments and people has been so strong and familiar like this. It is not all decided as a device of making sound or playing music. It seems to be natural for us to think that people cherish and respect instruments and instruments also meet our hearts in return.

2. Natural and Social Changes and the Power of Art

So many changes have happened in these years. Climate change, abnormal weather, ethnic conflict, political conflict, cultural conflict, terrorism, war, social disparity, human rights indigenous people's right, gender, LGBT, SDGs, pandemics, diversity, and more. We are in the midst of such an unstable world.

The great earthquake, tsunami, and Fukushima nuclear power plant disaster, destroyed people's peaceful daily life in Japan on 11th March, 2011. Traditional and modern local cultures, which are their spiritual backbone, were all lost. All people grieved. In the days with much sadness, music gave people some rest of heart. At the same time, local cultures such as village festivals at shrines also cheered up the people. Of course, almost all tangible heritage was lost, but intangible heritage, the memories of and emotions for the festival, remained in people's hearts and minds.

Three months after the tsunami disaster, the people of Onogawa-cho (one of the destroyed towns), Miyagi Prefecture, who temporarily lived at a hotel, made a lion head mask for Shishimai (traditional lion dance) to cheer up their friends who had lost everything. Although the original mask was lost in the tsunami, they made a temporary lion mask using a Japanese cushion, empty can, and slippers. All the people were cheered by that lion dance.

Like this, the traditional arts have a strong power to vitalise the human heart and mind. Later, many people in Tohoku district who lost their houses and shrines revived their traditional festival as well as their house. The art is as valuable and essential for their lives as house and home.

National Museums of Ethnology, Osaka, where the CIMCIM joint session with ICME was held in the ICOM Kyoto 2019 conference, had a special exhibition named Local Cultures Assisting Revitalisation: A Case of Great East Japan Earthquake, in March to May 2021. So many examples and evidence of revitalisation of things and heart by the power of local cultures were shown.

3. Museum's New Mission

One of the final reports of ICOM Kyoto 2019 was the Curating Sustainable Future Through Museums. We must not look away from this issue. Recommendations from 2015 by UNESCO mentioned the diversity and role of the museum in society. ICOM Milano 2016 took its theme Museum and Their landscape. The theme of ICOM Kyoto 2019 was Museums as Cultural Hubs: Future of Tradition. That of ICOM Prague 2022 is the Power of Museums.

It is clear that we must create a new museum mission and design in this unstable world. Of course, we absolutely keep the traditional mission of museums; to collect

and study heritage. But at the same time, we must exert power to make society well and to contribute to society (Fig. 3)

4. Conclusions

As the facts of the Great east Japan Earthquake revitalisation and of the situation of COVID-19 pandemic show, we all feel and realise again that culture and heritage, tangible and intangible, have an enormously important part to play in our peace and healthy growth of heart and mind. Culture is like nutrition for them. Food is essential for our physical growth and health. And culture is essential for our heart and mind and spirit to grow and be healthy. So musical instrument museums can conceivably do much more than at present. Focusing on the inner world of instruments is one way.

We have to value the relationship between people and instruments more than the classification, structure, and the history of their development. The importance of re-finding aspects of instruments will give and guarantee the peace and stability of people's daily life, their mind, and their heart.

At the end of this report, I would like to put two of my presentation slides (Figs. 3 and 4). Although what musical instrument museums should do with/after COVID-19 is not clear, I believe there must be new paths for us to follow in addition to the ever-important missions of studying and preserving musical instruments.

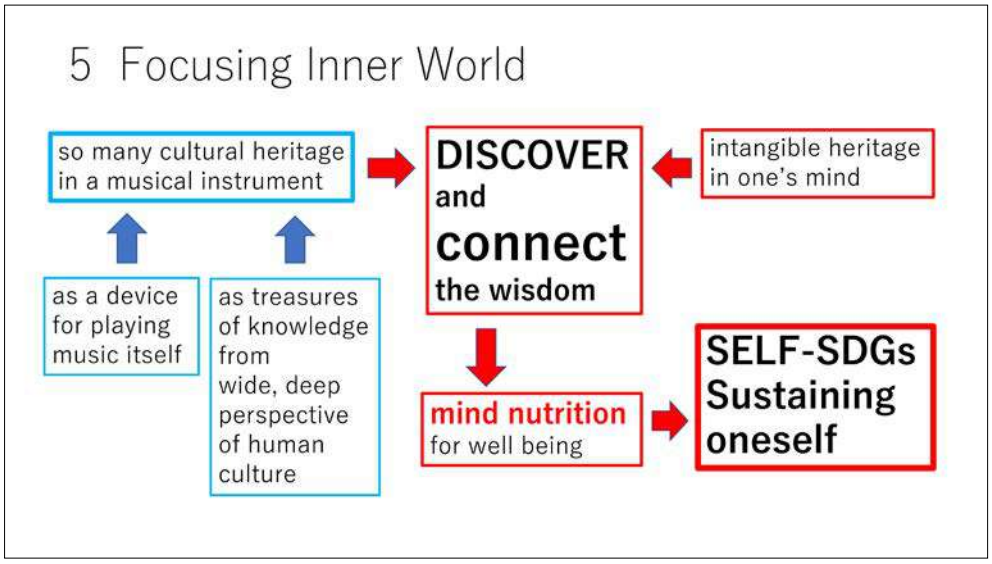

Fig. 3. Slide of the presentation, 2019.

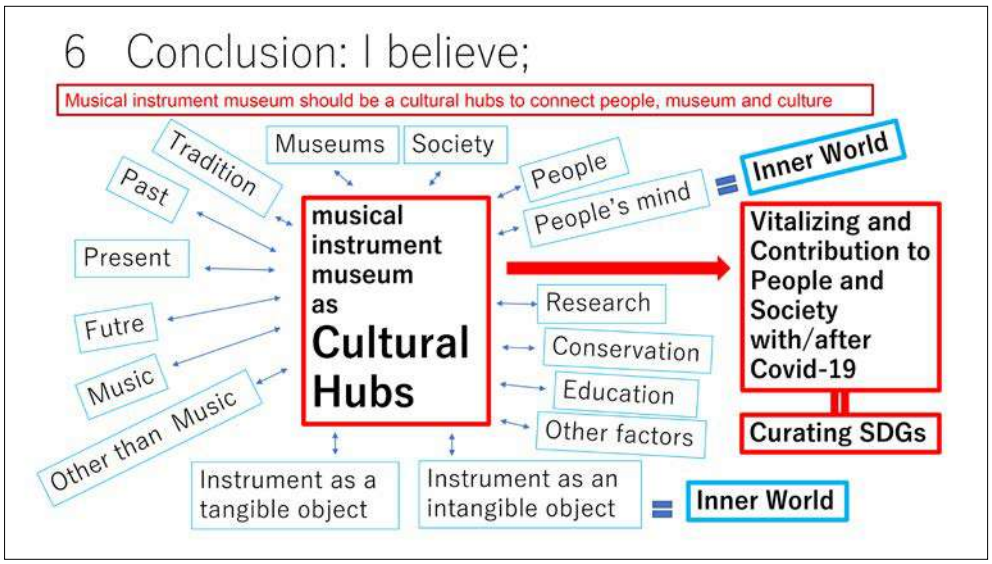

Fig. 4. Slide of the presentation, 2019.

Lithuanian Kankles in the Past and Today:
Presentation of the Virtual Exhibition

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Abstract

Lithuanian *kankles*, Latvian *kokle*, Estonian *kannel*, Finnish and Karelian *kantele*, Russian *gusle*, belong to the musical instrument group of the Baltic psaltery. The Lithuanian *kankles* is one of the symbols of ethnic identity, embodying a bridge between traditional and contemporary culture. A survey was conducted at the International Creative Kankles Camp in Svencelė (Lithuania, 2018) that showed this instrument being a symbol of nationality, sacredness, and spirituality for participants.

The development of the *kankles*, as the image of the *kankles* player from the second half of the 19th century to this day, have been influenced by changes in civilisation, ethnocultural developments, historical and political events. However, the kankles remained an important national symbol during the Soviet occupation being a spiritual response to Soviet oppression, and a source of respite for people in exile.

The Lithuanian Theater, Music and Cinema Museum prepares a virtual exhibition 'Why am I playing the *kankles*?' that will present the instrument and its meaning in the past and present.

Stories, photos and sounds presented in this way, will reach distant countries, where the kankles was heard and widely used among Lithuanian emigrants after the Second World War (Australia, Chicago), as well as today. This virtual exhibition will reach many visitors from all other countries too.

The exhibition addresses the following questions (themes):

- The kankles and its therapeutic effects;
- What significance did kankles have in human life in the past and today?
- What factors have led to the popularisation and changes of the instrument?

Covering many aspects of life, this virtual exhibition during this difficult period will allow viewers to learn about the hardship of the nation's history, will help to maintain spiritual strength, and sounds of the instrument will be the source of reassurance.

In 2021, the Lithuanian Theater, Music and Cinema Museum prepared a virtual exhibition 'Why am I playing *kankles*?' dedicated to the Baltic box zither, a musical instrument associated with the Lithuanian cultural identity.

Lithuanian *kankles*, Latvian kokle, Livonian kāndla, Estonian kannel, Finnish and Karelian kantele, and Northwest Russian gusli are all members of the same family of instruments used in the region on the eastern coast of the Baltic Sea. This group is also known as the Baltic psaltery. The common origin of these instruments

is reflected in their similar design and names. It is thought that the name of the instruments possibly comes from the Indo-European root *kan-, which originally meant 'to sing, to sound'.

The concept of the virtual exhibition 'Why am I playing *kankles*?' is based on the following topics/issues:

1. The significance of the *kankles* in human life in the past and today.
2. What factors led to the popularity of the instrument and its modifications?
3. The therapeutic effect of the *kankles*.

The exhibition included material collected from museums and archives (autobiographies, memoirs, photographs, and archival audio recordings) and also material prepared specifically for this exhibition (reminiscences recorded during the preparation of the exhibition, photographs of the exhibits from private collections, and video recordings). At the camp for *kankles* players in Svencele in Lithuania in 2019, video material was recorded where both experienced *kankles* players and beginners shared their thoughts about playing the *kankles*. The participants of the camp included Lithuanian *kankles* and Latvian kokle players, a musician of Lithuanian descent from Boston, a Lithuanian musician based in Guadeloupe, and guests from Japan. During the preparation of the material about the *kankles* maker Stasė Jundulaitė, her whole family made a contribution. They recorded reminiscences, provided photos, and verified information on the exhibited *kankles*.

The entire content of the exhibition has been divided into seven parts:

1. #tree
2. #teacher #pupil
3. #master #rebirth
4. #exile #longing
5. #miracle #call to God
6. #party #peace
7. #it's feeling

Each part has a name with a hashtag. Although, like on Instagram, it does not perform any function, it becomes a means of expression in the exhibition. It combines today's online symbols and words that express emotions and are related to the experiences of the *kankles* players.

The exhibition starts from the story about making *kankles*, which was associated with the death of man. The regional researcher Balys Buračas visiting the famous *kankles* player Petras Lapienė (1865–1962) in Biržai wrote a story about a man who rushed to the forest to get a tree for the *kankles*, after he had learned about the death of his father. He said:

> *When someone died, they would rush to the forest to get a tree for the kankles. They said that the* kankles *would make a loud sound. The* kankles *was made from maple and ash trees. The top part was made from spruce. Older* kankles *always had a better voice (not a sound, but a voice) and the older they were, the better the voice. Therefore, the* kankles *was passed from generation to generation.*

People played the *kankles* mostly in the evenings, 'when the sparrows settled in the trees'. A tree for making the *kankles* had to be cut down in winter, not in spring, to avoid any sap.

Fig. 1. The little *kankles* players. In the middle – Pranas Puskunigis holding *kankles*, 1924. (Photo: Lithuanian National Museum.)

The connection between a tree and a man is often found in the Lithuanian folklore. In the ethnographic region of Suvalkija, the *kankles* used to be placed on a person's grave and left there until it decayed. This is a reflection of the old faith that the soul of man passes into the tree after death.

Although today the *kankles* making tradition is maintained only by one master, Albertas Martinaitis, the tradition is still alive in people's memory. A Lithuanian woman from Guadeloupe remembered the words of her father, who told her: God is everywhere, you don't even have to go to church. He said that when he dies, he would be nearby.

Historical circumstances caused changes in the *kankles* and the manner of playing. Following the uprising of 1863–1864 against the Russian Empire, the Russian authorities prohibited the Lithuanian press in the Latin alphabet (including Latvian Catholic publications). Pranas Puskunigis (1860–1946), a *kankles* player from Suvalkija ethnographic region, was a great promoter of the Lithuanian identity (Fig. 1). He wrote in his autobiography:

> *When the Russian government took power, balalaikas, mandolins and accordions became popular.*
>
> *The Lithuanian press was banned, the language use was persecuted and the kankles began to decline [...] After the press recovery (1904), you could hear the sound of the* kankles *again.*

Puskunigis refused a well-paid job of a church organ player twice and focused instead on giving *kankles* lessons and forming *kankles* ensembles.

After the restoration of the Independence of Lithuania on the 16 February 1918, the *kankles* became one of the symbols of the Lithuanian identity. At that time, a new shape of the *kankles* appeared in the ethnographic region of Aukštaitija. It had more strings and was ornate. The exhibition tells about the *kankles* master from Krekenava, Stasys Rudis (1880–1949). He made ornate *kankles* featuring woven patterns of Lithuanian textiles. He was a close friend of Vytautas Kadžys (1911–c. 1941), a member the Lithuanian Youth organisation. Kadžys was an active advocate of national education, taught young people to play the *kankles*, and later commissioned Rudis to make *kankles* for his ensemble (Fig. 2). Kadžys was one of the most active defenders of the Krekenava Church when a Communist squad wanted to enter and desecrate it.

Fig. 2. Krekenava kankles players ensemble. In the 1st row Stasys Rudis is fifth from the left, Vytautas Kadžys – sixth from the left, 1935. (Photo: Kaunas City Museum.)

Fig. 3. Kankles player Kazys Pečkys with his family in exile. Irkutsk region, Siberia, 1950. (Photo: Kaunas City Museum.)

He was subsequently arrested and deported to Siberia, and shortly died from hunger and unbearable living conditions (Fig. 3).

The experience of the present-day Latvian woman, Malvine Mantinience, is juxtaposed with that of the *kankles* maker Rudis. Malvine came to the camp for *kankles* players to get acquainted with the tradition, to observe people and their relationship with the instrument, so that she could then start making and improving the instrument herself.

Another story of *kankles* musicians is related to deportation. The Abromavičius family lived in the ethnographic region of Samogitia. Five generations of the family played the *kankles*. In 1948, the family was deported to Siberia managing to collect some food and the *kankles* made by family member Kazimieras Abromavičius. His parents – Stanislovas with his wife – managed to hide. Later, their neighbour testified that another family with the same family name had to be deported.

In Zulumay, Irkutsk Oblast of Russia, where the Abromavičius family was deported, life was hard for the Abromavičius children. Leonora Abromavičiūtė told about the eight square metre barrack room which accommodated 13 deportees. They had to keep the door open at night to be able to rest their heads on the threshold. They often went to the cemetery where the Holy Mass in Lithuanian was celebrated. They

Fig. 4. Lithuanian Women in Zulumaj. In the 1 st row Zofija Abromavičiūtė is sitting. On her knees she holds kankles that was made by her brother Kazimieras Abromavičius in Lithuania and was brought to the exile. Zulumaj, Irkutsk region, 1951.

played the instrument in exile, too (Fig. 4). In summer, they took logs down the River Zima and when they got to the bank of the river they used to dance. Leonora played the mandolin, Zosė played the *kankles*, and cousins Aldona and Kazimiera Lušaitė played the guitar.

In 1959–1960, the Abromavičius family came back from Siberia and handed the *kankles* over to Kaunas City Museum where it has been preserved since.

In Soviet times, the traditional *kankles* music drifted into oblivion. As *kankles* players would say, they avoided playing the Lithuanian *kankles* to the Soviet authorities.

With the Reform Movement in Lithuania, the traditional *kankles* emerged from oblivion. In 1983, ethnomusicologist Evaldas Vyčinas, together with Vytautas Musteikis, made the traditional *kankles* with 9 strings and performed songs accompanied by the instrument. In 1988, rock concerts across Lithuania would start from the historical military song sung by Rytis Ambrazevičius and Žemyna Trinkūnaitė, accompanied by the traditional *kankles*. With the rise of the folklore movement, more and more folklore ensembles were founded and expeditions of ethnic music were organised. Today, the revival of the traditional *kankles* music is gaining strength. People of all ages and occupations take part in the camp for *kankles* players.

At all times the *kankles* gave spiritual strength and helped to calm people. The *kankles* player Pranas Puskunigis wrote in his autobiography: 'The *kankles* helped me a lot in my life. When I was sad or happy or tired, I took my *kankles* off the wall and when I started to play all worries and hardships disappeared'.

Žemyna Trinkūnaitė shared a similar experience at the camp for *kankles* players in 2019. Trinkūnaitė is a composer who performed in Poland, Czech Republic, Hungary, the US and other countries. Her music is meditative, based on Lithuanian intonations and harmonies. The musician tells that when she plays the *kankles* after work, she feels how everything gets calm inside. In her opinion today people are looking for such support. Another person told about her teacher who played the *kankles*, and who decided to play the *kankles* every day to her sister when her sister became ill. A few days later her sister opened her eyes and started smiling. Anda Abele, a Latvian kokle player, shared her spiritual experience when playing the kokle. She compared playing the instrument to a conversation you can maintain with anyone. The *kankles* player and singer Indrė Jurgelevičiūtė noted peace as the most important element of her creative work. By playing in several ensembles with foreign musicians, she highlighted the importance of peace and depth in music.

In conclusion, I would like to emphasize that the *kankles* is more than an ordinary musical instrument. In every historical period, the *kankles* music reflected the spirit of the time. It is a manifestation of the spiritual condition of man and nation.

Research

Analysing Intangible Cultural Heritage ('ICH') of Musical Instrument Collections in Museums

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Abstract

Performance studies have brought to the fore the ways in which a community's intangible cultural heritage — e.g., songs, music, dance, drama, skills, cuisines, crafts and festivals — serve vital aesthetic, epistemic and social functions. The theorisation of intangible cultural heritage, or 'ICH', in turn, has had an influence on how international organisations, such as UNESCO, determine what and how cultural heritage ought to be protected. In this paper, I begin to consider how the study of ICH in the context of musical instrument collections might come to bear on the future of their exhibition, study, and conservation in museums. The ICH of a musical instrument collection includes, though is not limited to, the practices and processes necessary in its musical instruments' construction, performance, music, accompanying dances, preservation and exhibition. Implicated in these collections' ICH is a number of over-lapping groups of stakeholders, including musicians, instrument-builders, museum professionals and organologists. How do musical instrument collections' various forms of ICH converge at the site of the museum? How can the ICH of each of these stakeholders' practices serve vital aesthetic, epistemic and social functions in the museum? How do these stakeholders' claims to the ICH represented by these collections provide important theoretical insights into recent materialistic, organological, and musicological discourse? How should an analysis of this ICH inform questions regarding the status of musical instruments in museums today? This paper presents some of the theoretical entry-points to these questions with an aim of contributing to a larger conversation about how a shift from object-oriented to praxis-oriented ethics might occur in musical instrument collections in museums. This study is part of a larger, on-going research project in support of a doctoral dissertation in ethnomusicology on the collection of musical instruments from the Mandé region of West Africa at the Metropolitan Museum of Art.

In the fall of 2018, Senegalese economist Felwine Sarr and French-German art historian Bénédicte Savoy published a report titled *The Restitution of African Cultural Heritage: Toward a New Relational Ethics*, commissioned by French president Emmanuel Macron one year prior. The report's impact has been wide-reaching, as demonstrated by the number and diversity of cultural actors who have responded to it, both directly and indirectly, and the number of decades-long calls for restitution of African cultural heritage that have since been honored by museums in Europe and the U.S.

Sarr and Savoy do not explain in depth what value these African objects, held in French museums, would have when returned to sub-Saharan Africa, save a short explanation in the introduction, in which they state:

> *To fall under the spell of an object, to be touched by it, moved emotionally by a piece of art in a museum, brought to tears of joy, to admire its forms of ingenuity, to like the artworks' colors, to take a photo of it, to let oneself be transformed by it: all these experiences — which are also forms of access to knowledge — cannot simply be reserved to the inheritors of an asymmetrical history, to the benefactors of an excess of privilege and mobility.*[1]

Although Sarr and Savoy do not explicitly use the term intangible cultural heritage in their report, it is clear that they view the intangible experience of objects as a central benefit to the restitution of African cultural heritage, signaling a shift from object-oriented to experience-oriented evaluations of museum collections in broader society and politics. This frame is cohesive with broader trends in museums from a traditional object-oriented focus towards a greater emphasis on visitor engagement, experience and education. As legal expert and museum administrator Stephen Weil has succinctly stated, museums are shifting 'from being about something to being for somebody.'[2]

Musical instrument specialists in museums have a unique awareness of the intangible cultural value of their collections. My supervisor at the Met, Curator in Charge of the Musical Instrument Department, Jayson Dobney, has frequently recounted to me how the attendees of the 2019 exhibition *Play It Loud: Instruments of Rock n Roll* frequently fell under the spell of the instruments on display. They demonstrated, 'overwhelming emotions ranging from joy to tears' at the sight of instruments; 'I remember folks becoming very emotional in front of the Stevie Ray Vaughan guitar, remembering him dying so young, and the Eddie Van Halen guitar — in part because Van Halen was known to be so sick at the time' (Jayson Dobney, personal correspondence, 19 Aug. 2021). Nearly 40 years prior, then-MET musical instrument curator Laurence Libin stated in a film titled 'Curator's Choices', that 'it is only through hearing the instruments and playing them that one can really appreciate what they are all about. They aren't just objects to look at',[3] invoking not only some of the intangible value of musical instruments, but also a long-standing debate concerning whether musical instruments in historical collections ought to be played or not.

This on-going debate speaks to the difficulty of both qualifying and quantifying the intangible cultural value of a musical instrument, particularly in a museum collection. To begin addressing this difficulty, in this paper, I define intangible cultural heritage, or 'ICH', provide an overview of some of the theoretical entry-points to its study and detail how these theoretical entry-points might be applied to an analysis of ICH in the context of musical instrument collections in museums. My perspective on this topic comes from an on-going research project on the collection of musical instruments from the Mandé region of West Africa at the Met. Each of my points of discussion are both informed by and intended to contribute to the on-going discourse concerning the ICH of musical instruments in historic collections, much of which has been centred on whether historical instruments should be played. Although this is an important discussion, I am interested here in how musical instruments in historical collections contribute to living practices, whether they are played or not.

1 Felwine Saar and Bénédicte Savoy, *The restitution of African cultural heritage: toward a new relational ethics* (Ministère de la Culture, 2018), 4.
2 Claudia B. Ocello, 'Being Responsive to Be Responsible: Museums and Audience Development', in The Routledge Companion to Museum Ethics (Routledge, 2011), 191.
3 Curators' Choices, 1982 From the Vaults, 2020, https://www.youtube.com/watch?v=8uXYecMxfSo. Please see minute 11:09.

First, what is Intangible Cultural Heritage, or ICH? The term itself most commonly refers to that put forth by UNESCO's 2003 International Convention on Intangible Cultural Heritage, which defines ICH as

> *The practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity.*[4]

From this definition, we might isolate practices, communities, and generation to generation, to distill intangible cultural heritage as the practices of a community or people from generation to generation or over time. It is important to note that UNESCO's 2003 convention by no means represents the first appearance of the term or idea of ICH, even within UNESCO itself. The 2003 Convention, however, engaged scholars from the still-emerging field of performance studies to think about how 'the "here" and "now" of performance, the body memory of those performing, the meaning of the interaction between performers and participants/spectators' might be better addressed by UNESCO's initiatives.[5] As a result of their efforts, UNESCO adopted a focus on protecting the 'processes' rather than the 'products' of ICH in the 2003 convention.

But how does one analyse the processes of ICH? To begin, I think it is useful to identify the theoretical entry-points to the study of ICH of musical instruments, and those in museum collections in particular. I'd like to preface this brief overview of these entry-points by acknowledging that my focus here is on the bodies of theory I am finding most generative in my research. There is already a rich body of literature within the organological field concerning each of these theoretical tools, which I am careful to cite, albeit to a limited extent.

Performance studies, which I have already discussed, is an inherently interdisciplinary field that, writ large, has brought to the fore the ways in which a community's ICH as embodied practices serve vital aesthetic, epistemic and social functions. These functions can be thought of as acts of transfer, transmitting, among other things, social knowledge, memory and a sense of identity. In this sense, performance may be figured as both the object of study and the methodology, offering a way of knowing within the field. With respect to musical instruments, some of the most helpful literature under the performance studies umbrella, in my view, is within the field of ethnomusicology.[6]

Historically, interest in performance grew amongst sociologists and anthropologists in the 1960s. At the same time, materialism gained traction among historians as

4 United Nations Educational Scientific and Cultural Organization (UNESCO), 'Convention for the Safeguarding of the Intangible Cultural Heritage', n.d., accessed November 16, 2019 http://portal.unesco.org/en/ev.php-URL_ID=17716&URL_DO=DO_TOPIC&URL_SECTION=201.html.

5 UNESCO, 'Recommendation for the Safeguarding of Traditional Knowledge and Folklore', 1989, https://ich.unesco.org/en/convention.

6 Among others, for example: Mantle Hood, 'The Challenge of Bi-Musicality', *Ethnomusicology* 4, no. 2 (1960): 55–60; Christopher Small, *Musicking: The Meanings of Performing and Listening* (Middletown, Conn.: Wesleyan University Press, 1998); Gregory F Barz, Timothy J Cooley, and Oxford University Press, *Shadows in the Field: New Perspectives for Fieldwork in Ethnomusicology* (New York: Oxford University Press, 2015).

a source of history from below; in other words, a source of historical knowledge that spoke to the experiences of non-elites. From this perspective, objects are viewed as possessing agency that actively shape beliefs, knowledge and behaviour.[7] Materialist approaches overlap greatly with those found in the body of discourse sometimes referred to as the History of Science, especially that emanating from the Sociology of Scientific Knowledge program at the University of Edinburgh since the 1970s. Theories emanating from the History of Science is often referred to with acronyms, such ANT, STS and SCOT. Actor-Network theory, or ANT, developed by sociologist Bruno Latour, assumes an analytical equivalence between humans and non-humans in which either may be an actor or acted upon. Central to ANT is translation, sometimes also referred to as mediation, which is the process of making two things that are not the same equivalent. What is thought of as assemblages among materialists has an analogue in networks, or structures that hold together actors and recipients, among ANT theorists.[8] STS, which sometimes refers to science, technology and society and other times to science and technology studies, refers to a wide range of methodological approaches to the study of scientific and technological practices.[9] Finally, SCOT, or the social construction of technology, seeks to demonstrate the ways different forms of technology are formed through complex social interactions, and thereby subvert both technological and economical determinism.[10]

The fourth theoretical entry-point, new museology, may be summarised as the discourse concerning the social and political roles of museums. Placed in conversation with some of the bodies of theory already mentioned, new museology can yield insights into the networks represented by museum collections and the staff that works with them.[11] The final theoretical approach that I propose for the study of ICH in musical instruments in museum collections, which I am calling listening studies, is both the most emergent and the least engaged with by the organological

7 Among others, for example: Flora Dennis, 'Interior Spaces for Music', in *The Cambridge History of Sixteenth-Century Music*, ed. Iain Fenlon and Richard Wistreich, The Cambridge History of Music (Cambridge: Cambridge University Press, 2019), 260–87, https://doi.org/10.1017/9780511675874.009; Flora Dennis, 'Organology and Material Culture', *American Musical Instrument* XLIV (2018); Flora Dennis, 'Musical Sound and Material Culture', in *The Routledge Handbook of Material Culture in Early Modern Europe*, ed. Tara Hamling, Catherine Richardson, and David Gaimster (Abingdon, Oxford: Routlege, 2017); Flora Dennis, 'Material Culture and Sound: A Sixteenth-Century Handbell', ed. Anne Gerritsen and Giorgio Riello (London: Bloomsbury Academic, 2014), http://sro.sussex.ac.uk/id/eprint/58824/; Flora Dennis, 'When Is a Room a Music Room? Sounds, Spaces, and Objects in Non-Courtly Italian Interiors', in *The Music Room in Early Modern France and Italy* (Oxford: British Academy, 2012), https://doi.org/10.5871/bacad/9780197265055.003.0003; Eliot Bates, 'Actor-Network Theory and Organology', *Journal of the American Musical Instrument Society* 44 (2018): 41–51.

8 Bates, 'Actor-Network Theory and Organology'.

9 Emily Dolan, 'Seeing Instruments', *Journal of the American Musical Instrument Society*, no. 44 (2018); John Trensch and Emily I. Dolan, 'Toward a New Organology: Instruments of Music and Science', in *Collected Work: Music, Sound, and the Laboratory from 1750–1980*. Series: Osiris, No. 2:28 Published by: Chicago, IL, USA: University of Chicago Press, 2013. Pages: 278–298. (AN: 2013-15100). (Chicago: University of Chicago Press, n.d.), https://login.ezproxy.usd.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rih&AN=A860177&site=ehost-live&scope=site.

10 T.J Pinch, Frank Trocco, and T. J. Pinch, *Analog Days: The Invention and Impact of the Moog Synthesizer* (Harvard University Press, 2009); Jonathan Sterne, *MP3: The Meaning of a Format* (Duke University Press, 2012); Jonathan Sterne, *The Audible Past: Cultural Origins of Sound Reproduction* (Duke University Press, 2003).

11 Eric de Visscher, 'Museums as Theatre: What About Musical Instruments', *Journal of the American Musical Instrument Society*, 44 (2018).

Fig. 1. Three constituent parts of ICH as they relate to musical instruments in museums.

field. Listening studies take a critical look at the impact of listening on the formation of knowledge and society.[12]

So where does all of this theory overlap and how can it be used to analyse the ICH of musical instrument collections? Returning to our abridged definition of ICH, the practices of a community or a people from generation to generation or over time, and isolating the three key elements—people, practices and time—we can begin to identify how ICH converges at the site of a musical instrument, and, by extension, a musical instrument collection, using these various theoretical tools. I have compiled a sample list of the constituent parts of these elements through which the ICH of musical instruments in museums may be thought through (Fig. 1).

Thinking through ANT and materialism, I have broadened people to actors, agents and also recipients, including non-human figures, which is cohesive with the anthropomorphising of instruments in many cultures. From, this initial and partial list of people, certain groups emerge, namely those in the fields of organology, performance and museology, of which there is of course considerable overlap, particularly when we begin to consider practices, which I have framed as agencies. Looking at the list, it becomes clear that not only do practices mediate relationships between actors and agents who may be performing a number of different practices on one another at the same time, but they also mediate and are mediated by time, the third and perhaps least theorised element of ICH.

Time is of course a construction, built around certain factors in our environment. In this sense, we might think of time as the constructed environment that both mediates and is mediated by the people and practices of ICH. Musical instruments, as a result of their musical dimensions, are particularly rich objects with which to consider time's impact on ICH. Mexican poet Octavio Paz's has stated that '[m]usic is architecture made of time. But invisible and impalpable architecture: crystallisation of the instant in forms that we do not see or touch and that, being pure time, elapse.

12 Ochoa Gautier and Ana María, *Aurality: Listening and Knowledge in Nineteenth-Century Colombia*, 2014, https://doi.org/10.1215/9780822376262; David F. Garcia, *Listening for Africa: Freedom, Modernity, and the Logic of Black Music's African Origins* (Duke University Press, 2017); Dylan Robinson, *Hungry Listening: Resonant Theory for Indigenous Sound Studies* (University of Minnesota Press, 2020).

Where? Outside of time…'[13] In keeping with these observations, time amounts to the all-encompassing environments in which people and practices are carried out but can nevertheless be manipulated by the people and practices themselves. On a more macro level, time becomes the determinative factor of the regeneration of a practice and people and also their inevitable loss.

A few practical examples of how time may be figured in ICH with respect to musical instruments, include, in the context of a performance using a musical instrument, figuring the musical instrument's soundings as measurements of time, giving the listener an insight into how time is structured amongst a community. In another instance, when an instrument is conserved, the conservator is mediating how time acts upon an instrument. Considering Jayson Dobney's reflections on visitor experiences at the Play It Loud exhibition, the musical instruments in question may be viewed as suspending time by becoming the site at which the presence of their two famed practitioners who have been to a certain extent lost by time may be felt again.

The element of time figures the museum as a particularly rich site to analyse ICH. However, this requires a significant shift from a focus on how people, and specifically those in the musicological field, shepherd objects, to how people, as listed in shepherd practices (Fig. 1). By extension, analysing musical instruments from an ICH perspective means valuing them for the quantity and quality of time spent with them rather than despite time. Considering the breadth and depth of people and practices that converge at the site of musical instrument collections in this way allows us to subvert the question of whether musical instruments in museum collections should be played or not to some extent, as the performance of these instruments is just one of many practices that perpetuates their value in terms of ICH. However, the many theoretical entry-points that afford us this breadth and depth also draw attention to the significance of the everyday, quotidian experiences entwined with ICH, which, if only limited to those with behind-the-scenes museum access, greatly limit the potential of any single instrument's ICH. For this reason, from an ICH perspective, it is important to consider whether and how the practice of collection, conservation and curation of a museum collection contribute to a broad set of other practices that surround those musical instruments, such as environmental conservation, performance, listening, language and religious practice.

However daunting analysing and implementing an analysis of ICH to large collections of musical instruments may be, such a shift in musical instrument museum practice presents the potential for these collections and those that work in them to lead the way in the political and social roles that museums are being urged to adopt. For this reason, I conclude with a few guiding questions for understanding and applying ICH analysis to historical musical instrument collections: first, how do musical instrument collections' various forms of ICH converge at the site of the museum? How has this ICH developed over time both in and out of the museum? Who does this ICH represent? How is this ICH figured within the collection? How does the museum, its collection of musical instruments and the practices applied to this collection support these stakeholders' practices? What are the current limitations to an exchange in practices between those who work with the museum's musical instrument collection and that collection's ICH stakeholders?

13 Octavio Paz and Helen R Lane, *Essays on Mexican Art* (New York: Harcourt Brace, 1993).

Serial Numbers as Information Source and Tool for Building Virtual Instrument Collections

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Abstract

Since the nineteenth century serial numbers have become an indispensable feature of mass-produced consumer goods. Along with other trademarks, these numbers are typically used for identification, attribution, dating and authentication purposes by manufacturers and users alike. From an organological perspective, the study of serial numbers on historical musical instruments can provide new information on their manufacture and marketing, ranging from production and sales statistics to stylistic comparisons between a firm's different designs. From a museological perspective, serial numbers can be useful tools in the construction of digital databases and collections which can virtually unify artefacts of the same maker and model that may be scattered across various locations and owners.

One representative example concerns double-action harps of the Grecian model built by Erard in London between the 1810s and 1840s. These harps, which were produced in large numbers using early industrial practices, were systematically numbered and registered in the sale ledgers of the firm, thus providing the unique opportunity to corroborate or complement object-based and archival information. However, until recently no comprehensive survey of these harps existed and most of them remained unknown and undocumented.

This paper will present the results of a project which aims to build a virtual collection of surviving Erard Grecian harps in public and private collections around the world based on the interpretation of their serial numbers. Firstly, the paper will show and analyse the serial numbering system of the Erard firm, secondly it will illustrate how this information can be applied to Erard harps in order to enhance object biography and contextualisation. Finally, the paper will discuss the challenges and potentials of this and similar virtual collections in relation to future research, conservation and exhibition projects, particularly considering the effects of the COVID-19 pandemic for museums.

Introduction: The Role of Serial Numbers in the Study of Musical Instruments

From the Nineteenth century onwards, serial numbers have become an indispensable feature of mass-produced consumer goods, including musical instruments of all kinds. Serial numbers had been used occasionally by instrument makers already in the pre-industrial age, with the earliest recorded case being the Ruckers family of

harpsichord and virginal makers in Sixteenth-century Antwerp.[1] However, the practice of serial numbering became widespread during the late Eighteenth and early Nineteenth centuries, a time of ground-breaking advances in science, technology and commerce. Serial numbers essentially reflected the development of new production and marketing methods as well as significant changes in the supply and demand of manufactured goods that resulted from the gradual industrialisation of various manufacturing sectors, from clock- to precision tool-making. The musical instrument-making business was no exception to this trend, as witnessed by the many extant instruments built during this era that bear serial numbers.

The documentation and interpretation of serial numbers detected on musical instruments and related objects can be a valuable source of information from different perspectives, which until now have remained rather unexplored. For example, from an organological perspective, serial numbers can be used along with other trademarks for identification, attribution, dating and authentication purposes, since they are typically unique for each instrument.[2] From a historical and socio-economic perspective, the study of these numbers can provide new insights on the manufacture and trade of popular instruments made in the early industrial era (stretching roughly from 1750 to 1850), enabling, for instance, estimations of the annual and total production and sales of a firm during a certain period.[3] From the perspective of object-based research, the classification according to serial numbers can facilitate the examination and comparison of a large number of instruments made by a particular firm and also indicate the survival rate, i.e. how many specimens have survived to date, thus helping to determine their rarity and historical value. Additionally, from a museological perspective serial numbers can be important tools in the building of virtual collections that can unify instruments of the same manufacturer and model that may be dispersed across various locations and owners around the world.

Case Study: Erard 'Grecian' Double-action Harps

One representative case study that illustrates the significance of serial numbers in the study of musical instruments concerns double-action harps of the 'Grecian' model built by the Erard firm in London. A prolific inventor and manufacturer of both pianos and harps in Paris and London, Sébastien Erard (1752–1831) was granted a patent for a double-action harp with a double row of interlinked forked discs ('fourchettes') in 1810 after several years of experimentation with the design of the pedal harp.[4] Erard's new harp, which was introduced in England in 1811, was the first fully

1 For more details see Grant O'Brien, Ruckers: *A Harpsichord and Virginal Building Tradition* (Cambridge: Cambridge University Press, 1990), pp. 46–54.

2 See, for instance, Arnold Myers, 'Use of Serial Numbers in Dating Musical Instruments', in Stéphane Vaiedelich and Anne Houssay (eds.), *Dater l'instrument de musique* (Paris: Cité de la musique, 2009), pp. 36–47.

3 See, for example, Amy Kreitzer, 'Serial Numbers and Hallmarks on Flutes from the Workshop of Monzani & Hill', *The Galpin Society Journal* 48 (1995), pp. 168–180, and Adrian von Steiger, 'Sax figures: can we deduce details of Adolphe Sax's instrument production from the sources?', *Revue belge de Musicologie / Belgisch Tijdschrift voor Muziekwetenschap* 70, Issue 'Adolphe Sax, his influence and legacy: a bicentenary conference' (2016), pp. 129–148.

4 The most comprehensive publication on the history of the Erard firm, including a brief overview on the evolution of the Erard harp, is by Robert Adelson, Alain Roudier, Jenny Nex, Laure Barthel, and Michel Foussard (eds.), *The History of the Erard Piano and Harp in Letters and Documents, 1785–1959* (Cambridge: Cambridge University Press, 2015). Robert Adelson is currently preparing a monograph on Erard as a harp manufacturer, focusing on information found in the extant archives and documents of the firm.

functional double-action harp to be commercially produced. Commonly referred to as the 'Grecian' model because of its decoration in neoclassical style inspired by Greek antiquity, this novel instrument became quickly fashionable among amateur and professional musicians.[5] Being considered as the predecessor of the modern concert harp, Erard's Grecian harp had 43 strings and was equipped with seven pedals that operated the double-action mechanism with fourchettes, allowing harpists to play in all keys, often with an eighth pedal activating a swell mechanism with shutters on the back of the soundbox. The typical finish of the Grecian harp was a coloured coating, usually black, with gilded composition ornaments on the capital, pedalbox and neck, as well as with decoupage prints on the soundboard and soundbox, as can be observed on Erard No 2631, housed in the Deutsches Museum, Munich (Fig. 1).

Fig. 1. Erard No 2631. A typical double-action harp of Erard's Grecian model, built in London in 1818. Deutsches Museum, Munich (Inv. No. 16147). (Photo: CD_72617 Deutsches Museum, reproduced with permission.)

Erard's new harp was produced constantly for 25 years, from 1811 to 1836, when it began to be replaced by Erard's upgraded 'Gothic' model. In order to cater for the growing demand, the manufacture of the Grecian harp relied extensively on industrial practices, which allowed the fabrication of a large number of instruments quickly, cheaply, and consistently. For example, Erard Grecian harps were made in batches, using standardised, interchangeable parts usually joined with screws, and were systematically numbered and registered in ledgers. Besides, the employment of composition ornaments as a substitute for woodcarvings, or the application of decoupage prints as alternative to paintings simplified and accelerated production while reducing time and costs.[6] Erard's innovative construction and decoration strategies suited the serial production of harps, as evidenced by the numerous harps built by the firm in the first decades of the nineteenth century. From a survey of the serial numbers on surviving instruments and in related archives that will be discussed in detail below, it is estimated that about 3,500 Grecian harps were totally produced by the Erard branch in London, with about 100 to 150 harps being built annually. Today only about 300 of these harps are known to have survived in public and private collections, indicating a survival rate of about 8,5% for Erard's Grecian model.[7]

Learning from Objects: An Analysis of Serial Numbers on Erard Grecian Harps

A noteworthy feature of Erard Grecian harps is their branding with noticeable inscriptions and serial numbers as well as with hidden manufacturing marks, which until recently had been largely overlooked in scholarly publications on Erard. In contrast to Erard pianos, where each model (grand piano, square piano, etc.) had a different numbering sequence, Erard harps were marked with a single sequence numbering regardless of the model (e.g. single-action or double-action harp). Surviving

5 For more details on the development of Erard's Grecian model see Panagiotis Poulopoulos and Julin Lee, 'A Synergy of Form, Function and Fashion in the Manufacture of the Erard Harp', in Marco A. Pérez and Emanuele Marconi (eds.), *Wooden Musical Instruments: Different Forms of Knowledge* (Paris: Cité de la Musique – Philharmonie de Paris, 2018), pp. 367–398, at pp. 377–384.

6 For more details on the decorative elements of Erard harps see Panagiotis Poulopoulos, Marisa Pamplona, Luise Richter, and Elke Cwiertnia, 'Technological Study of the Decoration on an Erard Harp from 1818', *Studies in Conservation* 65/2 (2020), pp. 86–102.

7 See Panagiotis Poulopoulos, *The Erard Grecian harp in Regency England* (forthcoming).

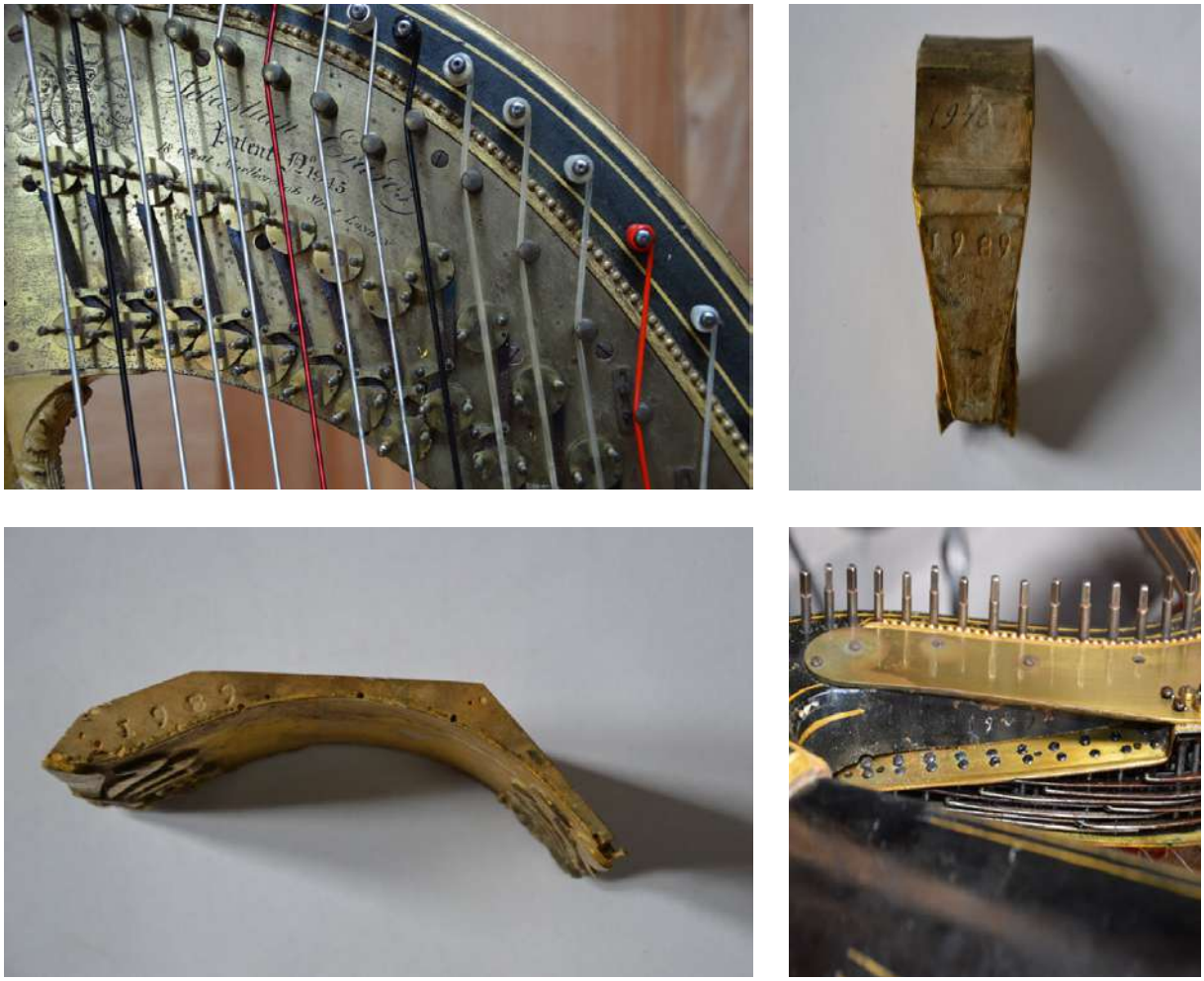

Fig. 2. Images showing the various numbers detected on Erard No 1945 (London c.1815), Hospitalfield House, Arbroath (Photo: Panagiotis Poulopoulos). Top left: The primary (or official) serial number '1945' engraved on the brass plate housing the mechanism next to the words 'Patent No'. Top right: The primary serial number '1945', written with ink, and the secondary number '1989' stamped on the wood, with the letter 'K' also stamped underneath it, as revealed on the removable Γ-shaped block near the capital to neck join during examination by the author. Bottom left: The secondary number '1989' stamped on one of the side panels of the pedalbox, rendered visible after the removal of the pedalbox for restoration. Bottom right: The secondary number '1989' and the letter 'K' stamped on the underside of the neck near the harp's shoulder, concealed by the brass plate of the mechanism.

Erard Grecian harps usually bear an easily visible primary (or official) serial number engraved on the brass plate housing the mechanism as well as concealed secondary numbers, letters and symbols which are stamped, inscribed or engraved on wooden or metal parts. Interestingly, both the primary and secondary numbers are typically found on a removable Γ-shaped wooden block fixed with a screw between the capital and the neck that allows access to the pedal mechanism, as detected during the examination of various extant Erard harps, such as Erard No 1945 displayed at Hospitalfield House, Arbroath (Fig. 2).

Whereas the conspicuous primary numbers were apparently used by Erard as identifiers for stockpiling, hire, sale and after-sale services (e.g., tuning, repairs, replacements), as well as to prevent fraud, the indiscernible secondary numbers were most likely applied to facilitate the identification of various parts of the same instrument while being worked on and assembled by different workers inside the Erard firm or by external subcontractors.

Looking into Archives: Serial Numbers in the Erard London Harp Ledgers

The primary serial numbers observed on surviving Erard harps made in London can be matched with the numbers registered in the Erard London Harp Ledgers, kept at the Royal College of Music in London (Fig. 3).[8] In these ledgers, each harp is listed according to its serial number along with details about its manufacture (e.g. model, colour finish, date of completion) as well as details about its distribution through sale, hire, or donation (e.g. the name and place of the customer, the date of transaction, etc.). In combination with other surviving documents (letters, advertising catalogues, invoices, etc.), these ledgers can be useful for shedding light into various aspects regarding the organisation, management and operation of the Erard London branch, ranging from the product range and prices, through to workforce and

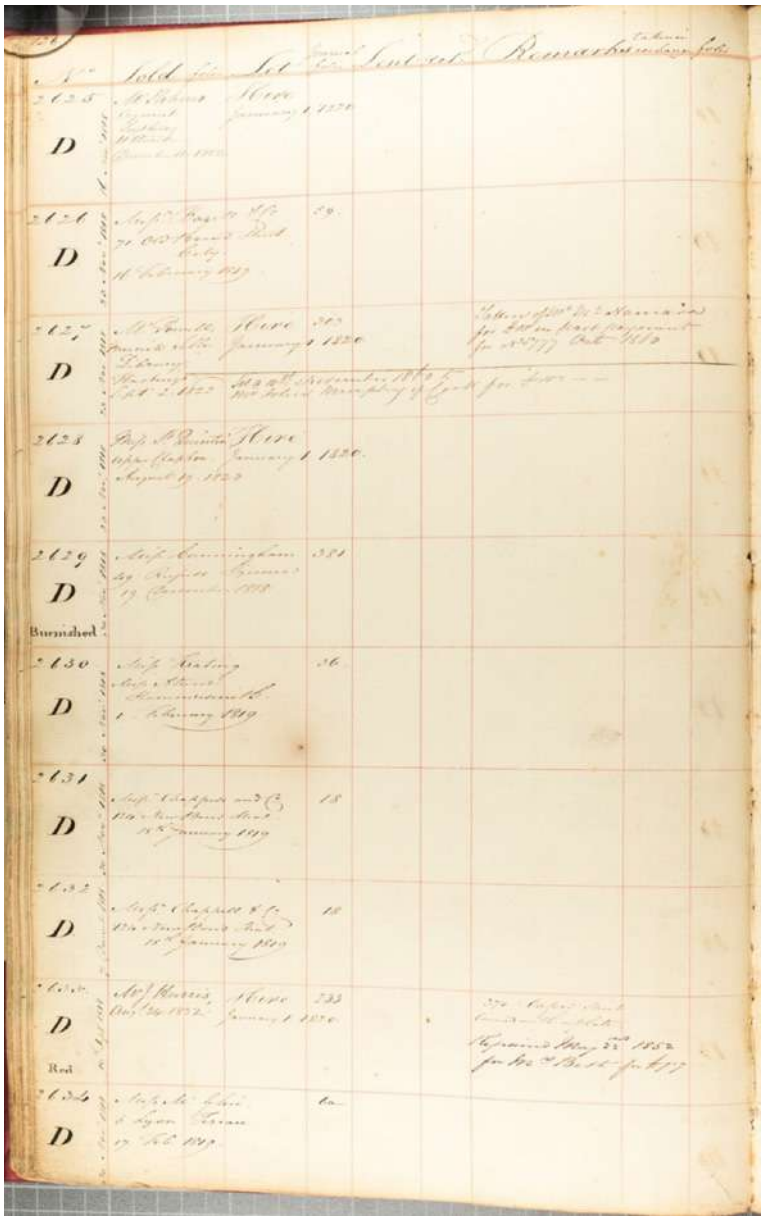

Fig. 3. The entries for Harps Erard No 2625 to No 2634 in the Erard London Harp Ledgers, vol. 2, p. 126. (Photo: Royal College of Music, reproduced with permission.) The seventh instrument from the top is Erard N° 2631, shown in Figure 1, which was sold to the London music retailers Chappell & Co on 18 January 1819.

8 Erard London Harp Ledgers, vol. 1–3, Royal College of Music, London, RCM 497. The Erard ledgers have been recently digitised and are available online (see ms10110erardledger1113741images; ms10111erardledger2137542142images; and ms10112erardledger3421568903images, accessed 29 September 2021). I am thankful to the curatorial and library staff at the Royal College of Music, London, for their kind help with requests relating to the Erard ledgers during my research.

Fig. 4. Detail of Erard Nº 3916 (London, 1826). Showing the engraved inscriptions that include the serial number '3196' under the name of Sébastien Erard. Musikinstrumenten-museum der Universität Leipzig (Inv. No. 4801). (Photo: Panagiotis Poulopoulos.)

workshop routines, to the professional networks and customer profile of the Erard firm in Britain and abroad.

In some cases, the ledgers also include details about a harp's use, damage, repair, resale or disposal, thus helping to trace the various stages in the life of a particular instrument. One characteristic example is Erard No 3916, a Grecian harp in yellow finish, housed in the Musikinstrumentenmuseum der Universität Leipzig (Inv. No.: 4801) (Fig. 4). The ledgers reveal that this harp was completed in October 1826 and was sold one year later on 4th October 1827 to a 'Mrs Heneage'. By 1861 the harp was under a different ownership, since that year it was repaired by the Erard firm 'for Captn W. Elves' for 5 guineas. However, in 1883, the instrument was 'Taken from Captain Windsor Gary Elves', and in 1884 was sold to a 'Mr Morseman'.[9] Although it is possible that Captain Elves or Mr Morseman were harpists themselves, it is most likely that they purchased Erard No 3916 for a female member of their families, since the majority of Erard harps were owned and played by women.[10]

This example shows that Erard harps often changed hands, sometimes even long after their fashion was over, and also explains why serials numbers were essential for controlling the stock of instruments and for bookkeeping purposes, especially for large-scale manufacturers, such as Erard. It also demonstrates how the corroboration of serial numbers reported in ledgers with surviving instruments can considerably enhance object biography and contextualisation, enabling us to understand the sociocultural background in which these harps were traded and used.

9 Erard London Harp Ledgers, vol. 2, p. 255.

10 For more details on Erard's clientele see Jennifer Susan Nex, *The Business of Musical-Instrument Making in Early Industrial London* (PhD Diss., London: Goldsmiths College, 2013), pp. 109–116.

Developing a Virtual Collection of Erard Grecian Harps: Structure and Content

The systematic investigation of serial numbers on Erard harps started during my post-doc research project on early pedal harps, funded by Volkswagen Foundation and hosted at the Deutsches Museum between 2016 and 2020.[11] Part of this project involved the identification of surviving Erard harps that could be examined and compared, which progressively provided a much larger corpus of extant instruments than was initially expected. It soon became clear that it would be practical and useful to develop a virtual collection of Erard harps, which not only could be used as reference material for the project, but could also be aimed at various stakeholders (scholars, curators, conservators, collectors, etc.) and the wider public. Being largely inspired by and based on published checklists and databases concerning historical wind or keyboard instruments,[12] the collection was conceived as an 'Open Access' initiative, since it will be freely accessible through the online portal 'Deutsches Museum Digital'.[13] From a technical viewpoint, the collection followed the same page design as the website of the Deutsches Museum, while the programming involved customised hand-coding with JavaScript, HTML 5 and CSS3 for its front end (browser), and with PHP and MYSQL for its back end (server). Although the collection was developed as a one-page application, its design can offer page speed, detectability and indexing, while each of the numerous items, which at the time of writing comprise c.300 harps, has an individual URL permalink, facilitating searching in online search engines.[14]

The virtual collection will include a brief introduction on Erard Grecian harps, along with guidelines for viewers, as well as a list clarifying the types of inscriptions found on these instruments. All content will be provided in English to make the collection more accessible and user-friendly for an international audience, although more languages could be added in the future. The instruments will be listed according to the serial number, as in the Erard ledgers, corresponding in most cases to the chronological order of their manufacture. Each entry will consist of 16 fields including:

a. Details of the primary serial number of the harp and of any secondary numbers, letters and symbols.
b. Details on manufacture and distribution of the harp as recorded in Erard ledgers, such as the date of registration of the instrument in the ledgers, the date of first transaction (sale, hire, etc.), the model, and the finish.
c. The type of inscription found on the harp, designated with a letter (A-H).

11 For more details see 'A Creative Triangle of Mechanics, Acoustics and Aesthetics: The Early Pedal Harp (1780–1830) as a Symbol of Innovative Transformation' (https://www.deutsches-museum.de/forschung/forschungsinstitut/projekte/detailseite/die-fruehe-pedalharfe-als-symbol-innovativer-verwandlung, accessed 29 September 2021).

12 For wind instruments see the various lists at the section 'Reference' in the website of the Galpin Society (https://www.galpinsociety.org/reference.htm, accessed 29 September 2021). For keyboard instrument see Donald H. Boalch, *Makers of the Harpsichord & Clavichord 1440–1840* (3rd ed.; Oxford: Clarendon Press, 1995); Martha Novak Clinkscale, *Makers of the Piano: 1700–1820* (Oxford University Press, 1993); and Martha Novak Clinkscale, *Makers of the Piano: 1820–1860* (New York: Oxford University Press, 1999).

13 For more details see 'Deutsches Museum Digital' (https://digital.deutsches-museum.de/, accessed 29 September 2021). Several musical instruments have already been presented in this online portal; see 'Musikinstrumente' (https://digital.deutsches-museum.de/hitlist/#musikinstrumente, accessed 29 September 2021).

14 I am thankful to my colleagues Silke Berdux, Julin Lee, Fabienne Huguenin and Aleksandar Stajic for their kind assistance and helpful remarks concerning the structure and content of the virtual collection.

d. Basic object data, such as the present owner and location, as well as the inventory number of the instrument.
e. Sources of information, references, remarks, and internet links to the object.
f. Identifiers and links to national and international databases, such as GND[15] (Integrated Authority File) number, GeoNames[16] and BVB[17] (Bavarian Library Network).

A full view of the instrument and supplementary images will also be provided in the collection when available. The structure and content of the collection was intended to provide virtual viewers with a first information point to Erard Grecian harps, rather than to be an exhaustive resource on each of these instruments. Thus, due to restricted time and scope of the project, detailed object information (such as dimensions, weight, missing parts, etc.) is not provided in the collection. Likewise, not all information retrieved from the Erard ledgers could be included. For example, information about the purchasers of the harps or details of later transactions (repair, exchange, resale, etc.) are given only sporadically in the 'Remarks' field.

Conclusions: Challenges and Potentials of the Virtual Collection

Although the virtual collection is still in progress, it is important to mention some of the challenges and potentials regarding this project. To begin with, the majority of extant Erard Grecian harps (about 80%) are in private hands, and therefore their serial numbers as well as reference data and images have been difficult to find or confirm. However, most harps in public collections (about 20%) have already been included in the virtual collection and their details are usually permanent and not subject to changes as those in private ownership, therefore providing reliable information on about 70 instruments.

Moreover, in order to build the collection, a thorough study and interpretation of the numbering system used by Erard was necessary to avoid errors when entering the harps in the virtual platform, since in some cases two Erard harps have been given the same number, while others have been renumbered. For example, the same serial number '1458' was given to a double-action and to single-action harp; next to the serial number the entry in the Erard ledgers reads 'These 2 harps are of the same No'.[18] Regardless of this problem, the main concept and elements of the virtual collection of Erard Grecian harps has now been efficiently tested and can be easily adapted to other historical instruments – or museum artefacts in general – bearing serial numbers.

Furthermore, the project has shown that a close cooperation between various professionals (e.g. organologists, archivists, information technology and digitisation specialists) is required for the various tasks, e.g. for developing the layout, parameters and features of the virtual collection or for collecting and processing research data; this work usually needs expertise, time and resources, which may defy the means of many museums. Additionally, as in other digital humanities projects, there may be issues with the long-term management, maintenance and compatibility of digital content.

15 See 'GND: Gemeinsame Normdatei' (https://gnd.network/Webs/gnd/EN/Home/home_node.html, accessed 29 September 2021)
16 See 'GeoNames' (http://www.geonames.org/, accessed 29 September 2021).
17 See 'BVB: Bibliotheksverbund Bayern' (https://www.bib-bvb.de/, accessed 29 September 2021).
18 Erard London Harp Ledgers, vol. 2, p. 9.

Nevertheless, the virtual collection has the advantage of editing and updating data according to new research findings, while the easy data accessibility and comparison can be useful for future research, conservation, public outreach, and exhibition projects. For example, a much larger 'pool' of Erard Grecian harps than previously available can be consulted in the future before deciding for or against a particular conservation treatment, before selecting a specific instrument for recordings, demonstrations or concerts, or before choosing one instrument over others for display in a museum gallery. With the growing importance of digitization initiatives for museums, not least due to the recent effects of the COVID-19 pandemic, virtual collections based on serial numbers can be considered as a useful and versatile dissemination platform, which can complement and enrich the material collections of artefacts that constitute our tangible technical and cultural heritage.

Finding a Place for a Collection of Ancient Mexican Musical Artefacts

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Abstract

Bangor University in North Wales holds a seemingly out-of-place collection: 329 archaeological musical instruments, effigies and figurines from pre-invasion western Mexico. The collector, Peter Crossley-Holland, acquired the artefacts while he was working at UCLA in the 1970s. He brought them to Wales when he retired in 1983 and they arrived in Bangor in 2003, after his death in 2001.

This paper outlines the tangled webs which connect the instruments, north Wales, and west Mexico. The additional digital locality of an online collection has raised several issues which I will proffer regarding cultural ownership and accessibility, and the implications for repatriation.

During my doctoral research (Bangor University, 2020) I developed three exhibits at Storiel (Gwynedd's County Museum) and the University. I will reflect on these exhibits by citing my qualitative research with museum visitors. Their responses to the exhibits shaped the way that I see the place of the collection: as exotic and curious, as purveyors of cultural heritage, as inactive musical instruments.

I will also outline my research into the sense of place that local museums invoke. I apply Robertson's (1992) idea of 'glocalization' to the identity of Storiel, and in this paper I will discuss my conclusions about local, global, and local representations in the museum.

To conclude, I will posit some potential future places for the Mexican collection. I will focus on the balance that needs to be struck between activating the musicality of the instruments and their preservation as ancient cultural artefacts, and the ethics of owning cultural heritage of a distant time and place. A digital location would bridge the geographic gap between the origins of the artefacts and their current home, so I ask whether physical repatriation is more viable with an additional digital home.

This paper asks whether there is a place for the Peter Crossley-Holland (PCH) collection of ancient Mexican musical artefacts. I will first describe the geographic locations of the instruments – their origins, their journeys, their current situation in storage and exhibition. I will outline the musical research that has been performed on the instruments and suggest ways in which this research could be built upon, particularly drawing on case studies by music archaeologists. I will also explore the possibilities for the future of the collection, and how the pandemic has affected these possibilities: including the future music-making abilities of the collection.

The PCH collection comprises 329 musical instruments and artefacts, which originate in various parts of western Mexico. Approximately two-thirds of the collection are ceramic wind instruments. There are also some sound-producing objects which

may or may not have been intended as musical instruments. A large minority of the collection is ceramic figurines depicting people with musical instruments. Some examples are bracelets carved from bone; copper bells; ocarinas shaped like mammals; an annular flute shaped like a snake; a conch shell made from clay; a vertical flute; three ceramic figurines, two holding hand drums and one with a rattle and possibly an ocarina. I have identified these objects as 'musical' due to the collector's culturally-specific definition of music; this designation does not necessarily correlate with the originating cultures' concepts of music and culture.

My introduction to the collection began with a visit to Bangor University. I found it incongruous – how can this university in north Wales have 329 archaeological Mexican artefacts? The link is the collector, Peter Crossley-Holland, who acquired the objects while he was working at the University of California, Los Angeles (UCLA), in the 1970s. He brought them to Wales with him when he retired in 1983 and they arrived in Bangor shortly after his death in 2001. In subsequent years, the collection received little attention from researchers. In 2020, I completed my doctoral research at Bangor University, which held the collection at its centre.[1]

The location of the archaeological sites from which the artefacts were taken cover a very large geographic area in western Mexico. There is little information about the findspots of the artefacts, which is quite typical for objects from these areas, which have been looted and excavated over centuries. Since at least the nineteenth century, there has been a very active market of legal and illegal buying, selling, import and export of archaeological objects and fakes. This is why it was relatively easy for Crossley-Holland to buy so many artefacts without travelling far from Los Angeles: there is evidence in his archive showing receipts from dealers, auction houses and curiosity shops in his local area.

The concept of location is paramount; I ask the appropriateness of keeping cultural artefacts in a place so far from their origins, and in a place where such strong local identities are so prevalent. Drawing on Roland Robertson's concept of glocalization,[2] and Peggy Levitt's work on local identities and cosmopolitanism in museum display,[3] I have investigated the intersections of the collection's localities, through visitor responses to museum exhibitions. The PCH collection was displayed in Storiel, which is the county museum of Gwynedd, located in the city of Bangor. This exhibition was the first public display of items from the collection since at least 2001. The intention was to gauge visitor reactions to the exhibit. Storiel has permanent exhibitions based upon local institutions, culture and industry: for example, the police force, Bangor University, Eisteddfodau (a festival of music, drama, and literature competitions and performances) and the slate quarries. Some of the University's collections inspire exhibits, particularly temporary ones, for example the historical zoology collection.

The exhibit comprised around 50 objects from the collection, which represented the diverse origins, materials, time periods, artistry, and musicality of the collection. The panels described the relationship between music, culture, and nature in some ancient west Mexican civilisations, as well as the fundamentals of sound production and approaches to studying archaeological musical artefacts.

1 Christina Homer, 'Situating Crossley-Holland's Collection of Ancient Mexican Musical Instruments: Strategies for Interpretation, Dissemination, and Sustainability' (PhD diss., Bangor University, 2020).

2 Roland Robertson, *Globalization: Social Theory and Global Culture* (London: SAGE Publications, 1992), p. 174.

3 Peggy Levitt, *Artifacts and Allegiances: How Museums Put the Nation and the World on Display* (Oakland: University of California Press, 2015), p. 5.

I interviewed 16 visitors on a one-to-one basis. I asked them to tell me about what the museum means to them, their impressions of my exhibit, and how they felt the Crossley-Holland artefacts fitted into their experience of the museum as a whole. The visitors represented a range of ages and nationalities: several were students from outside the UK. I identified a pattern which was that visitors who had been brought up in the area felt that the display encapsulated the outward-looking ethos and international links of their identity; temporary residents of the area (for example, visiting students) felt that the museum should reflect the locality and therefore the PCH collection display did not fit. Unsurprisingly, the visitors who were themselves musical wanted to find out more about the sound of the instruments.

The collector himself carried out research into the sound-producing attributes of the instruments, during his tenure at UCLA. Although he never published much of this research, he had plans for an extensive monograph, and he did publish a short work about some aspects of the collection.[4] Many of Crossley-Holland's contemporaries at UCLA utilised transcription machines and new technology of the time to measure acoustic properties. Charles Seeger invented the Melograph which gave a graphic rendering of a music recording.[5] Mantle Hood, in his 1974 work *The Ethnomusicologist*, uses a 'hardness scale' to create values for instruments' loudness, pitch, quality, density and materials.[6] Nazir Jairazbhoy wrote about mechanical aids to transcription, including a machine called the Stroboconn which measures pitch.[7] Steven Garrett and Daniel K. Stat measured the sound of Peruvian whistling bottles in the physics lab at UCLA, using compressed air sources and microphones.[8] Crossley-Holland employed some of these methods to investigate his own collection, particularly the Stroboconn for pitch as well as the cathode ray oscilloscope for timbre. His investigations resulted in a huge amount of data, often numerical or in the form of a graph.

Additionally, Crossley-Holland relied very much on the Hornbostel-Sachs system of classification to organise his collection. If the original taxonomies were to be used, a very large proportion of the collection would be under the same categories: 421.221.12 (open flute with internal duct with finger holes) and 421.221.42 (vessel flute with internal duct with finger holes).[9] Crossley-Holland added his own modifiers to the Hornbostel-Sachs classifications. For example, 421.221.12.I.A.1.a.iii refers to an open tubular flute with internal duct with finger holes (the original Hornbostel-Sachs entry) without flared bell or specialised mouthpiece projection, with finger holes relatively close and distally placed, with cylindrical bore, straight, with three finger holes.

Other approaches to investigating musical artefacts from ancient cultures, often in creative and imaginative ways, come from music archaeologists. Dale Olsen suggested that studying ancient music should take a four-pronged approach, covering archaeology, iconology, historiography and ethnographic analogy.[10] Other scholars

4 Peter Crossley-Holland, *Musical Artifacts of Pre-Hispanic West Mexico: Towards an Interdisciplinary Approach* (Los Angeles: University of California, Los Angeles, 1980).

5 Dalia Cohen and Ruth Katz, 'Melograph', *Grove Music Online*, 2001, <https://doi.org/10.1093/gmo/9781561592630.article.18359>, last accessed 8 November 2021.

6 Mantle Hood, The Ethnomusicologist (New edition; Kent: Kent State University Press, 1982), 162.

7 Nazir A. Jairazbhoy and Hal Balyoz, 'Electronic Aids to Aural Transcription', Ethnomusicology, 21:2 (1977), 275–282; Nazir A. Jairazbhoy, 'The "Objective" and Subjective View in Music Transcription', Ethnomusicology, 21:2 (1977), 263–273.

8 Steven Garrett and Daniel K. Stat, 'Peruvian Whistling Bottles', *The Journal of the Acoustical Society of America*, 62:2 (1977), 449–453.

9 Erich M. von Hornbostel and Curt Sachs, 'Classification of Musical Instruments: Translated from the Original German by Anthony Baines and Klaus P. Wachsmann', *Galpin Society Journal*, 14 (1961), 3–29.

10 Dale A. Olsen, 'The Complementarity and Interdisciplinarity of Archaeomusicology: An Introduction to the Field and this Volume', *The World of Music*, 49:2 (2007), 11–15.

have focussed on acoustics and soundscapes, for example Miriam A. Kolar's investigations into conch shell trumpets in Peru[11] and Rupert Till's work in European World Heritage Sites[12] and the European Music Archaeology Project 'Soundgate' app.[13] Another approach involves manufacture and performance, such as Anne Draffkorn Kilmer's work on cuneiform notation,[14] Andy Lowing's Lyre of Ur,[15] and the replica Deskford carnyx developed by John Purser, John Creed, and John Kenny.[16] Several researchers in various fields have explored the possibilities of 3D printing and digital enhancement: Jared Katz used photogrammetry to model Mayan ocarinas;[17] Jamie Savan and Ricardo Simian used computer-aided design and 3D printing to investigate the cornett;[18] Alex Baldwin, Troels Hammer et al. created a digitally-augmented tromba moderna;[19] Kalia Baklitzanaki, John O'Connell, et al. utilized 3D printing to study the workings of a Turkish ney.[20] Furthermore, John Curtis Franklin created a virtual lyre to create impressions of ancient Greek music,[21] and Dionysios Politis, Dimitrios Margounakis, et al. used sound synthesis and historical notation to emulate ancient Greek music.[22]

These studies show that actively recreating ancient music is possible. The advent of 3D modelling and photogrammetry limits physical contact with artefacts and allows for a range of investigations. The case studies here are about providing opportunities for creatively and musically engaging with ancient objects, rather than playing artefacts themselves.

11 Miriam A. Kolar, 'Uncanny Acoustics: Phantom Instrument Guides at Ancient Chavín de Huántar, Peru', <https://ccrma.stanford.edu/groups/chavin/ASA2014.html>, last accessed 8 November 2021.

12 Rupert Till, 'Sound Archaeology: A Study of the Acoustics of Three World Heritage Sites, Spanish Prehistoric Painted Caves, Stonehenge, and Paphos Theatre', *Acoustics*, 1:3 (2019), 661–692.

13 European Music Archaeology Project, 'Soundgate App', <http://www.emaproject.eu/content/soundgate- app.html>, last accessed 8 November 2021.

14 Anne Draffkorn Kilmer, 'The Cult Song with Music from Ancient Ugarit: Another Interpretation', *Revue D'Assyriologie Et D'archéologie Orientale* 68:1, (1974), 69–82.

15 Andy Lowings, 'Music of the Lyre', Lyre of Ur, <http://www.lyre-of-ur.com/music.htm>, last accessed 8 November 2021.

16 Luke Turner, 'A Blast from the Past: Defying Brexit with the Ancient Horns of Europe', The Quietus, 6 March 2018, <https://thequietus.com/articles/24158-carnyx-ancient-horn-european-musical-archeology- project>, last accessed 8 November 2021; John Kenny. *Dragon Voices: The Giant Celtic Horns of Ancient Europe*. 2016. Compact Disc. Delphian. DCD34183.

17 Jared Katz, 'Digitized Maya Music: The Creation of a 3D Database of Maya Musical Artefacts', *Digital Applications in Archaeology and Cultural Heritage*, 6 (2017), 29–37.

18 Jamie Savan and Ricardo Simian, 'CAD modelling and 3D Printing for Musical Instrument Research: The Renaissance Cornett as a Case Study', *Early Music*, 42:4 (2014), 537–544.

19 Alex Baldwin, Troels Hammer, Edvinas Peciulis, Peter Williams, Dan Overholt, and Stefania Serafin, 'Tromba Moderna: A Digitally Augmented Medieval Instrument', in *Proceedings of the International Conference on New Interfaces for Musical Expression, Griffith University, 11–15 July 2016* (Brisbane: Queensland Conservatorium Griffith University, 2016), pp. 14–19.

20 John Morgan O'Connell, 'The God Article: Test Results', *Research at the School of Music*, 2 June 2014, <http://blogs.cardiff.ac.uk/musicresearch/2014/06/02/the-god-article-test-results/>, last accessed 8 November 2021.

21 John Curtis Franklin, 'Realizations in Ancient Greek Music: Beyond the Fragments', in Arnd Adje Both, Ricardo Eichmann, Ellen Hickman, and Lars-Christian Koch (eds.), *Challenges and Objectives in Music Archaeology: Papers from the 5th Symposium of the International Study Group on Music Archaeology at The Ethnological Museum, State Museums Berlin, 19–23 September 2006* (Rahden: Verlag M. Leidorf, 2008), pp. 323–326.

22 Dionysios Politis, Dimitrios Margounakis, Spyridon Lazaropoulos, Leontios Papaleontiou, George Botsaris and Konstantinos Vandikas, 'Emulation of Ancient Greek Music Using Sound Synthesis and Historical Notation', *Computer Music Journal*, 32:4 (2008), 48–63.

The vast array of research that can be done without physical instruments demonstrates ways that the PCH artefacts could be utilised in museum contexts, while the artefacts themselves may be returned to their origins in western Mexico. My research on the subject led me to the belief that repatriation would create the most ethical and useful future for the collection. This does raise difficulties, but my key conclusions are that the artefacts are not being used or appreciated as either musical or cultural objects in their current situation, and crucially, their significance to source communities and potential benefits of repatriation to western Mexican people outweigh these difficulties.

Soundscapes and the acoustics of archaeological sites could provide ways for acousticians, ethnomusicologists and practitioners from source communities and academic communities to collaborate. As the European Music Archaeology Project has shown with its Soundgate app, a virtual environment can make these places accessible without the need to travel after the initial research. 3D printing and digital enhancement can additionally provide accessible platforms for engaging with artefacts without travel and without the artefacts physically present.

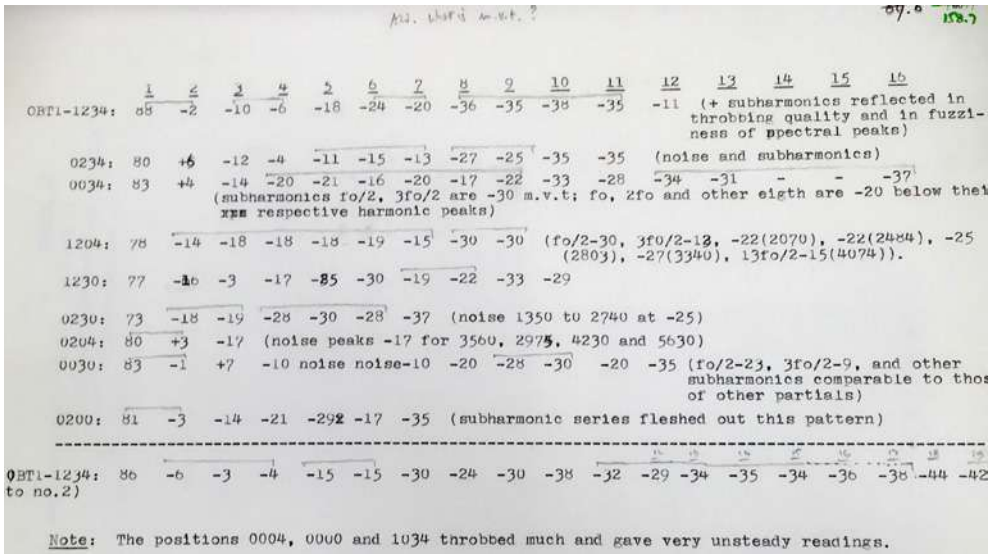
There are questions over the applicability of the PCH collection to musical research in the global north. The reception to the collection in north Wales has not been overwhelmingly enthusiastic, and I posit repatriation partly due to the lack of attention to the collection here. The artefacts have potential to be much more valuable elsewhere. Furthermore, digital collections and online research can limit some disadvantages of repatriation.

However, more research is needed: in particular, connecting each artefact with their archaeological site, and thus their local contemporary community. The displacement that these artefacts have been subjected to for several decades can become replacement – to fill a gap which communities in western Mexico have had to live with for centuries.

Fig. 1. PCH 52, 62, 63, ceramic figures playing whistle and rattle (left) and drums (centre, right). (Photo: Susan Rawcliffe / Bangor University.)

Fig. 2. PCH 71–74, ceramic ocarinas shaped like animals (probably wild boars, a tapir, and turtles). (Photo: Susan Rawcliffe/Bangor University.)

Fig. 3. PCH 114, “conch shell” trumpet made from clay. (Photo: Susan Rawcliffe / Bangor University.)



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
OBT1-1234:	88	-2	-10	-6	-18	-24	-20	-36	-35	-38	-35	-11	(+ subharmonics reflected in throbbing quality and in fuzziness of ppectral peaks)				
0234:	80	+6	-12	-4	-11	-15	-13	-27	-25	-35	-35	(noise and subharmonics)					
0034:	83	+4	-14	-20	-21	-16	-20	-17	-22	-33	-28	-34	-31	-	-	-37	
			(subharmonics fo/2, 3fo/2 are -30 m.v.t; fo, 2fo and other eigth are -20 below thei xpx respective harmonic peaks)														
1204:	78	-14	-18	-18	-18	-19	-15	-30	-30	(fo/2-30, 3fo/2-12, -22(2070), -22(2484), -25 (2803), -27(3340), 13fo/2-15(4074)).							
1230:	77	-16	-3	-17	-85	-30	-19	-22	-33	-29							
0230:	73	-18	-19	-28	-30	-28	-37	(noise 1350 to 2740 at -25)									
0204:	80	+3	-17	(noise peaks -17 for 3560, 2975, 4230 and 5630)													
0030:	83	-1	+7	-10 noise noise-10	-20	-28	-30	-20	-35	(fo/2-23, 3fo/2-9, and other subharmonics comparable to thos of other partials)							
0200:	81	-3	-14	-21	-292	-17	-35	(subharmonic series fleshed out this pattern)									
OBT1-1234: to no.2)	86	-6	-3	-4	-15	-15	-30	-24	-30	-38	-32	-29	-34	-35	-34	-36	-38	-44	-42

Note: The positions 0004, 0000 and 1034 throbbed much and gave very unsteady readings.

Fig. 4. Excerpt of Crossley-Holland’s documentation showing sound quality of a ceramic flute from Colima. Crossley-Holland Archive F61 158.7. (Photo: Bangor University.)

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Locating and Documenting European Sympathetic Strings:
Instrumentarium, A transversal Approach of Collections Around the World

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Abstract

The expression 'sympathetic strings' is used to describe a set of additional strings in a chordophone that are not played directly by the musician but vibrate because of a frequential concordance with the played strings. Many diverse instruments around the world share this common organological functionality: Asiatic sarangis, Indian vinas and sitars, European violas d'amore, Swedish nyckelharpas, Norwegian hardangers, Bulgarian gadoulkas, to name but a few. Among these instruments that are scattered all over the world, the cultural and aesthetical coherence in Europe unifies a set of instruments that I called ESSI: European Sympathetic Strings Instrumentarium.

In 1916, the publication *The Instruments with Sympathetic Strings* by T. Lea Southgate showed, already at that time, a will to realise a synthesis of those. In 1992, the symposium Amour et Sympathie (Limoges, France) aimed to discuss the historical and musical practice aspects of these poorly known instruments, gathering the few experts on each type at the time.

Therefore, my doctoral research is not the first work to apprehend *chordophones with sympathetic strings* as a *coherent* ensemble, even if they belong to diverse organological families and are scattered all over the world. However, it is the first one conducted in a world where it is logistically doable to quickly localise, partly study and document a a large number of existing instruments, thanks to online museum databases.

Including a musicological study of the repertoire of the European instruments with sympathetic strings, an acoustical study of their sound signature and a material study of the extant ones, my doctoral research is fundamentally interdisciplinary. The research includes a re-evaluation of their description, denomination, and classification modes. Its aim is to investigate how this organological feature — the sympathetic strings — influences the musical compositions that are written for these instruments.

Introduction

It is an opportunity for us, world citizens, heirs to an ancient cultural heritage, to be able to study our patrimony and to understand where we come from. Musical instruments are the closest witnesses to the musical process and, as such, they constitute precious sources of information on our musical patrimony. Collections of musical instruments around the world are complementary, and, together form an immense, rich and global collection. Considering these independent collections as a unique one – though scattered – leads us to reconsider the way we understand them. Based

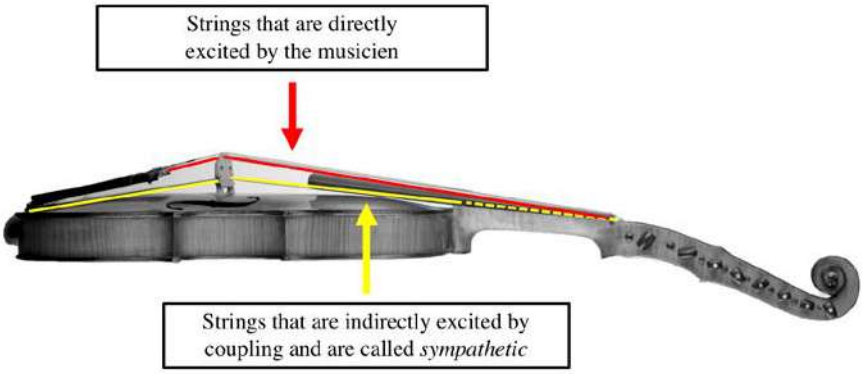

Fig. 1. Example of sympathetic strings disposition, layout of the author from a photograph of a violon d'amour of Jean-Nicolas Lambert, Paris, musée de la Musique de Paris, (E.979.2.52). (Picture: Jean-Claude Billing.)

on this principle, the work and methods I will present adopt a transversal approach of the collections of musical instruments around the world. I will first present the framework and the main treated corpus of instruments. Secondly, I will explain why and how I collaborate with museums around the world in the context of my research.

1. Framework presentation and corpus

This work falls into the context of my doctoral research which began in 2019.[1] The subject of this PhD is sympathetic stringed instruments in Europe before the 19th century. This research is based in Paris at the Sorbonne University and at the Musée de la Musique. In addition to the organological study of the surviving instruments, it includes a musicological study of the repertoire of the European instruments with sympathetic strings, and an acoustical study of their sound signature. Fundamentally interdisciplinary, this research aims to investigate how the sympathetic strings influence the musical compositions that are written for these instruments.

The expression 'sympathetic strings' or 'resonance strings' is used to describe a set of additional strings in a chordophone that are not played directly by the musician but vibrate due to a frequential concordance with the played strings. The phenomenon called 'vibration by sympathy' exists in many chordophones: it consists in a vibration's transmission from one string to another via a coupling between the structural elements of the instrument. We can easily hear and observe this fact in harps, guitars, and violins. However, we specifically call 'sympathetic strings' the strings that are never directly played by the musician. Following this logic, the standard violin, for instance, does not have sympathetic strings even though it can present sympathetic vibrations. Indeed, all the strings of standard violins can be directly played by the musician. The so-called 'sympathetic strings' are less reachable and are not made to vibrate in any other way than a sympathetic one. In the Fig. 1, you can see a French violon d'amour, furnished with sympathetic strings. The strings that are directly played by the musician are coloured in red, while the sympathetic ones are in yellow (Fig. 1). Those run underneath the fingerboard, and the musician cannot access them,[2] either to play with the bow, or to change their vibrating length with their fingers.

The presence of these strings has an acoustical impact on the sound signature of the instrument, which depends on the number of strings, their material, and their

1 Louise Condi, *L'instrumentarium à cordes sympathiques européen des XVI^e^ et XVIII^e^ siècles, étude historique, esthétique, et acoustique des instruments, de leurs pratiques et de leurs répertoires* (Paris: ongoing doctoral thesis, Sorbonne Université, Musée de la musique de Paris).

2 At least, not in the conventional way of playing.

Fig. 2. A hurdy-gurdy with sympathetic strings, 1771, Pierre Louvet, Paris, France, Musée de la Musique de Paris (inv. E.48). (Photo: Jean-Claude Billing.)

tuning. A specific musical aesthetic is associated with these instruments, and this potential has been harnessed by composers and musical instrument players. That is probably why many diverse instruments around the world share this common organological feature, including: Asiatic sarangis, Indian vinas and sitars, European violas d'amore, Swedish nyckelharpas, Norwegian hardangers, Bulgarian gadoulkas, European hurdy-gurdies (Fig. 2), European barytons (Fig. 3) to name but a few. They are also associated with different repertoires (traditional and popular music, classical and baroque music[3], jazz, etc). The cultural and aesthetic coherence of instruments with sympathetic strings before the 19th century in Europe forms a set that I define as ESSI: European Sympathetic Strings Instrumentarium.

In 1916, the publication 'The Instruments with Sympathetic Strings' by T. Lea Southgate[4] in the wake of the Royal Musical Association in England following a series of articles published in the journal The Musical Times,[5] shows, already at the time, a desire to synthesise the information collected on these instruments. In 1992, the symposium Amour et Sympathie (Limoges, France)[6] aimed to discuss the historical and musical practice of these poorly known instruments, by gathering experts. Therefore, my doctoral research is not the first work to apprehend chordophones with sympathetic strings as a coherent ensemble, even if they belong to diverse organological families and are scattered all over the world. However, it is the first one conducted in a world where it is logistically possible to quickly locate items, to partly study and document a large number of surviving instruments, thanks to an improved access to the sources. Indeed, a lot of these historical instruments have survived and now constitute a material testimony of historical practices. They have been preserved through the years, thanks to museum institutions and private collections all around the world. Some resources allow us to locate and identify them: MIMO

Fig. 3. A baryton, Norbert Gedler, 1723, Wurtzbourg, Germany, Musée de la Musique de Paris (inv. E.466). (Photo: Jean-Marc Anglès.)

3 Including pieces form Joseph Haydn, Antonio Vivaldi, and Giacomo Meyerbeer for instance.

4 Lea T. Southgate, *The Instruments with Sympathetic Strings*. (London: Taylor & Francis Ltd., 1915–1916) on behalf of the Royal Musical Association, 42nd Session, 33-50.

5 Lea T Southgate., and Lewis L. Kropf. 'Instruments with sympathetic strings', *The Musical Times*, No. 876 (London: Musical Times Publications Ltd, Feb. 1, 1916), 93–94, No. 877 (London: Musical Times Publications Ltd, Mar. 1, 1916), 152, No. 880 (London: Musical Times Publications Ltd, Jun. 1, 1916), 287–288, No. 882 (London: Musical Times Publications Ltd, Aug. 1, 1916), 377.

6 Christophe Coin (dir.), *Amour et sympathie, Actes des rencontres internationales autour des instruments à cordes sympathiques, Limoges 28/29 novembre 1992* (Limoges: Edition Ensemble Baroque de Limoges, 1995).

and other online museums databases, published catalogues of collections, etc. This tracking constitutes a transversal approach to collections around the world.

This research is still ongoing and is attached to three distinct research teams: the French Research Institute in Musicology (Institut de Recherche en Musicologie, IReMus), the Research and Conservation Team of the Musée de la Musique of the Cité de la Musique – Philharmonie de Paris (Équipe Conservation Recherche, ECR), and the Instrument Making, Acoustics and Music research Team of the Jean Le Rond d'Alembert Institute (Lutherie-Acoustique-Musique, LAM).

2. Collaborating with museums: why and how.

Why

I have previously presented the framework of this project and can now explain in more depth why and how I collaborate with museums. To allow for a better understanding of this feature of sympathetic strings, their musical implication, their acoustic operation and their historical presence, I compiled, from the outset of the project, a large inventory. It aimed to index the surviving musical instruments that are included in the previously described corpus and that are now preserved in collections around the world. I tracked and located as many instruments as possible and then collected as much information as I could about each of them. The more artifacts I identify, the better I can draw a relevant understanding of this corpus. For instance, the addition of data enables us to identify organological features such as the more common sympathetic strings attachment, the number of strings, their material, etc. Likewise, the assumed date of fabrication, assumed place of fabrication, assumed maker, etc. allow us to draw lines of influences and to identify spatio-temporal areas of interest for these instruments. Furthermore, some makers stand out of the list: those that have developed a deep interest in instruments with sympathetic strings. This inventory includes now around 500 artifacts but can still be expanded and enhanced. The involved artifacts can be classified in 13 organological types. At the end of this doctoral research, this inventory will be delivered in the appendices of my thesis manuscript, and will be openly available, following in the principle of Open Science. This inventory makes it possible to easily compare and make relevant links between many isolated and scattered instruments.

How

To compile this inventory in the best way possible, I directly collaborate with the teams that are responsible for museum collections. It is important for me to proceed in this way for two reasons. Firstly, curators and research teams in musical instruments museums are professional experts and have a keen understanding of instruments' materiality and historicity. Their approach and skills are definitely complementary to mine. Secondly, when I conduct research on an instrument, I usually make new links and add details and information about the instrument, and this knowledge can interest the museum institution. That is why it is important to me to form collaborative relationships with museums, as it is mutually beneficial.

When collaborating with museums, I ideally proceed in five steps. The first one is to identify and locate the instruments. In order to do that, I consult printed catalogues and online databases such as MIMO, *digitalt Museum*, Carmentis, and museum websites. I collect all the public information that is available and enter it into the

inventory, always recording the source. For instance, I note the inventory number of the instrument, the assumed date of fabrication, assumed place of fabrication, assumed maker's forename and family name, assumed later modifications, inscriptions, etc. When available, I also collect pictures, and start to count the number of sympathetic strings, to describe their mode of attachment, their material, the number of tuning pegs, etc. Secondly, I discuss digitally, or in person, with the person in charge of the collection, to gather an understanding of how much is known about each specific instrument, if they have been exhibited or not, etc. Thirdly, with the permission of the person in charge, I consult the instruments physically if possible. I take pictures and measurements of it, using every necessary precaution (Fig. 4). For instance, I use resin tools instead of metal ones. I also bring a suitable endoscope in order to examinate the inside of the instruments. Observing the object closely I can confirm, rectify or complete the information. During the consultation, I take notes. Fourthly, after the consultation, I organise my notes and write a short report of the information including new discoveries. If the museum is interested, I send the report to the persons in charge. Fifthly, in my ongoing research and writings, such as public or scientific communications and publications, when citing the instrument I cite the museum or the collection together with the curators and research teams who assisted me.

Fig. 4. Example of a technical picture of a quinton d'amore, 1730–1772, Jean-Baptiste Salomon, Paris, taken during a consultation at the Muziekinstrumentenmuseum (inv. 1358), Bruxelles, Belgium. (Photo: Louise Condi, 29/10/2021.)

Conclusions

This research, closely related to musical aesthetics and Historically Informed Performances, uses musical instruments' materiality as a primary source. It focuses on sympathetic stringed instruments that were made before the 19th century in Europe. Locating and documenting as many of them as possible allows us not only to document them independently, but also to make comparisons among them. Locating musical instruments is a necessary step of the research process, but their documentation and consultation, when possible, is equally significant. Indeed, non-invasive material consultations give us additional keys of understanding and often reveal new details and precious information. Collaborations with museums institution and, more specifically, curators and research teams, are privileged moments in this research. Even though the treated corpus is coherent regarding its organological, musical, musicological and acoustic implications, it is extremely scattered around the world. This fact makes this research even more challenging, as a puzzle waiting to be assembled, and in which each piece allows a better understanding of the others.

The Restoration, Study, and Documentation of a French school Violin in the Pandemic Era

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Abstract

The paper presents research on a French violin from the second half of the eighteenth century and how it was impacted by the COVID-19 pandemic. The research carried out in this unique period also allowed a specific reflection on the actual state of digital resources, underlining how a collaboration between different portals, institutions and authorities in this field is increasingly required. This paper is the result of personal research and empirical considerations on the situation.

Introduction

From the first months of 2019, when the spread of the COVID-19 virus was first reported, the whole world turned upside down. Among the most affected sectors were cultural heritage sites and museums, which, due to several lockdowns remained closed in most areas to prevent a further spread of the virus.[1] These closures had not only an economic, but also a social impact, as well as an impact on research. Many researchers, therefore, had to face the difficult situation caused by the ongoing pandemic. In order to adapt to this new scenario, it was necessary to have the original concept of 'research' undergo certain reformulations, re-evaluations, adaptations, and changes. This was also the destiny of my Master's thesis, a research project which was interrupted by COVID-19 at its dawn and which necessarily had to adapt and shape around the new situation and the possibilities offered.

How COVID-19 Influenced my Research

In January 2020, I first met the owner of the violin on which my Master's thesis would be based. The instrument, a French school violin from the second half of the eighteenth century, presents significant characteristics, among them the singular decorations that appeared to link the violin to Princess Marie Adélaïde de France (Versailles, 23 March 1732 – Trieste, 27 February 1800). The violin was restored before preliminary analysis, preventing the diagnostic verification of important details. The initial plan was to work on two parallel but connected tracks, the diagnostic

1 Neel Antara and Shuvro Sen, 'The Impact of COVID-19 on the Museums and the Way Forward for Resilience' 02 (28 November 2020): 54–61.

study and conservation of the instrument, in close collaboration with the Laboratorio di Diagnostica non Invasiva 'G. Arvedi' at the Museo del Violino (Cremona, Italy), and the historical-musicological research, in order to ascertain its origin and intended use. With the start of the pandemic (officially 11 March 2020) and its consequent lockdowns the initial plan had to be resized and adjusted to fit the new situation. Decisions had to be taken in order to continue the research. Initially the bibliography had to be readjusted by actual availability, creating a hierarchical order, and sorting texts by importance. This was necessary due to difficulties caused by the complete closure of libraries and the following partial re-opening. Accessing library services alone was hard: the cumbersome nature of the new system of requests; timelines, authorisations, delays, etc. Dcument delivery and interlibrary loans at national level or initially interrupted and subsequently fatigued by the restrictions imposed autonomously by other libraries; the possibility to move freely to deal with particular documentary funds or archives has worsened due to the increased costs of travel arrangements, inaccessibility of consultation rooms or lack of staff.

Secondly, all the diagnostic analysis planned at the Laboratorio 'G. Arvedi' were to be reduced from a complete VIS and UV photo set, X-ray radiography and spectroscopy (FTIR in reflectance mode, XRF) to a single appointment for XRF spectroscopy on nine relevant points on the instrument. This research, although critically reduced, still proved crucial in reconstructing the violin's history, but much time was lost as the instrument could not be moved to the laboratory as initially planned, due to several lockdowns and travel restrictions.

Thirdly, the planned personal visits to archives, museums and experts were all cut and replaced by remote contacts, making it difficult to explain the entire research plan; being limited to only showing pictures, and missing out on all the human aspects of in-person conversations.

In response, the research moved from a traditional method to online resource-based research. Naturally, this came with positive as well as negative aspects. For instance, compiling a complete bibliography with online resources is almost impossible. Not all printed books are digitised or have an edition available online, causing a gap during a situation where physical books are problematic to reach. On the other hand, the high number and variety of resources that are available online forced the scholar to filter what must be considered from what can be discarded, arriving at a point of saturation where the bibliography research reaches an excess of information. Furthermore, even if digital editions were available, the high number of different portals with or without paid access did not always work in favour of for university libraries' versatility. In contrast, many online resources were quickly implemented thanks to the many solidarity initiatives between institutions and libraries with the common goal of sharing materials to assist and facilitate researchers all over the world.

Approaching a digital edition of books or a digitised book enables new tools and new perspectives of research. As an example, with optical character recognition, it became easier to search for a particular term or word in the text and to see where it was cited and in which context. For my research this was ideal and it enabled me to scour the complete 14 volumes of the duc de Luynes,[2] available thanks to the huge number of free materials and resources on the Gallica website. This enabled easier cross-referencing of huge texts for context. I was able to recreate a complete overview of Marie Adélaïde and her sister's musical education by keywords search: for example, wherever the word 'violin' was cited together with 'Marie Adélaïde de

2 Charles-Philippe d'Albert, *Mémoires Du Duc de Luynes Sur La Cour de Louis XV (1735–1758). T. 2 / Publ. Sous Le Patronage de M. Le Duc de Luynes Par MM. L. Dussieux et Eud. Soulié*, 1860, https://gallica.bnf.fr/ark:/12148/bpt6k206427m.

France'. The OCR system also permits comparison of topics more easily between different books just by searching keywords used. The result is a more complete overall picture. Therefore, this system can be considered for implementation for all online documents, even the oldest ones.

The iconographic research conducted on the aesthetic characteristics of the violin referred to a total of 12 online collections and 6,972 items (divided between instruments and iconographic representations) that had to be compared with the object of the research. This research together with the list of instruments used at court in that period was implemented with pictures and portraits of royalty playing them.

An attempt was made to readjust and broaden the research when a reopening was granted, first only partial and then complete, but it was impossible to make up for the limitations of the previous months.

In the end, the original plan of the research was expanded, mainly with information found from published sources and other works, as it was difficult to carry out research on archival materials and other tools. Ultimately, the amount of information found online as well as the vast iconographic research, helped considerably to underline the final result of the research. This concludes with the view that the violin is a great example of French violin craftsmanship in the second half of the eighteenth century with an interesting historical background but discards the possibility that the violin itself was owned by the French princess.

Considerations about Digital Offers and Music Museum Online Collections

One of the positive outcomes of the COVID-19 pandemic was the revitalisation of the digitisation focus, even though most efforts were made using social media.[3] When talking about museum online collections the usage of social media is mainly to deliver a public service, from virtual tours to educational initiatives, mainly dedicated to a mid-range audience. Among the few studies about the real usage of museum online collections by end users there is the research project published in 2008 by Fuentetaja, I. G., and Economou, M.[4] The result of the qualitative analysis mainly carried out on art and history museums shows a profile of the users relatively well defined: the main users are researchers, students, or academics, while the general public or schools contact museums far less frequently. Therefore, one should reconsider the contents of museum online collections making them more of a research tool rather than a basic raw data information source, thus making the researcher the main focus of museum online collections. Researchers need more detailed and sometimes specific information than standard users; high-definition photos; the name of authors and provenance are usually not sufficient. Instead they require the origin of an object, the acquisition history, previous owners, the bibliography related (visit MIMO for a good example about this point) or all possible available information about an

3 Deborah Agostino and Michela Arnaboldi, 'A Measurement Framework for Assessing the Contribution of Social Media to Public Engagement: An Empirical Analysis on Facebook', *Public Management Review* 18, no. 9 (20 October 2016): 1289–1307, https://doi.org/10.1080/14719037.2015.1100320; Michela Arnaboldi and Jean-Francois Coget, 'Social Media and Business', *Organizational Dynamics* 1, no. 45 (2016): 47–54, https://doi.org/10.1016/j.orgdyn.2015.12.006.

4 Maria Economou and I. Gil Fuenteia, 'Online Access to Digital Collections – Design and Use of Museum Databases', in *Digital Heritage – Proceedings of the 14th International Conference on Virtual Systems and Multimedia*, ed. M Ioannides et al., 2008, 116–20, https://www.academia.edu/398611/%CE%9Fnline_Access_to_Digital_Collections_Design_and_Use_of_Museum_Databases_VSMM_2008.

opera. Perhaps a reflection on making available, where possible, information about restoration interventions is also needed. This naturally opens several considerations to be discussed, about what, how and in what way such information should or can be available, whether for free or with entry fees or only with collaborations between institutions (e.g., Universities), considering what is safe to be uploaded online.

My personal experience, mainly developed by the high number of websites visited for the iconographic research, mirrors the actual state of digital offers, underlining how a collaboration between different portals, institutions, and authorities in this field is increasingly required. Apart from objective difficulties encountered with old websites, the main obstacles are to adjust the varied information found (or not found) on a website in a common line, and to clarify the usage of the research tools.

The first point alone has different facets which need to be discussed, primarily the link between websites, particularly in the case of harvesting platforms and union catalogues. Examples where this has been done well are Europeana Collections, and MIMO (Musical Instruments Museums Online). Even though the number of items sorted in such websites is huge, by comparing the results between those two platforms, I found some discrepancies, and there were some cases where two items, in my case a violin from Pietro Della Costa of 1762[5] and a violin from Clive Morris of 2006[6], were shown on Europeana Collection but not on MIMO, despite the source museum being shown in both cases as a partner. Clearly, this can cause issues, uncertainties and occasion double research (as in my case) as one cannot be sure what may be missing or intentionally omitted.

Even though the above-mentioned issue was simply caused by an unsynchronized update, this raises the question of collaboration. It is important to communicate the status of an entry to the end user. Ideally, the different platforms should interact to make clear what is uploaded online, where, when and what the source is, and where else the entry could be found and why.

This leads to a linked problem of those kinds of platforms: the museum partners. The description of the collections, or the number of items digitised in a certain collection, is rarely clear or easy to find, and when it is, there is just a rough description, although this is one of the most important pieces of information for research purposes, even at the outset. After making clear the collections shown online, it is also important to establish a common protocol between online museum collections to show as much information as possible (as discussed above) and a common line to render that information consistent, in order to make objects comparable. In addition, it must be considered that nowadays data visualisation has shown a lot of potential to help collections harness and share their data in engaging and intuitive ways[7], a potential that should not be underestimated.

Conclusions

To conclude, this research carried out during the COVID-19 pandemic has revealed the current status of digital offers regarding research that requires a fast response by addressing both the challenges and opportunities, discussed in this paper, with

5 Europeana, 'Strumento Musicale Europeana', accessed 22 July 2022, https://www.europeana.eu/it/collections/topic/46-musical-instrument. Della Costa, Pietro, violin, 1762, Royal College of Music, 2002.448.

6 . Europeana.Clive, Morris, violin, 2006, Royal College of Music, 2007.1505

7 Jessica Mailhot, 'Visualizing the Future of Collections: How to Make Data Visualization Accessible and Useful for Managing Collections and Museums', *Collections: A Journal for Museum and Archives Professionals* 1, no. 24 (2021): 2, https://doi.org/10.1177/1550190621998325.

the close collaboration of conservators, musicologists, and webmasters. The increase in online editions of books and texts, the implementation of the OCR system for the newest and old scanned documents, the collaborations between institutions to share materials and sources should be supported even during 'normal' periods. They should focus on making the researcher the main target audience of museum online collections by supplying information about items, clarify the collections sorted on the platforms, and finally making the different portals communicate to simplify research. All these are just brief suggestions that emerged from this specific situation, but in order to use all the possibilities that technology can offer, using new tools and new perspectives for research, they may need to be considered as future implementations, seeing it as a great reinforcement of researcher's tools, and also a point favouring cultural heritage conservation. Undoubtedly, museum online collections used as a researcher's tool could prevent an object from the stress situation that continuous use can cause.

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Tracing Historical Instruments with eCauda

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Abstract

The 'Proposal for a Regulation of the European Parliament and of the Council on the import of cultural goods – SWD(2017) 263 final' has recommended the adoption of systems that could guarantee the traceability of imported cultural objects. The 'Communication from the Commission to the Council on the protection of national treasures possessing artistic, historic or archaeological value: needs arising from the abolition of frontiers in 1992 – COM/89/594 final' has also expressed the need to trace them. Other international regulations, such as UNESCO's 'Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property' have also expressed the need to create a register that could help to protect historical heritage. Currently, there is no musical instrument collection management software based on decentralised blockchain-like technologies, so the security and immutability of information about the identification of musical instruments cannot be guaranteed. This paper showcases how eCauda's platform can help museums managing musical instruments to trace and transfer property, lend items to other institutions safely, and keep track of all interventions and documents associated with any given instrument. Blockchain technology ensures immutability and a consensus on any contract and operation.

Blockchain in a Nutshell

Although it seems very recent, the technology of storing information in such a way that it cannot be modified has been around for quite some time. Perhaps the first proposal to chain blocks of information and encrypt them is that of Ralph Merkle, described in his doctoral thesis.[1] He proposed that each added block depended on the previous ones, so that if any one of them was modified, the rest of the chain would be corrupted, requiring a restore from a backup copy. However, one of the main problems with Merkle's proposal is that the chain – in his case a tree rather than a chain – was centralised. This is a problem that affects all software packages whose database is controlled by agents who can decide to modify it unilaterally, without the need for consensus. Any technician with access to the system can modify a record or even delete it, as if it had never existed, whether or not this access was authorised by the museum (external attacks, information hijacking, etc.).

1 Ralph Charles Merkle, 'Secrecy, Authentication, and Public Key Systems' (Ph. D. Thesis, Stanford University, 1979).

To avoid this problem, Chaum[2] described the design of a distributed computer system that can be set up, maintained and trusted by any member of the network. Dwork and Naor proposed a proof of computation to reach consensus on additions to the chain. On these foundations, Satoshi Nakamoto (author alias unknown), described the system on which Bitcoin was built,[3] a currency that uses the consensus and proof-of-work systems already provided by the previous authors. These systems guarantee the immutability of databases with a blockchain layer. With this technique no unauthorised, access could unilaterally modify the content of the database.

Does this mean that blockchain prevents the modification of records of an instrument in a collection or museum? No. It simply means that all modifications to the record are stored perpetually in the blockchain and can be retrieved. In this sense, blockchain acts as an immutable changelog, certifying when any modification was made, who made it, and what it consisted of.

The aim of this paper is to show the need to adopt these kinds of technologies and to propose the eCauda platform, completely free of charge for museums and publicly owned collections, as the best tool for the solution of several problems related to the storage, transmission and dissemination of information related to musical instruments.

Why is it Necessary to Trace the Origin and Information of Musical Instruments in Collections and Museums?

1. We Need to Know their History when we Acquire them.

If we look at the statistics of forgery and smuggling of musical instruments, we can see that musical instruments are one of the goods most affected by this scourge. This means that without a certified history of the instrument, we may find that we have bought a copy whose value is null because it is a mere copy, or because its history is directly false.

Harmonised System Code (HS Code)	GTRIC-p
Perfumery and cosmetics (33)	1.000
Articles of leather; handbags (42)	1.000
Clothing, knitted or crocheted (61)	1.000
Footwear (64)	1.000
Watches (91)	1.000
Toys and games (95)	1.000
Jewellery (71)	1.000
Tobacco (24)	0.997
Other made-up textile articles (63)	0.858
Arms and ammunition (93)	0.820
Clothing and accessories, not knitted or crocheted (62/65)	0.787
Musical instruments (92)	0.656
Knitted or crocheted fabrics (60)	0.633
Optical; photographic; medical apparatus (90)	0.596
Electrical machinery and electronics (85)	0.530
Furniture (94)	0.503
Miscellaneous articles of base metal (83)	0.373
Miscellaneous manufactured articles (66/67/96)	0.313
Printed articles (49)	0.273

Fig. 1. Table 1. Industries most affected by counterfeit, 2017–2019. Photo: Piotr Stryszowski, Michal Kazimierczak, and Nathan Wajsman, 'Illicit Trade. Global Trade in Fakes: A Worrying Threat' (OECD, EUIPO, June 2021), 29.

2 David Lee Chaum, 'Computer Systems Established, Maintained and Trusted by Mutually Suspicious Groups' (Ph. D. Thesis, Berkeley, University of California, Berkeley, 1982).

3 Satoshi Nakamoto, 'Bitcoin: A Peer-to-Peer Electronic Cash System', *Decentralized Business Review*, 2008.

2. It Helps us to Manage Lending, Locations, Imports and Exports

If we have in a register all the data of the instrument, and the documentation showing the type of agreement by which the ownership, use or cession has been ceded, it will be easier to manage this type of transactions and the inventory of our collection. We can also have all the documentation related to its monetary value, insurance, and purchase price securely stored in the blockchain.

3. Museums that have their Works Certified as Authentic Receive more Visitors

According to McLean, visitors want a reverential experience. The authenticity of an object provides them with a moment of communion that is not found with objects whose authenticity is in doubt or are – directly – copies or forgeries.[4] This aspect is also dealt with in depth by Horne.[5] Cohen shows that tourists are looking for authenticity and value. Be it monetary value or any other kind of value.[6] Other authors think that museums should play a predominant role in the creation of authenticity. They are recognised scientific institutions, and their opinions are highly valued by visitors.[7]

4. Museums with Online Presence Receive more Visitors

But maybe we are not so convinced that sharing information is a good thing for our museum. Although it is an optional feature, the creation of websites with instrument information could affect physical visits – and income from ticket sales – as visitors could access the instrument information virtually. In reality, the evidence shows that the opposite is true. Taheri has shown that museums need to build connections with visitors prior to their visit through information sharing.[8] Marty gave details about the use of museum websites before and after the museum visit, and indicate that online visitors frequently use museum websites to complement their visits to physical museums.[9] Navarrete[10], Evrard and Krebs[11] showed that museum websites complement and contribute to the increase of physical visits to museums that have made the decision to open their collections to digital format.

4 Fiona McLean, *Marketing the Museum*, Heritage Series (London: Routledge, 1997), 20.
5 Donald Horne, The Great Museum: *The Re-Presentation of History* (Houston: Pluto Press, 1987).
6 Erik Cohen, 'A Phenomenology of Tourist Experience', *Sociology* 13, no. 2 (1979): 180.
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5. We are Obliged by Law to Do So

Each country has its own regulations in this respect, but we have in common frameworks that ask us to protect cultural goods by using traceability.

Being European, I have mainly chosen the legislation applicable to Europe, but there are similar laws in almost all countries. Chronologically, the treaty of the European Economic Union (now European Union) in several articles mentions the need for traceability (8a, 30–36). Article 36 gives EU countries the possibility to introduce prohibitions or restrictions on the circulation of cultural goods. This rule aims to provide the necessary flexibility, balancing the role of the internal market with other interests deemed worthy of special protection. This includes the protection of 'national treasures of artistic, historic or archaeological value'. With the abolition of internal borders, Member States were unable to prevent the leaking out of their cultural heritage through other Member States. In this regard, Council Regulation (EEC) No. 3911/92 (repealed by Council Regulation (EC) No. 116/2009) was aimed at ensuring uniform controls at the EU's external borders. As far as the internal borders are concerned, Council Directive 93/7/EEC (repealed by Directive 2014/60/EU5) secured the return of those cultural objects unlawfully removed from the territory of an EU Member State.[12]

In 1992 more concrete obligations were introduced, such as the creation of registers of cultural property and national treasures:[13]

Section 4: 'A mandatory documentation system for cultural property'

Section 5: 'Registers of national treasures'

Finally, in 2017, with the word 'traceability' already part of the widely accepted concepts, the 'adoption of systems that can guarantee the traceability of cultural goods' was recommended in SWD (2017) 263 Final.

In a broader geographical framework, UNESCO approved in article 10 of the November 1970 Convention that all those who come into contact with cultural property should be obliged to record the origin of each item, its price, and the applicable export prohibitions.

Well, now that we are convinced, either voluntarily or legally obliged, let's see how I can implement this traceability record in my collection of instruments.

One of the biggest problems with software packages commonly used in collection management is the unreliability of their records. After all, if we use proprietary software hosted in the cloud, the provider can make any changes they want without any record anywhere. The problem does not disappear when we host the databases on our own servers. The fact is that anything can be changed, and any trace that a record has been changed can be removed. For this reason, immutability of the database is a feature that this type of software should have, but only eCauda does it.

Moreover, the software is often thought of as a silo. Transactions between collections are complicated or impossible if they use different software at each end, as the databases are centralised. Another problem with these local or centralised databases is that, in case of problems or attacks, it is impossible to rebuild without the existence of an up-to-date backup, that will not restore all data unless backups are done real-time.

Nor do the existing software packages allow to certify operations performed on the instruments. It is not possible to certify the operation, with a digital signature, of a restorer, repairer or tuner, for example.

12 Sabrina Ferrazzi, 'EU National Treasures and the Quest for a Definition', *Santander Art and Culture Law Review* 2, no. 5 (2019): 59.

13 'Communication de la Commission au Conseil relative à la protection des trésors nationaux ayant une valeur artistique, historique ou archéologique dans la perspective de l'abolition des frontières intérieures en 1992', Pub. L. No. COM (89) 594 Final (1989).

eCauda Solves those Pain Points

eCauda is an ecosystem of applications using decentralised blockchain technology that ensures the traceability of any musical instrument. Each instrument is uniquely identified and recognised with the help of artificial intelligence and computer vision. We already have an alpha version of an algorithm that identifies instruments of the violin family through the patterns of the wood of their backs. Other algorithms read serial numbers, and recognise other unique patterns of the instrument, making it impossible to be recorded twice. In this way, a stolen instrument could never re-enter the system.

eCauda allows the creation of smart contracts that can track the status of instruments even when they are temporarily no longer in our possession, or when they have been sold. Specific actions can be scheduled at specific times, and permissions for use can be assigned to other eCauda users.

In addition, all the descriptive and historical multimedia information about the instrument can be stored in its record, which can be accessed through a simple QR code. The museum can always decide what kind of information it wants to share. In this way, the production of websites for each instrument is immediate and at zero cost.

We also use, for more modern instruments that will enter your museums in the future, RFID chips and MAC addresses of devices with Wifi connectivity.

The next question you may be asking yourself is: 'OK, this is all very nice, but how much does it cost me? My museum can't afford this kind of investment. eCauda is great, so it will be super-mega-expensive.'

Well, it won't. It's free. Forever. No turning back. Why? Two reasons. Firstly, because our business model does not come from museums, but from the big instrument brands that want to sell more. It would take too long to describe how we help them, so I'm not going to do it, but if you are interested, just visit our website.

The second reason is because at eCauda we love historical instruments. I am a professor of musicology, and the whole team shares a passion for music and the instruments that produce it, especially when they have a history.

We have already been trusted by institutions such as the European Union, which awarded a Jump Fellowship to the project as one of the most innovative technological initiatives on the European music scene, and we have reached agreements with the Spanish National Heritage to work with their historical collections. With the CSIC and the CVC in Barcelona, we are working on different aspects of traceability and algorithms.

So that's all I wanted to tell you in this communication. We are looking for museums that want to work with us in pilot projects. All at zero cost. If you are interested in this possibility, as well as in knowing more about our project, do not hesitate to contact the team at https://ecauda.com

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