DOCTOR OF PHILOSOPHY

Situating Crossley-Holland's Collection of Ancient Mexican Musical Instruments: Strategies for Interpretation, Dissemination, and Sustainability

Homer, Christina

Award date:
2020

Awarding institution:
Bangor University

Situating Crossley-Holland's Collection of Ancient Mexican Musical Instruments: Strategies for Interpretation, Dissemination, and Sustainability

Christina Ruth Homer

Thesis submitted in fulfilment of the requirements
for the degree of Doctor of Philosophy

PRIFYSGOL
BANGOR
UNIVERSITY

School of Music, Drama and Performance, Bangor University

July 2020

Yr wyf drwy hyn yn datgan mai canlyniad fy ymchwil fy hun yw'r thesis hwn, ac eithrio lle nodir yn wahanol. Caiff ffynonellau eraill eu cydnabod gan droednodiadau yn rhoi cyfeiriadau eglur. Nid yw sylwedd y gwaith hwn wedi cael ei dderbyn o'r blaen ar gyfer unrhyw radd, ac nid yw'n cael ei gyflwyno ar yr un pryd mewn ymgeisiaeth am unrhyw radd oni bai ei fod, fel y cytunwyd gan y Brifysgol, am gymwysterau deuol cymeradwy.

I hereby declare that this thesis is the results of my own investigations, except where otherwise stated. All other sources are acknowledged by bibliographic references. This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree unless, as agreed by the University, for approved dual awards.

Abstract

This thesis investigates the situation of the Peter Crossley-Holland collection of ancient west Mexican artefacts at Bangor University, focussing on issues of ownership, display, collecting practices, dissemination, and sustainability. It explores the circumstances of the collection's assembly, analyses existing interpretations of the cultures it represents, assesses the relevancy of its current situation, and evaluates potential future uses.

The collection was assembled by the British composer and ethnomusicologist Peter Crossley-Holland (1916-2001) in the 1970s. The artefacts within represent a wide range of cultures and periods in west Mexico before the Spanish invasion. There are 329 items in the collection. Most of these are flutes and ocarinas made from clay, many of which are shaped like humans or animals. There are also conch shell trumpets, shell bracelets, and copper bells. Ceramic figurines comprise the rest of the collection.

The first chapter interrogates questions of representation and ownership through the study of collecting practices and ethical and legal issues relating to cultural property. In Chapter 2, these issues are applied to the Crossley-Holland collection. The provenance of the artefacts is explored using information from documents from the collector's own archive, and the ethical implications of the collection's history are analysed.

Chapter 3 evaluates the collector's interpretations of the objects, with regard to their musicality and cultural relevance. It is demonstrated that Crossley-Holland's methods of study were influenced by his worldview, and by the academic context of ethnomusicology at UCLA. This chapter reviews these influences and their resultant effect on the definition of the collection.

The fourth chapter proposes interpretations of the collection in a present day context, with specific reference to the dissemination of research on ancient musical instruments and the display of Mexican artefacts in museums in Europe and America.

This leads in Chapter 5 to an assessment of the current situation of the collection in Bangor and in Chapter 6 to strategies for expanding its reach and relevance. These chapters investigate the relevance of the collection to the local community, and explore questions of 'glocality' and sustainability. The thesis concludes with recommendations for the future usage of the collection.

A catalogue of the collection, illustrated supplementary material, and details of Crossley-Holland's organological research are presented in appendices.

This research is the outcome of a Collaborative Doctoral Award from the Arts and Humanities Research Council, conducted in association with Storiel (Gwynedd Museum and Art Gallery). Its methodologies encompass ethnomusicology, museology and heritage studies, and draw on aspects of archaeological and anthropological research.

Table of Contents

List of figures

Terminology

Glossary

Hornbostel-Sachs System	The classification of musical instruments by their sound-producing properties, as devised by Erich von Hornbostel and Curt Sachs.
Indigenismo	Spanish term for indigeneity in Latin America, exemplified by a construction or appropriation of Indigenous cultures for nationalist identities.
Indigenous	Aborginal or native; I have chosen to capitalise the 'I' as this is an increasingly widespread convention intended to convey respect.
Latinx	Gender-neutral form of Latina/Latino.
Melograph	A machine to aid the transcription of music, invented by Charles Seeger.
Mestizaje	Spanish term for 'mixed-ness': a cultural and ethnic mix, particularly as a political tool for a pan-Mexican identity, originally meaning a mix European and Indigenous identities and ethnicities.
Mestizo	Spanish term for 'mixed' cultural identities and/or ethnicities.
Mexicanidad	'Mexicanness', incorporating Indigenous identities (whether romanticised or actual).
Pre-invasion	I have chosen to use this term to refer to the period before European contact in the Americas, rather than 'pre-Columbian'.
Provenance	The history of an artefact from its original archaeological site to its current position.
Provenience	The location of an artefact's archaeological site.
Stroboconn	A mechanical tuner, used to determine pitches of musical instruments.

Commonly-used Acronyms

BUCHA	Bangor University Crossley-Holland Archive.
INAH	Instituto Nacional de Antropología e Historia (Mexico's National Institute of Anthropology and History).
MNA	Museo Nacional de Antropología (Mexico's National Museum of Anthropology).
PCH	Peter Crossley-Holland; referring to his collection of west Mexican artefacts.
UCLA	University of California, Los Angeles.
UNESCO	United Nations Educational, Scientific and Cultural Organisation.

Acknowledgements

I am grateful to my supervisors, of which I have been lucky to have had several: Wyn Thomas, Jochen Eisentraut and Stephen Rees. I would also like to thank Pwyll ap Siôn for his assistance as Director of Graduate Studies. My personal tutor, Gwawr Ifan, has been a constant source of support and positivity which I have very much appreciated over the years.

Helen Gwerfyl of Storiel has given her time and expertise to advise me on exhibition practice, conservation and collections management, and I greatly appreciate her input and her patience. I am grateful too for the contribution of Esther Elin Roberts in the first stages of the project, and to the other staff at Storiel for welcoming me in.

Sincere thanks to the visitors to Storiel who shared their views on Bangor, Wales, and the place of the PCH collection, and whose contributions illuminated and elucidated my thinking.

Sarah Worden and the staff of the World Cultures Department at the National Museum of Scotland were wonderfully accommodating and helpful during my two visits.

My thanks also to the staff at the Peabody Museum at Harvard and at UCLA for facilitating my research there: Laura Costello, Steven Loza, Donna Armstrong, Maureen Russell, and the staff of the Library Special Collections and Charles E. Young reading room. I am grateful too for the hospitality and generosity of Susan Rawcliffe and Barbara Racy during my trip to LA.

I am grateful to the academics who have generously offered valuable advice and assistance: in particular Hettie Malcolmson and Caroline Bithell.

This project was funded by a Collaborative Doctoral Award from the Arts and Humanities Research Council, and research trips to the US were made possible by travel grants from Santander Universities UK and Bangor University.

Profuse thanks to my team of proof-readers, consultants and cheerleaders: Katherine Betteridge, Mared Emlyn, Aaron Fowles, Rebecca Gethin, Emily Hall, Becky Hitchens, Anna Homer and Rebecca Homer.

My family have cultivated my love of reading, learning, and ‘debating’; I am forever grateful for their constant support. My dad and my sisters are my lodestars. My mom is my hero, and thinking of the pride she would have felt at reading my thesis, and how joyful she would have been to see it complete, has enabled me to finish it.

Finally, huge thanks to Chris Collins, an excellent partner in lockdown and in life.

Introduction

A. Overview of the collection

Driving into Bangor, a small city in the north-west corner of Wales, you pass an old archway which is the last evidence standing of the city's first University building. On your right, there is a working port, beyond which the Menai Straits mark the boundary between the mainland and Anglesey. Ahead of you, the city stretches perpendicularly down a valley, and on the opposite hill stands the neo-gothic Main Arts building. Next door is a Victorian redbrick building with yawning windows: the School of Music. Inside is a small, windowless room labelled the Peter Crossley-Holland Archive. This room contains densely packed shelves of books, document files, and, towards the back of the room, around thirty boxes, the contents of which are the subject of this thesis. They contain ceramic figurines and musical instruments, material evidence of people who lived 5000 years ago and 5000 miles away. The journey of these objects from their resting place in the archaeological sites of western Mexico to this building in north-west Wales is long and complicated, and largely unknown. This thesis situates the collection by presenting what is known of the provenance, and determines the meaning of the artefacts from their original cultures to their current home. In order to outline best practice for the future of the collection, this research investigates the ethical and legal implications of owning cultural property; the way that ancient Mexico is interpreted and presented; the research that Peter Crossley-Holland undertook on these instruments, and the way he defined his collection; how museum displays of the objects and similar cultural artefacts across the world can add to our understanding of ancient Mexico; and the reception of the collection on display in Bangor.

The collection (which I will refer to throughout as the PCH collection) was assembled by Peter Crossley-Holland (1916–2001) in the 1970s and early 1980s. Crossley-Holland was appointed Professor of Ethnomusicology at the University of California, Los Angeles, in 1968, and he worked there until his retirement in 1983. During his time in Los Angeles, Crossley-Holland became interested in the Mesoamerican cultural artefacts which proliferated in antiquities shops and at auctions. He began a collection of ancient Mesoamerican objects which related to music. Originally, this included artefacts from any part of ancient central and south America; after a few years, Crossley-Holland focussed solely on collecting west Mexican objects. Although he did not record his reasoning for this, it could have been due to their distinctive artistic styles and their relative mystery compared with other ancient American cultures.

Upon his retirement, Crossley-Holland moved to the United Kingdom, and eventually settled in Llandysul, in Ceredigion, west Wales. From here, he was able to indulge a lifelong interest in Celtic culture and mediaeval Welsh music. Through this interest, he became involved in research activities at Bangor University, where he received an Honorary Fellowship in 1992 for services to Welsh music.[1]

Peter Crossley-Holland died in April 2001. After some negotiation with his widow, Nicole, who was the executor of his will, Bangor University purchased the documentation, books and instruments which came to be known as the Peter Crossley-Holland Archive, including the Mexican artefacts. Accompanying the PCH collection are catalogues, receipts, and Crossley-Holland's unpublished research which includes detailed notes on each artefact.

Contents of the PCH collection

There are 329 artefacts in the PCH collection. Most of them are ceramic; there are a few copper bells, a few shell bracelets, and a number of conch shell trumpets. There are five artefacts made from bone. Around two thirds of the collection comprises wind instruments: end-blown vertical duct flutes with finger holes and vessel duct flutes with or without finger holes. Throughout this thesis, I refer to the vertical flutes as 'flutes', the vessel duct flutes with finger holes as 'ocarinas' and those without finger holes as 'whistles.' This emulates Crossley-Holland's own terminology. There is a small amount of percussion (which are objects worn on the body which would make noise with the wearer's movement), and the rest of the collection comprises figurines which depict music-making, as identified by Crossley-Holland. These are in the form of figures playing an instrument or in a pose which suggests singing, chanting, or dancing.

The cultures and time periods which the artefacts represent are wide-ranging, and their proportions are based upon the availability of objects available to purchase – particularly since Crossley-Holland applied a further limitation by choosing only musical objects. Crossley-Holland's catalogues show that approximately one third of the collection originated in Late Pre-classic Colima, and their visual characteristics seem to corroborate this designation. There are also artefacts from Jalisco, Nayarit, Michoacán, Sinaloa, and Guerrero. The following table and maps show the location in time and space of the major cultures

[1] School of Music and Media, 'Organology and Traditional Instruments of Wales', *Bangor University*, <https://www.bangor.ac.uk/music-and-media/research/music/welshmusic_organology.php.en>, last accessed 25 May 2020.

represented by the PCH collection. Central and southern Mexican cultures are provided for comparison.

Figure 1: Map of Mesoamerica; 'Occidente' is Spanish for 'West'. Map by Yavidaxiu, from <https://commons.wikimedia.org/wiki/File:Mesoamérica.png>, CC by SA 3.0.

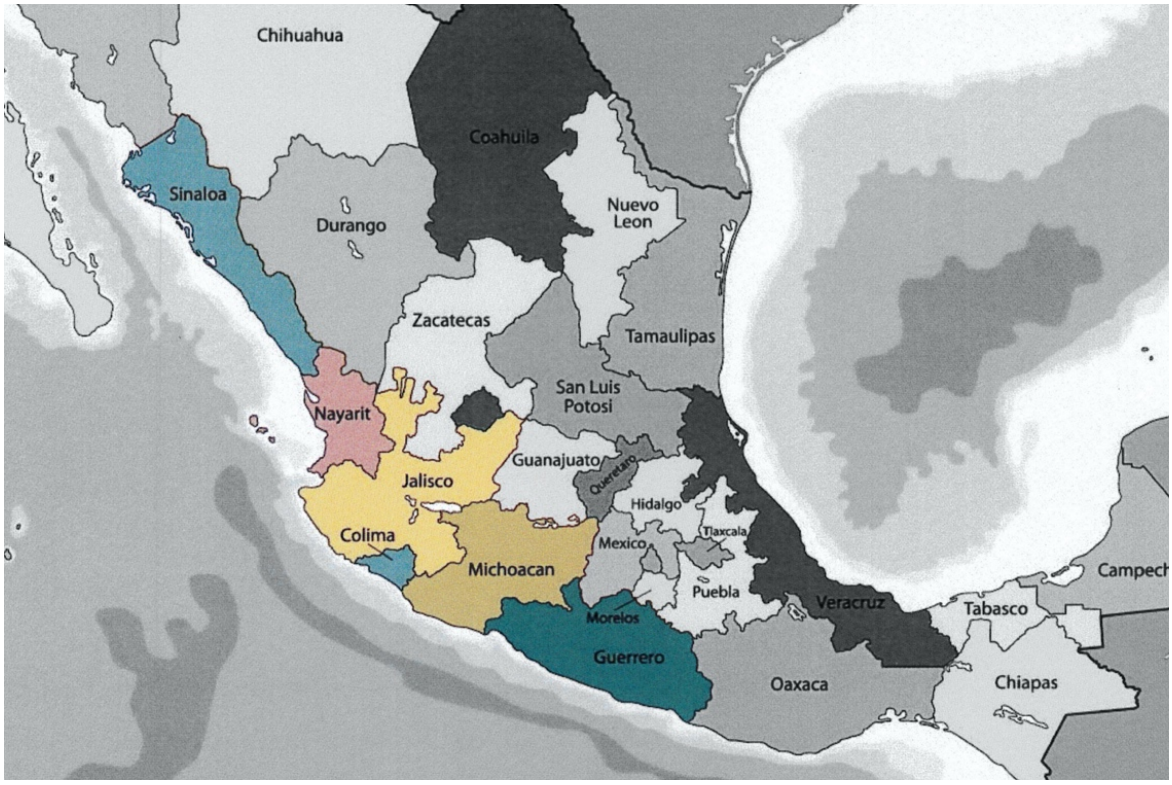


Figure 2: Map of contemporary Mexico, showing in colour the western states. Image by volina from canstockphoto.co.uk, with permission.

	West Mexico				Central and Southern Mexico
Period	**Jalisco**	**Nayarit**	**Colima**	**Michoacán**	
1500-800 BCE Early Pre-classic (Formative)			Capacha Phase	El Opeño Phase	Olmec
800-300 BCE Middle Pre-Classic	Development of shaft tombs				
300 BCE-200 CE Late Pre-classic	San Sebastian style Arenal style Ameca style	Ixtlán del Rio style Lagunillas style	Ortices Phase Comala Phase	Chupícuaro Phase	
200-400 CE Early Classic					Maya Zapotec
400-700 CE Middle Classic	Teuchitlán		Armeria Phase Chanal Phase		Teotihuacán
700-900 CE Late Classic					
900-1100 CE Early Post-classic					Toltec
1100-1200CE Middle Post-classic				P'urépecha	Mixtec
1200-1530CE Late Post-classic					Aztec
1520-1530	Spanish invasion				

Figure 3: Table of selected Mesoamerican chronology. 'Style' means style of ceramics from that time and place. Blue arrows show 'phases': cultures and their ceramic styles. Green arrows denote major civilisations and empires. Compiled with reference to 'Chart of Mesoamerican Periods' in Richard F. Townsend (ed.), Ancient West Mexico: Art and Archaeology of the Unknown Past (Chicago: The Art Institute of Chicago, 1998), p. 10. N.B. Dates given are approximate.

Archaeological objects from western Mexico are labelled according to the name of modern-day states, rather than by an ethnic group or civilisation such as Maya or Olmec, as is seen in other areas of Mesoamerica. Aside from the P'urhépecha (Tarasacan) and Teuchitlán Empires, there were no dominant civilisations in the area to the extent that there were in central and southern Mexico. The phases and styles are thus generally used to describe west Mexican material culture, which correspond to the names of states. Moreover, there are limited material and archaeological sources about western cultures, due to widespread looting of their sites. There is also little research on the connection between contemporary ethnic groups and their ancient material cultures.

To my knowledge, there has been no research carried out on the collection apart from Crossley-Holland's own, which yielded one short publication in 1980: *Musical Artifacts of Pre-Hispanic West Mexico: Toward an Interdisciplinary Approach*. This monograph was based upon copious documentation, which is held at Bangor alongside the artefacts, and which was originally intended as a precursor to a 'monumental work'[2] which never materialised. The documentation which forms the collection at Bangor includes a catalogue in several volumes, containing black and white photographs and a short caption presenting the measurements, material, and condition of each item. There is also a collection of papers labelled the 'Documentation', which provides information under the following headings: Title, Accession Number, Accession Date, Style Zone, Provenance, Phase, Description (including colour, material, make, component), Measurements, Condition, Hornbostel-Sachs Classification, Systematic Name, Popular Name, Performance, Sound, and Notes (which includes references to published archaeological works, further descriptions of morphology, speculation about cultural context: any more detailed information which Crossley-Holland could provide). Crossley-Holland himself played most of the instruments in the 1970s, in order to investigate their sound properties. The results of this study are included in the documentation, often in the form of diagrams and tables. [3]

[2] Nazir A. Jairazbhoy, 'Introduction', in Nicole Marzac-Holland and Nazir A. Jairazbhoy (eds.), *Essays in Honour of Crossley-Holland on his Sixty-Fifth Birthday* (Los Angeles: University of California, Los Angeles, 1983), pp. ix-xii, this citation from p. xi.
[3] I have compiled a summary of Crossley-Holland's documentation, which appears in Appendix 1. It comprises a catalogue of the PCH collection with a short description of each item.

Since the collection moved to Bangor, the sounding artefacts have been played by Susan Rawcliffe, who knew Crossley-Holland at UCLA, and who made a series of digital recordings in 2011.

Bone fragments in the PCH collection

Five objects are reported by Crossley-Holland to be made from bone: he identifies them as the musical instrument 'scraper' or 'rasp', similar to a modern-day güiro. There are many examples of ceramic figurines holding rasps, including in the PCH collection. The bones have been scored with notches so that when a stick is scraped back and forth over them it produces a rasping sound. Two of the rasps (PCH 26 and PCH 281) are described as 'animal bone', one of which is probably a bird bone.

The remaining three are labelled as 'human bone.' Crossley-Holland designates PCH 58 as 'fragment of bone (human humerus?)'. PCH 142 is described as 'fragment of a human long bone'. PCH 275 is identified with much more detail:

> A rasp made from a human femur which has been hollowed out and notched. The femur is from the right leg of a woman, probably about five feet tall. Not all of the bone has been used. The portion used to make the instrument extends from the head of the bone to the popliteal shaft. The portions cut away are: at the distal end, the greater trochanter, thus revealing the marrow cavity; and at the proximal end, the medial and lateral condyles … the bone was that of a healthy and well-nourished person.

The technical language here implies consultation with a forensic anthropologist or similar expert to identify the bone in such detail. Crossley-Holland provides 21 pages of information in the 'notes' section of his Documentation for this artefact – compared with an average of only one page for other objects – which portray other examples of rasps which Crossley-Holland had come across in literature and other collections, including those made of stone, wood and ceramic. He mentions bone rasps as a group, rather than differentiating human bones; and the focus of his research is on their use as a musical instrument.

I have not verified any information about these human bone fragments: the only evidence of their identification is by Crossley-Holland, and a receipt from the vendor from which he bought the bone labelled PCH 275.[4] I have chosen not to display any of these bone fragments

[4] Ian Arundel, receipt showing purchase of 'Colima raspador, Mexico, human femur', from Old Curiosity Shop, Los Angeles, dated 15 December 1974. Bangor University Crossley-Holland Archive (BUCHA), uncatalogued box.

in exhibits, given the possibility that they are indeed human bones. While the bones were modified by the maker to create a sound-producing instrument, I am uneasy with the manner in which the artefacts were treated by Crossley-Holland, with the human bones discussed as a material comparable to ceramic or shell.

On the assumption that the material is human bone, I will outline the ethical treatment of human remains as published by the UK government and the charity Honouring the Ancient Dead. In 2005, the Department for Culture, Media and Sport (DCMS) compiled a document in consultation with museum workers and civil servants. The guidelines were prepared for situations that museums may encounter which fall outside of the remit of legislation, which only concerns human tissue less than 100 years old.[5] The guidance states that it is difficult to ascertain ownership of human remains, unless 'the remains have been treated or altered through the application of skill',[6] which I interpret to be the case here. The artefacts are cultural as well as biological human remains. The DCMS document outlines the process of dealing with requests for the return of human remains to their country of origin, and acknowledges that the circumstances can be deeply distressing. It ultimately states that the decision to keep or return human remains lies with the institution.

Honouring the Ancient Dead is an organisation that formed in response to a proposal to develop a road at Stonehenge in Wiltshire, and the potential effects that would have on human remains at this sacred pagan site. The organisation has since expanded to become an advocate for the respectful treatment of human beings, which they consider to be equally important for both the living and the dead. They also point out that many cultures ascribe to an animist belief system, and consider 'physical evidence of ancestors as human beings who are still active (influencing) members of the community, who require respect based on that understanding.'[7]

---

[5] United Kingdom Government 'Human Tissue Act', 2004, <http://www.legislation.gov.uk/ukpga/2004/30/contents> last accessed 29 June 2020.
[6] United Kingdom Government Department for Culture, Media and Sport, 'Guidance for the Care of Human Remains in Museums', <https://webarchive.nationalarchives.gov.uk/+/http:/www.culture.gov.uk/images/publications/GuidanceHumanRemains11Oct.pdf>, last accessed 29 June 2020, this citation from p. 12.
[7] Honouring the Ancient Dead, 'Definitions for Honouring the Ancient Dead (HAD)', 2 November 2012, <https://www.honour.org.uk/definitions/>, last accessed 29 June 2020.

The overriding point of the DCMS document, and of the aims of Honouring the Ancient Dead, is that transparency, integrity and respect are required when dealing with human remains, especially when they are claimed by descendants.

It is also important to note that most, if not all, of the items in the collection originate from burial sites. As such, I believe that all of the artefacts should be afforded respectful treatment, and I endeavour to remain mindful of their representation of once-living people, and considerate of their sacred nature.

Figure 4: PCH 48, a seated figure playing a rasp (possibly made from bone). Nayarit, style of Ixtlán del Rio, 0-400 CE. Photograph by Susan Rawcliffe.

B. Questions and methodologies

This thesis aims to suggest the best future use of the collection, the precursor of which is to uncover what the collection represents, and the complicated journeys the objects made before arriving in their current setting. There are three major questions which my thesis investigates: What is the collection? Why is it here? What do we do with it now?

This research has been made possible by a Collaborative Doctoral Award from the Arts and Humanities Research Council. The external partner was Storiel, Gwynedd's county museum and art gallery. This has focussed my research on questions of ownership, on ethics, and on possibilities for dissemination and display. Thus, my primary research questions for these investigations are centred around the situation of the collection and its sustainability.

1) To what extent does the PCH collection represent ancient west Mexican cultures, and how can this information be interpreted and disseminated?
2) What are the circumstances of the original artefacts' assemblage into a collection, and what are the ethical implications around the movement of cultural property?
3) Is the collection in its most appropriate place, and how may it best be utilised?

My methodologies are primarily drawn from the disciplines of ethnomusicology, archaeology, and museum studies, and represent the multifarious and interdisciplinary nature of this study. The first research question requires consideration of the extensive archive of documentation that Crossley-Holland compiled, evaluating its reliability in the current state of research. This question also depends on the way that twentieth-century literature and historical study has portrayed ancient Mexico in a certain way, based on the political aims of *indigenismo* (indigeneity, as an assertion of non-Hispanic roots) and *mestizaje* (ethnic and cultural mixing).

The investigation into the interpretation of the collection also considers Crossley-Holland's motivations in assembling the collection, again drawing on the Crossley-Holland archive, which contains documents that outline the provenance of the artefacts. In order to define whether Crossley-Holland intended for the collection to be an ethnomusicological resource, I utilised the University Archives at the University of California, Los Angeles, accessing administrative records and letters which shone light on the development of ethnomusicology at UCLA during the 1970s. I also analysed contemporaneous publications. During my research trip to Los Angeles, I met with some of Crossley-Holland's former students and

employees, and spoke to several current members of staff about the history of the Department of Ethnomusicology.

Determining strategies for future dissemination entails providing case studies of other research into how ancient instruments can be revitalised. This extends into other areas of museum research and practice, striking the balance between conservation and activation of artefacts. The investigation of practices for dissemination and interpretation also necessitates the analysis of museum displays of similar artefacts, and I visited museums in the UK, the USA, and Mexico to compare different approaches. I applied Mary Bouquet's framework of the 'poetics, politics and practices of display' from *Museums: A Visual Anthropology*, which presents three themes for analysis – objectification, modernism, and renovation – that manifest in museum displays.[8] This analysis informed my practice-based research: curating some displays of the PCH artefacts.

The second research question involves the definition of collections as private or ethnographic, which I investigated using the Crossley-Holland archive and framed with reference to Clifford's and Baudrillard's musings on collecting,[9] Appadurai's discussion of 'museum objects as accidental refugees',[10] Gell's theories of the agency of things,[11] and Bauer's entanglements surrounding 'itinerant objects'.[12]

There are also practical implications concerning the collection and ownership of these artefacts, the exploration of which necessitates gathering relevant legislation about cultural property; guidelines and codes of practice from organisations such as the Museums Association and the International Council of Museums; and accounts from law enforcement agents, museum workers and art historians. There are numerous case studies involving the repatriation of museum objects (and numerous publications opining against repatriation), and I outline these in order to determine possible outcomes for the PCH collection.

---

[8] Mary Bouquet, *Museums: A Visual Anthropology* (London: Berg, 2012), p. 121.
[9] James Clifford, *The Predicament of Culture: Twentieth-Century Ethnography, Literature and Art* (Cambridge: Harvard University Press, 1988); Jean Baudrillard, 'The System of Collecting', trans. Roger Cardinal, in John Elsner and Roger Cardinal (eds.), *The Cultures of Collecting* (Cambridge: Harvard University Press, 1994), pp. 7-24.
[10] Arjun Appadurai, 'Museum Objects as Accidental Refugees', *Historische Anthropologie*, 25:3 (2017), 401-408.
[11] Alfred Gell, *Art and Agency: An Anthropological Theory* (Oxford: Oxford University Press, 1998).
[12] Alexander A. Bauer, 'Itinerant Objects', *Annual Review of Anthropology*, 48 (2019), 335-352.

Answering the third question involves a qualitative study of the reception of a museum display of the PCH collection. I carried out semi-structured interviews with 16 museum visitors, and applied an interpretative thematic analysis, based on Elaine Power's method of teasing out of 'multiple, localized, contextual truths',[13] to explore the reception of the PCH collection and its incongruity or suitability as part of Storiel's exhibitions. This research utilises a collaborative approach to qualitative research, whereby the participants became almost (to use Klisala Harrison's term) 'epistemic community',[14] whose input steered the research into a study of identity, belonging, and representation.

Finally, the sustainability of the collection is explored using three approaches: from music and ethnomusicology, archaeology, and museum studies. The three approaches to the principles of sustainability promote cultural development, community and collaborative research, and applied research, as well as environmental sustainability.

C. The collection as palimpsest

The PCH collection represents a palimpsest of cultural traces.[15] Working from the most recent meanings, back to their ancient origins, there are layers of cultural context which can be perceived in the current iteration of the objects.

The meaning of 'palimpsest' has different connotations depending on its situation: in literature, palimpsests are manuscripts which evince text that has overwritten an earlier script. In archaeology, it can refer to the layers of evidence shown by the reworking of objects.

Cultural geographer Jon Anderson discusses palimpsests as applied to multiple 'material inscriptions on a landscape' (following Sauer). [16] He uses the idea of palimpsests to explore the identity of places as 'an ongoing composition of traces'. Using the words 'composition', (and Bruno Latour's phrase 'compositionist') [17] Anderson explains places as active sites of performed culture in which humans superimpose new ideas over the remnants of older

---

[13] Elaine M. Power, 'Toward Understanding in Postmodern Interview Analysis: Interpreting the Contradictory Remarks of a Research Participant', *Qualitative Health Research*, 14:6 (2004), 858-865, this citation from p. 859.
[14] Klisara Harrison, 'Epistemologies of Applied Ethnomusicology' *Ethnomusicology*, 56:3 (2012), 505-529, this citation from p. 506.
[15] Jon Anderson, *Understanding Cultural Geography: Places and Traces* (London: Routledge, 2015), p. 6.
[16] Ibid., 29; Carl Sauer, *Agricultural Origins and Dispersals: The Domestication of Animals and Foodstuffs* (Cambridge: MIT Press, 1969), cited by Anderson, *Understanding Cultural Geography*, p. 29.
[17] Bruno Latour, 'An attempt at a "Compositionist Manifesto"', *New Literary History*, 41 (2010), 471-490, in Anderson, *Understanding Cultural Geography*, p. 14.

meanings. Anderson gives two examples: the buildings and ruins showcasing different cultures and periods in Rome; and the chalk horse in Westbury, England, inscribed on the remains of an Iron Age fort in the eighteenth century. Crucially, some new ideas have more significance than others.[18]

Palimpsest can also describe the strata of different architecture, for example those seen at various central Mexican sites. Templo Mayor in Tenochtitlán (modern-day Mexico City) and the Moon Pyramid at Teotihuacán exhibit the '"Russian doll" sequence'[19] of older architecture encased in new buildings. Excavations can expose the older styles, revealing the stylistic choices of earlier civilisations, but also pointing to the symbolic significance of previous cultures in more recent ones. The layers of architecture literally build upon one another, as well as symbolically providing markers of remembrance and respect.

Daniel Cooper Alarcón wrote about ideas of Mexicanness in *The Aztec Palimpsest*.[20] He discusses the manifestation of Mexican identity from the perspectives of the Chicano movement of the 1960s and 1970s in Los Angeles, English-language writings on the subject of Mexico; and the language employed by the tourism industry in Mexico. Cooper Alarcón describes the palimpsest of Mexicanness as '[having] arisen through a process of erasure and superimposition,'[21] which can only be analysed in the context of political ideologies, and of power and control.

I take this idea of 'erasure and superimposition' and apply it to the various strata of meaning that the PCH collection represents. It may seem dramatic to state that the collection's use as a resource for research and display at the University and Storiel erases its meaning as a representation of ancient west Mexican societies; but it is the case that by investigating this collection, I am engaging with it as such a resource, rather than treating the objects as they were originally intended.

I will apply the palimpsest framework to this collection, in order that each ontological stratum appears as a continuation as well as a decimation of the last. Firstly, I will describe the various tiers of meaning, and how my research relates to each. To delineate the strata in

---

[18] Anderson, *Understanding Cultural Geography*, p. 75.
[19] David Carballo, *Urbanization and Religion in Ancient Central Mexico* (New York: Oxford University Press, 2015), p. 112.
[20] Daniel Cooper Alarcón, *The Aztec Palimpsest: Mexico in the Modern Imagination* (2nd edition; Tucson: University of Arizona Press, 1997).
[21] Ibid., p. xiv.

this way does not negate their intersectionality; I am using it as a structural device to demonstrate how the collection has many identities and many meanings, borne out over much time and distance. Figure 5 illustrates my approach. I start with the topmost layer: the collection's current situation. I begin with this layer as the most recent, and as the site of my own contact with the objects.

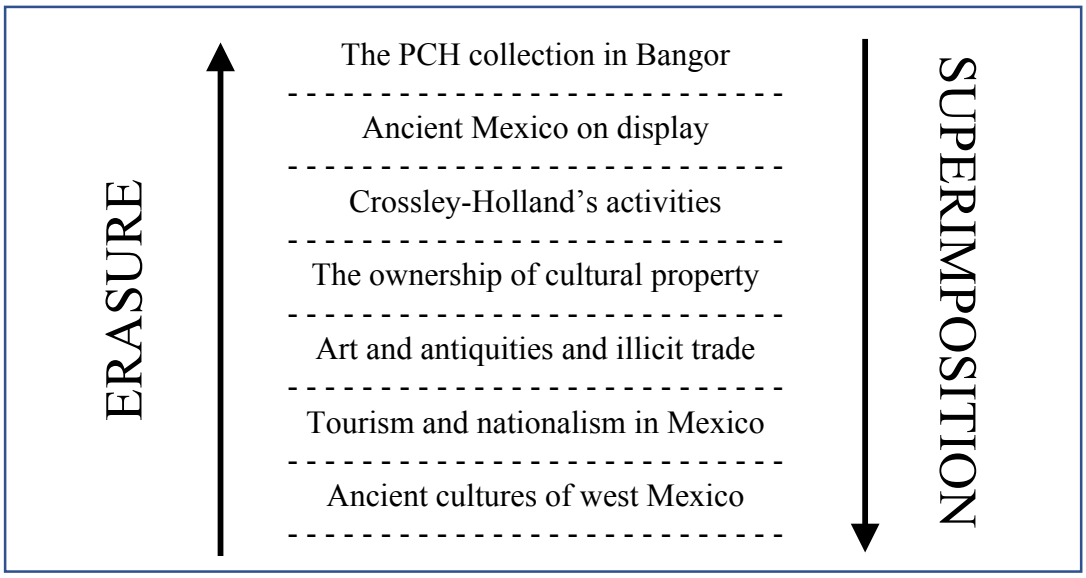


Figure 5: The PCH collection as palimpsest.

The strata are organised as if the uppermost layer is on the surface, and the layers below only accessible by burrowing through to the underground. The layers are organised loosely chronologically; the origins of the instruments in western Mexico are the most ancient, the most multifarious in terms of the cultures they represent, the furthest geographically, more intangible, difficult to comprehend and research. As we return to the surface – the collection in its current format – each layer overwrites the previous and information is erased and superimposed until we reach the most recent, near, and tangible iteration. In this uppermost layer, the collection can be touched; the instruments played, displayed, and researched. However, the contact is superficial, and the previous and original contexts stripped away until they become peripheral.

The uppermost layer represents my contact with the collection: getting to know the artefacts, reading Crossley-Holland's documentation, learning to handle the objects safely, and using some of them in displays. This stratum holds the collection in a mesh of expressions of

identity and culture in north Wales, and my research explores the ways in which the collection is in conflict with these. The next layer adds international context, while focussing on the objectification of culture: the display of ancient Mexico in museums of Europe, the USA, and Mexico. Crossley-Holland is the reason for the assemblage of the collection, and his interpretations of the music and culture that the artefacts represent are the basis for my getting to know the collection. Crossley-Holland is also the bridge between Mexico and Wales, via the USA.

Our understanding of the collection, through the activities of the collector, must be examined more closely. Throughout history, other cultures have been presented as the result of a collector, who has bought, stolen, or been given cultural property. In order to untangle the PCH collection, I consider what owning cultural property means, and what the ethical and legal implications are. The PCH collection was enmeshed in a complex interchange when it was being assembled, between academic study, the art and antiquities market, and widespread problems of looting and illicit trade in cultural objects. These activities add various complications to the biographies of the objects and obscure the links to their origins.

Turning to the issue of representation: although ancient, the PCH artefacts represent Indigenous people whose pre-invasion societies contribute the *mestizo* identity of Mexico today. Moreover, the marginalisation of Indigenous communities is apparent in Mexico, and heritage forms part of their assertion of cultural identity, and its protection. The nationalisation and touristification of Indigenous and *mestizo* identities has taken place in Mexico over the twentieth century – from the intellectual ideas of *indigenismo* (indigeneity) and *Mexicanidad* (Mexicanness), to national governance of cultural property and to international responses to heritage based on UNESCO designations. The portrayal of indigeneity in cultural tourism, and the role that cultural artefacts can play, lays an additional lens over the collection through which we view the origins and meanings of the objects.

Finally, there is the fundamental layer of the collection: the representation of ancient west Mexican cultures. The artefacts from the PCH collection originate from a huge range of cultures over time and place. Despite this, there is a tendency for museums to designate items from west Mexico as simply 'west Mexico.' Modern-day names of states denote particular styles of art from various cultures. For example, a catalogue record from the British Museum

labels the distinctive style of fat dog pottery as 'Colima', as well as its find site as 'Colima'.[22] However, a carved stone axe is labelled 'Zapotec' with 'Oaxaca' as its findspot.[23] The first record conflates the geographic area and the ancient culture, with no differentiation; the second clearly shows the original culture (Zapotec) and the modern Mexican state in which it was found (Oaxaca). This is typical of every museum and resource I have encountered. This matter of labelling and categorising is one of the reasons that the individual meanings of the artefacts are difficult to glean; it is too easy to contemplate the collection as 'west Mexican' without further qualifiers.

D. Structure of the thesis

The palimpsest structure reflects my contact with the collection, and the feeling I had during this study of burrowing through layers of context. This has translated to the structure of the thesis whereupon I present these from the deepest layer (west Mexican origins) to the collection's current situation.

Chapter 1 provides context by considering the ways that ancient Mexico has been represented through archaeology and through the frameworks of twentieth century ideologies. I then consider how the ocarina is emblematic in the soundscape of modern Mexico, which I discuss in relation to the touristification of indigeneity, and the 'destination culture'[24] of archaeological sites. The next section concerns the definition of cultural property, and issues over ownership. This includes a survey of legislation and industry guidelines, as well a discussion of the ethics of owning cultural artefacts. This leads into an evaluation of the ramifications of illicit trade and looting of archaeological sites, and how this affects academic research. The final part of this chapter concerns the wider debate over repatriation and restitution.

Chapter 2 introduces the collection's origins, as defined by Crossley-Holland. I begin by considering how the objects' pasts affect the definition of the collection, as they pass from

---

[22] Museum number Am1921,0613.1, 'vase', on display at the British Museum (gallery 27: Mexico, display case 3). Catalogue record online at <https://www.britishmuseum.org/collection/object/E_Am1921-0613-1>, last accessed 23 June 2020. The British Museum does provide a 'scope note' on its online catalogue to show that 'the term [Colima] refers to a culture and style, named after the place' at <https://www.britishmuseum.org/collection/term/x72337>.

[23] Museum number Am1940,03.1, 'ceremonial axe; blade', on display at the British Museum (gallery 27: Mexico, display case 1). Catalogue record online at <https://www.britishmuseum.org/collection/object/E_Am1940-03-1>, last accessed 23 June 2020.

[24] Barbara Kirschenblatt-Gimblett, *Destination Culture: Tourism, Museums and Heritage* (Berkeley: University of California Press, 1998).

place to place as well as passing through different value systems. I discuss provenience – the findspot or original archaeological site of the artefacts – and how Crossley-Holland compiled his research about this. I then turn to the provenance of the artefacts: their journeys from their origins to Crossley-Holland's residence in Los Angeles. Much information is lacking, so this chapter deals with the archival information that relates to the activities of Crossley-Holland as an art collector. When discussing west Mexican archaeology, it is necessary to consider the possibility of fakes and forgeries, and I conclude this chapter with an overview of these problems.

In Chapter 3, I turn to the way that Crossley-Holland interpreted his collection. Firstly, I place his work in context, showing the influence of ethnomusicological activities at UCLA at the time, as well as the ways that he diverged from typical ways of working. Crossley-Holland's major research methods were classification and transcription, and I consider his publications to contextualise his approach to his musical analyses of the artefacts. Crossley-Holland's musical interpretations are embedded in the practices of their time, and I evaluate their validity after considering the development of ethnomusicological study since Crossley-Holland was working. I then evaluate his cultural interpretations, which are embedded in his worldview and the influence of colleagues such as Peter Furst, an anthropologist who introduced the widespread view that many west Mexican figurines portray shamans.

Chapter 4 moves away from Crossley-Holland's activities to consider strategies for the future use of the collection. If the collection is to be treated as musical, there is an argument for the artefacts to be played, and reanimated as to musical instruments. This engenders a debate over conservation, and whether it is ethical to subject the artefacts to possible deterioration through performance. I offer views from conservators, and outline some possible alternative strategies for activating the instruments without compromising their condition. Then, I consider museum display as a form of dissemination, and I analyse the ways that ancient Mexico has been displayed in museums in Europe, the US, and Mexico.

Chapter 5 describes my development of exhibits of the PCH artefacts, before turning to the place of the PCH collection in Bangor. My interviews with museum visitors brought up themes of identity and belonging and the place of the museum within those. This led to my consideration of the future of PCH collection, leading to questions of sustainability.

Chapter 6 describes various definitions of sustainability and applies these to the PCH collection. Ultimately, I suggest what the future of the collection could hold, and recommend strategies for its future use.

E. Literature review

My investigations draw on a variety of sources drawn from different disciplines, which I organise here by how they relate to my research questions. I will outline the major considerations here; other literature will be introduced during the course of the thesis as it becomes relevant.

The representation of ancient Mexican cultures in this thesis, and in literature more generally, is framed by various dynamics after the Spanish invasion: collecting practices, notions of historiography, and the development of museums. These issues are outlined in Elizabeth Hill Boone's *Collecting the Pre-Columbian Past*,[25] which focusses on the art market in the United States, and the post-colonial discourse of the edited volumes *Nature and Antiquity: The Making of Archaeology in the Americas*[26] and *Material Encounters and Indigenous Transformations in the Early Colonial Americas: Archaeological Case Studies*.[27] Another set of frameworks includes the concepts of *indigenismo* and *mestizaje* in the formulation of a pan-Mexican heritage. The ways in which this heritage has been commodified and developed for tourism is explored by Barbara Kirschenblatt-Gimblett in *Destination Culture*,[28] which discusses the general issues of cultural tourism. Studies specific to Mexico are Ruth Hellier-Tinoco's *Embodying Mexico*,[29] *Identidades en venta* [*Identities on Sale*], edited by Georgina Flores Mercado and E. Fernando Nava L.,[30] and Marina Alonso Bolaños's *La 'invención' de la música indígena de México* [*The 'Invention' of the Indigenous Music of Mexico*].[31]

[25] Elizabeth Hill Boone, *Collecting the Pre-Columbian Past: A Symposium at Dumbarton Oaks, 6th and 7th October 1990* (Washington, D.C.: Dumbarton Oaks Research Library and Collection, 2011).
[26] Philip L. Kohl, Irina Podgorny and Stefanie Gänger (eds.), *Nature and Antiquity: The Making of Archaeology in the Americas* (Tucson: University of Arizona Press, 2014).
[27] Corinne L. Hofman and Floris W.M. Keehnen, *Material Encounters and Indigenous Transformations in the Early Colonial Americas: Archaeological Case Studies* (Leiden: Brill, 2019).
[28] Barbara Kirschenblatt-Gimblett, *Destination Culture: Tourism, Museums, and Heritage* (Berkeley: University of California Press, 1998).
[29] Ruth Hellier-Tinoco, *Embodying Mexico: Tourism, Nationalism & Performance* (Oxford: Oxford University Press, 2011).
[30] Georgina Flores Mercado and E. Fernando Nava L. (eds.), *Identidades en venta: Músicas tradicionales y turismo en México* (Mexico City: Instituto de Investigaciones Sociales, 2016).
[31] Marina Alonso Bolaños, *La 'invención' de la música indígena de México* (Buenos Aires: Editorial Sb, 2008).

Mary Bouquet's *Museums: A Visual Anthropology*[32] comes from a different perspective: charting the development of museum displays, including the relationship between anthropology, ethnography, and ethnographic museums, as well as how ethnographic fieldwork can itself be employed in museums. This thesis utilises the framework for analysing changes in museum display that is set out in her chapter 'Practices of Object Display',[33] to analyse and discuss museum displays from around the world that I have visited. Bouquet introduces a typology of displays, whose categories she labels as 'objectification', 'modernism', and 'renovation'. Bouquet also discusses issues of repatriation, with several case studies of physical repatriation by museums, and the possibilities suggested by visual repatriation. Bouquet particularly focusses on human remains, as evocative and powerful examples of living people becoming property.[34]

In discussing the 'renovation' of display, Bouquet cites James Clifford's seminal article 'Museums as Contact Zones',[35] which proffers an example of when a museum became a site of contestation and mediation between the people whose cultures are on display and the curators of those cultures. Clifford expounds upon the facility of museums to act as a conduit between historical material cultures and contemporary active cultures. In another article, 'Palenque Log',[36] Clifford writes of his visit to the archaeological site of Palenque in south-east Mexico, commenting on the amalgam of tourism, history, and sensory experiences, which I emulate in an ethnographic account of my visits to sites in central and western Mexico.

Turning to the second research question, I draw upon archaeologists' publications on the subject of ancient west Mexico in order to contextualise Crossley-Holland's cultural and musical interpretations of the collection. In the 1970s, Phil Weigand carried out surveys of settlements in Jalisco,[37] and his analysis of the state of research in the area is considered a watershed moment in the history of west Mexican archaeology.[38] Prior to his discoveries,

---

[32] Mary Bouquet, *Museums: A Visual Anthropology* (London: Berg, 2012).
[33] Ibid., pp. 119-150.
[34] Ibid., p. 154.
[35] James Clifford, 'Museums as Contact Zones', in *Routes: Travel and Translation in the Late Twentieth Century* (Cambridge: Harvard University Press, 1997), pp. 188-219.
[36] James Clifford, 'Palenque Log', in *Routes: Travel and Translation in the Late Twentieth Century*, pp. 220-240.
[37] William R. Fowler, Christopher S. Beekman, and Robert B. Pickering, 'Introduction', *Ancient Mesoamerica*, 17:2 (2006), 231-233.
[38] Richard F. Townsend, 'Introduction: Renewing the Inquiry in Ancient West Mexico', in Richard F. Townsend (ed.), *Ancient West Mexico: Art and Archaeology of the Unknown Past* (Chicago: The Art Institute of Chicago, 1998), pp. 15-33, this citation from p. 22.

west Mexican societies were often perceived as marginal, primitive, and disparate. Weigand's research showed that the remains of these societies describe cities, hierarchies, and international exchange, which were hitherto seen as indicative of dominant central Mexican civilisations such as the Mexica (Aztecs), or in the west, only the Purépecha (Tarascans).[39] Christopher Beekman has built upon Weigand's oeuvre and his examination of religion and leisure in west Mexican societies has influenced my analysis of Crossley-Holland's interpretations, particularly regarding the assumption of shamanism in west Mexican iconography.[40]

Another watershed moment in west Mexican archaeology came when Lorenza López Mestas and Jorge Ramos de la Vega excavated a previously untouched shaft tomb in Jalisco in 1993–1994.[41] This was the first excavation recorded that had not been affected by looting, and has provided comparative information which can reassess some of the widely-held interpretations about shaft-tomb art. Although it is beyond the scope of this thesis to apply this to Crossley-Holland's research, advances in west Mexican archaeology in the past decades would provide fertile ground for a future project on the origins of the PCH artefacts.

Robert Pickering, Jane Stevenson Day, Kristi Butterwick, and Richard Townsend are situated in the museum sector, and they provide alternative perspectives as museum curators (although Robert Pickering is also a forensic anthropologist).[42] West Mexican artefacts can be seen as art objects as well as archaeological evidence, as in the volume edited by Townsend.[43] The museum-workers' perspective is exemplified by Butterwick's companion to

---

[39] Phil C. Weigand, 'Evidence for Complex Societies during the Western Mesoamerican Classic Period', in Michael S. Foster and Phil C. Weigand (eds.), *The Archaeology of West and Northwest Mesoamerica* (Boulder: Westview Press, 1985), pp. 47-91.
[40] Christopher S. Beekman, 'Unseating the Shaman: Narrative Performance and Co-Essences in the Hollow Figures of Western Mexico', in Brigitte Faugère and Christopher Beekman (eds.), *Anthropological Imagery in the Mesoamerican Highlands: Gods, Ancestors, and Human Beings* (Louisville: University Press of Colorado, 2020), pp. 68-107.
[41] Jorge Ramos de la Vega y M. Lorenza López Mestas Camberos, 'Datos preliminares sobre el descubrimiento de una tumba de tiro en el sitio de Huitzilapa, Jalisco', *Ancient Mesoamerica*, 7:1 (1996), 121-134; Lorenza López Mestas Camberos and Jorge Ramos de la Vaga, 'Excavating the Tomb at Huitzilapa', in Richard F. Townsend (ed.), *Ancient West Mexico: Art and Archaeology of the Unknown Past* (Chicago: The Art Institute of Chicago, 1998), pp. 53-70.
[42] Jane Stevenson Day, Kristi Butterwick, and Robert B. Pickering, 'Archaeological Interpretations of West Mexican Ceramic Art from the Late Preclassic Period: Three Figurine Projects', *Ancient Mesoamerica*, 7:1 (1996), 140-161.
[43] Townsend (ed.), *Ancient West Mexico: Art and Archaeology of the Unknown Past.*

an exhibition of west Mexican artefacts,[44] which acknowledges the objects' position in the tangled webs of art and antiquities trade, archaeological research, and aesthetic criticism.

In my investigations into the origins and assemblage of the PCH collection, I utilise literature that addresses practical perspectives as well as academic sources. Tracing cultural property through shady and possibly illicit dealings can require supposition and speculation, as there can be little evidence of trade and exchange. This subject also incorporates ethical debates, and engenders strong opinions: for example, the very different perspectives of museum directors, art connoisseurs, archaeologists and law enforcement agents. As such, the literature that informs my findings are on the cusp of opinion pieces, and occasionally I draw from polemical pieces such as from the blog of archaeologist Michael Smith and the digital version of the magazine *Lingua Franca*.[45]

As well as the debates over the ethics of owning and trading in cultural property, there is also a quantity of literature from law journals which detail specific cases of the repatriation of artefacts and the prosecution of illicit traders, which sheds light on the practicalities of law enforcement and of the processes which traders use to facilitate the movement of cultural property.

Arjun Appadurai's 'Museum Objects as Accidental Refugees'[46] builds upon his concept of *The Social Life of Things*[47] to include the whole story of an object's journey from its site of origin to museum storage or display. It is valuable to study the object's place in the relational processes of exchange and trade, as well as its original cultural meanings. In relation to the PCH collection these are the meanings that I parse when exploring the questions of assemblage and ownership. Furthermore, the idea of object biographies – as discussed by many scholars including Igor Kopytoff in *The Social Life of Things*[48] – has been reinterpreted

[44] Kristi Butterwick, *Heritage of Power: Ancient Sculpture from West Mexico* (New York and New Haven: Metropolitan Museum of Art and Yale University Press, 2004).
[45] <http://publishingarchaeology.blogspot.com>; <http://linguafranca.mirror.theinfo.org/>, last accessed 6 June 2020.
[46] Arjun Appadurai, 'Museum Objects as Accidental Refugees', *Historische Anthropologie*, 25:3 (2018), 401-408.
[47] Arjun Appadurai (ed.), *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1988).
[48] Igor Kopytoff, 'The Cultural Biography of Things: Commoditization as Process', in Arjun Appadurai (ed.), *The Social Life of Things: Commodities in Cultural Perspective*, pp. 64-94.

by Alexander Bauer, who suggests that analysing object mobilities and itineraries 'can better account for objects' complex entanglements.'[49]

Pertaining to the question of the most appropriate place for the collection, and its future use, I provide several case studies from the field of music archaeology. These include those drawn from the volumes in the *Studien zur Musikarchäologie* series,[50] which compromise conference proceedings from the International Study Group on Music Archaeology. Dale Olsen composed an interdisciplinary method for the study of archaeological musical instruments in his introduction to a 2007 special issue of *The World of Music*: 'Music Archaeology: Mesoamerica'.[51] Olsen's approach involves iconology, written accounts, archaeology (which he defines as the measurements of physical and acoustic properties), and ethnographic analogy. Arnd Adje Both recognises the multiplicity of approaches that music archaeologists employ, and in an article from 2009, adds several considerations to Olsen's in ethnomusicology, organology, ethnohistory, and philology.[52] The in-depth study of the PCH collection as evidence of historical music practices is beyond the scope of this thesis, but in order to explore possibilities for dissemination, I focus on music and sound archaeologists who use various approaches to determine how ancient music could have sounded.

I also consider sources which describe best practice for the care and conservation of artefacts, which are written by academics and non-academics working in museum contexts. These resources provide myriad perspectives of experienced museum workers, from both theoretical and practical angles. *Care of Collections*[53] and *Things Fall Apart … Museum Conservation in*

---

[49] Alexander A. Bauer, 'Itinerant Objects', *Annual Review of Anthropology*, 48 (2019), 335-352, this citation from p. 336.
[50] Ellen Hickmann and Ricardo Eichmann (eds.), *Music Archaeology of Early Metal Ages: Papers from the 1st Symposium of the International Study Group on Music Archaeology at Monastery Michaelstein, 18–24 May, 1998* (Rahden: Verlag M. Leidorf, 2000); 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); Ricardo Eichmann, Lars-Christian Koch and Fang Jianjun (eds.), *Sound – Object – Culture – History: Papers from the 9th Symposium of the International Study Group on Music Archaeology at the Ethnological Museum, State Museums Berlin, 09–12 September, 2014* (Rahden: Verlag M. Leidorf, 2016).
[51] 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.
[52] Arnd Adje Both, 'Music Archaeology: Some Methodological and Theoretical Considerations', *Yearbook for Traditional Music*, 41 (2009), 1-11.
[53] Simon Knell (ed.), *Care of Collections*, (London: Routledge, 1994).

Practice,[54] as well as guidelines promoted by the International Council of Museums,[55] provide perspectives from conservators and curators who make decisions about the appropriate use of artefacts and whose methods may be applied to the PCH collection.

I investigate the reception of an exhibition of west Mexican artefacts from the PCH collection to ascertain whether the collection is a useful addition to the cultural landscape of Bangor, and I explore local people's and visitors' expectations of Gwynedd's county museum, Storiel. This work is framed by Peggy Levitt's monograph *Artifacts and Allegiances: How Museums Put the Nation and the World on Display*.[56] I respond in particular to her discussion of how museums engage with difference, pertaining to nationalist, cosmopolitan, and local ideologies. Furthermore, in *Globalization: Social Theory and Global Culture*,[57] Roland Robertson proffers the idea of 'glocalization': the relationship between local, global, micro and macro in culture and politics. Invented during a time when globalisation and loss of individuality were pressing concerns, the concept of glocalization helps to examine the role of Storiel in representing the strong local and minority identities alongside its international links.

Finally, I consider strategies for the future of the collection, and its potential role in sustainable development. I outline perspectives from the angles of national and UN policy, as well as possible applications in the fields of archaeology, ethnomusicology, and museums. Critical texts which I utilise include Laurajane Smith's articles on Authorised Heritage Discourse, which criticises UNESCO's role in heritage formation, and the effects on cultural sustainability; and the idea of cultural resilience, as discussed by Elizabeth Longworth's chapter in *Climate Change as a Threat to Peace: Impacts on Cultural Heritage and Cultural Diversity.*

---

[54] Caroline Buttler and Mary Davis (eds.), *Things Fall Apart … Museum Conservation in Practice* (Cardiff: National Museum of Wales Books, 2006).
[55] Patricia Andrew, 'Standards in the Museum Curation of Musical Instruments', Museums, Libraries and Archives Council, 2005, <https://326gtd123dbk1xdkdm489u1q-wpengine.netdna-ssl.com/wp-content/uploads/2017/02/Museums-Libraries-Archives-Council-Standards-in-the-Museum-Curation-of-Musical-Instruments-2005.pdf> last accessed 20 January 2020.
[56] Peggy Levitt, *Artifacts and Allegiances: How Museums Put the Nation and the World on Display* (Oakland: University of California Press, 2015).
[57] Roland Robertson, *Globalization: Social Theory and Global Culture* (London: Sage Publications, 1992).

Chapter 1: Representation and ownership

This chapter provides context for the PCH collection, by examining the ways that ancient Mexico and western Mexico have been presented and represented in historiography. I discuss the ways that sound contributes to the cultural heritage of Mexico, before outlining the ways that tourism affects the portrayal and performance of ancient Mexican identities, leading to questions of who owns culture. I move on to the more literal ownership of culture, by discussing legislation over the trade of cultural property and museum guidelines on the ethics of owning cultural artefacts. I then summarise the consequences of illicit trade, before turning back to issues of ownership by discussing the dynamics of repatriation. My examination of ownership and representation has implications for the future use of the collection, to which I will return in Chapter 6.

1.A. Representing Mexico

1.A.i. Collecting and the production of history

Crossley-Holland originally began collecting musical artefacts from various parts of the central and southern Americas. During the 1970s, he focussed on western Mexican artefacts exclusively; the items from other parts of the Americas were, based on anecdotal evidence, given away to some colleagues. By paying attention to western Mexican artefacts, Crossley-Holland found a niche – there was no other collection of west Mexican musical instruments of which he was aware. In his documentation, Crossley-Holland cites the Natalie Wood collection of Chupícuaro ceramics, which was given to the Museum of Cultural History at UCLA (now the Fowler Museum) in the late 1960s.[1] This may have been the inspiration for his interest in west Mexican artefacts.

Why did he choose to focus on western Mexican cultures, when he had previously owned ancient objects from Peru, Bolivia, and other parts of Mexico? Crossley-Holland did not record his thoughts. His documentation suggests that he focussed on west Mexico because of the popularity and availability of artefacts; but he may also have felt a pull towards the exotic, mysterious and under-studied cultures of west Mexico. Many of his interpretations of the artefacts, which I analyse in Chapter 3 of this thesis, show a level of speculation that conveys Crossley-Holland's affinity with spiritualism and shamanism. The relative lack of

[1] Fowler Museum at UCLA, 'Chupícuaro: The Natalie Wood Gift of Ancient Mexican Ceramics', <https://www.fowler.ucla.edu/exhibitions/fowler-at-fifty-chupicuaro-ancient-mexican-ceramics/>, last accessed 23 May 2020.

academic information about ancient west Mexican music offered a tabula rasa for Crossley-Holland's study.

In Chapter 2, I will go into more detail about how Crossley-Holland acquired his objects. Here, I want to provide the context for collecting pre-invasion antiquities, especially in the United States. In the early 1990s, there was a flurry of scholarly attention around the history of collecting, and several articles were published which describe the collecting of pre-invasion artefacts. The edited volume *Collecting the Pre-Columbian Past*[2] offers a history of the movement of objects from the Americas to Europe, beginning with the Conquest and its spoils of war, the 'precious, glittery stuff'[3] and 'rare samples of raw materials'[4] that filled cabinets of curiosity in southern Europe from the mid-1500s. In her conclusion to the volume, Elizabeth Hill Boone explains the problems with the categorisation of Mexican antiquities: are they art or archaeology? Do they serve a purpose or can they be treated as visual art?

> … Pre-Columbian objects have been differently recognized within the world of art and the world of archaeology … Pre-Columbian art, when it was created, functioned within a particular society; it was fashioned for a specific purpose, may have acquired other functions, and carried with it a whole host of meanings. With the collapse or transformation of these cultures, it was removed from the realm of humankind and carried no meaning. By the time it was later found, discovered, and collected, it had left its originating culture behind and had shed all of its actual cultural context. It then became property.[5]

In becoming property, the objects enter the world of art collecting, which has a rigid hierarchy of power and commerce. In his chapter in the same volume, Michael Coe charts the twentieth-century process of collecting antiquities, from pot-hunters (*huaqueros*) in Mexico to connoisseurs in the USA. He focusses on three heroes of connoisseurship, who have 'the eye' for an authentic 'piece',[6] and whose activities have formed many museum collections,

---

[2] Elizabeth Hill Boone (ed.), *Collecting the Pre-Columbian Past: A Symposium at Dumbarton Oaks, 6th and 7th October 1990* (Washington, D.C.: Dumbarton Oaks Research Library and Collection, 2011).
[3] Elizabeth Hill Boone, 'Collecting the Pre-Columbian Past: Historical Trends and the Process of Reception and Use', in Elizabeth Hill Boone (ed.), *Collecting the Pre-Columbian Past: A Symposium at Dumbarton Oaks, 6th and 7th October 1990*, pp. 315-350, this citation from p. 318.
[4] Ibid., p. 319.
[5] Ibid., p. 340.
[6] Michael D. Coe, 'From *Huaquero* to Connoisseur: The Early Market in Pre-Columbian Art', in Elizabeth Hill Boone (ed.), *Collecting the Pre-Columbian Past: A Symposium at Dumbarton Oaks, 6th and 7th October 1990*, 271-290, these citations from pp. 272-273.

and thus formed a significant portion of our understanding of art and heritage of pre-invasion Mexico. Coe points out that

> … there was a profound randomness in the kinds of objects that ended up in private and public collections, even though channelled in part by the tastes of dealers, collectors, and museum personnel … accidental discovery and exploitation for commercial ends of the remains of antiquity have introduced a strong element of chance into the process by which objects are transmitted to museums …[7]

This 'randomness' and 'accidental discovery' shows the loss of ownership and regulation of cultural property, as evidenced by the most cursory of explanations of the role of *huaqueros* in the supply chain.

Added to the history of collecting art and cultural property is the formation of knowledge about pre-invasion people, from the perspective of European scholars, and the effect this has had on outsiders' perceptions of the history (or lack thereof) of Indigenous communities in America. In the nineteenth century, several major north American institutions were founded, such as the Smithsonian, the American Museum of Natural History, and the Peabody Museum of Archaeology and Ethnology. Their foundations were the positivist typological systems of collecting and displaying cultural objects, and they were created for the 'increase and diffusion of knowledge among men';[8] that is, the assemblage of things showing what the world is, for the education and delectation of the New England audience. These institutions became the blueprint for the system by which non-classical, non-European culture is considered: as natural history. This was confusing for me when I began visiting museums in the US; Alice Beck Kehoe shows that it is an idiosyncrasy, by explaining that cultural artefacts representing Indigenous Americans are to be found in natural history museums, rather than art or ethnographic museums.

> If anyone doubts the force of colonialist ideology on archaeology in the Americas, let them visit a museum. Which museum for North American antiquities? Museums of natural history. That dichotomy between civilizations and the savages has multiple permanent monuments in stone in the form of museums of art and museums of natural history.[9]

---

[7] Ibid., p. 288.
[8] United States Congress, 'An Act to establish the "Smithsonian Institution," for the Increase and Diffusion of Knowledge among Men', 10 August 1846, <https://www.loc.gov/law/help/statutes-at-large/29th-congress/session-1/c29s1ch178.pdf>, last accessed 22 June 2020.
[9] Alice Beck Kehoe, 'Manifest Destiny as the Order of Nature', in Philip L. Kohl, Irina Podgorny and Stefanie Gänger (eds.), *Nature and Antiquity: The Making of Archaeology in the Americas* (Tucson: University of Arizona Press, 2014), pp. 186-201, this citation from p. 193.

This rests on these foundations of typological systems, applied to cultural and artistic artefacts from cultures other than the classical Western traditions. These delineations exist today, and in their introduction, the editors of *Nature and Antiquity: The Making of Archaeology in the Americas*, whence Kehoe's chapter comes, explain how this ideology has influenced the view of the history of the Americas. In their introduction, the authors explain 'how men, and some women, defined and corroborated a language, a method, and a body of material evidence for the study of ancient America … they did so by appealing to both "nature" and "antiquities."'[10] This corroboration has influenced the way that we study and speak about American history, and *Nature and Antiquity* shows how this was based on a haphazard mix of methodologies and ideas, to the exclusion of Indigenous history.

There has been significant study about the exchange of material, and syncretism of cultures in the sixteenth century, for example in the edited volume *Material Encounters and Indigenous Transformations in the Early Colonial Americas*.[11] The idea of a break in culture and history, pre- and post-invasion, is one that provides a prop for thinking of us and them, European and Other, coloniser and colonised. It ignores the fact that people continued to live and make culture in a period of transformation. John Gilkeson examines the reasons for this conception of a static pre-Columbian, pan-American culture, based on the 'no documents, no history'[12] epistemology of nineteenth century scholars. Crossley-Holland studied his collection as a representation of fixed cultures, which show discrete stylistic categories, and little development or acculturation. His study is an example of how the histories of these cultures has been created by outsiders – collectors, anthropologists and archaeologists working on the assumption that history needs to have hard evidence – rather than allowing Indigneous peoples to have their own historicity, which may not be reliant on this epistemology.

[10] Stefanie Gänger, Philip Kohl, and Irina Podgorny, 'Introduction: Nature in the Making of Archaeology in the Americas', in Philip L. Kohl, Irina Podgorny and Stefanie Gänger (eds.), *Nature and Antiquity: The Making of Archaeology in the Americas*, pp. 3-20, this citation from p. 4.
[11] Corinne L. Hofman and Floris W.M. Keehnen, *Material Encounters and Indigenous Transformations in the Early Colonial Americas: Archaeological Case Studies* (Leiden: Brill, 2019).
[12] John S. Gilkeson, 'Saving the Natives: The Long Emergence and Transformation of Indigeneity', in Philip L. Kohl, Irina Podgorny, and Stefanie Gänger (eds.), *Nature and Antiquities: The Making of Archaeology in the Americas*, pp. 202-220, this citation from p. 206. Gilkeson quotes historians Charles Langlois and Charles Seignobos who said this in 1898, as reported by Andrew Shrylock and Daniel Lord Smail (eds.), in *Deep History: The Architecture of Past and Present* (Berkeley: University of California Press, 2011), pp. 6-7.

1.A.ii. Sound and heritage

Ancient and contemporary sounds

At the Teotihuacán archaeological site, the sounds of ocarinas played by their vendors echo between the huge temples and along the wide avenues.[13] Ocarinas are sold at museums, replicas of museum pieces. Their portability, cute animal shapes, and enjoyable sound-producing ability make them perfect souvenirs and gifts. I have bought several, in the shape of turtles, frogs, and birds. The constant calling of ocarinas at Teotihuacán, some of which sound like the roaring of a jaguar or the call of an eagle, are some of the sounds that have stayed with me and are so evocative of the experience of being in Mexico.

Many of the artefacts in the PCH collection are ocarinas, classified using the Hornbostel-Sachs system as 'vessel duct flutes.' They are wind instruments, and their sound is produced when air is blown into a spherical hollow and allowed to reverberate before exiting. This is in comparison to a vertical flute, which works as the air vibrates along a column-shaped cavity. The rounded shape of an ocarina lends itself to the main design feature of the PCH collection, which is ocarinas shaped as animals – or conversely, the proliferation of animal-shaped clay figures brings forth the ocarina as an instrument. There are also figurines which contain the ocarina mechanism in a feature such as a hollow head. Dale Olsen, who was a student during Crossley-Holland's tenure at UCLA, and who played some of the ocarinas from his collection, has extensively studied the wind instruments of southern America. In *Music of El Dorado*, he discusses the use of ocarinas in communicating with spirits in contemporary practice, which he sees as analogous to ancient practices.[14]

Olsen also makes a point about terminology. Ocarina is an Italian word, also used in Spanish, but he prefers 'globular flute',[15] which can describe any spherical sound-producing wind instrument. The word 'whistle' is often used to distinguish globular flutes without finger holes from those with, which are generally called ocarinas. Olsen points out that 'whistle' has connotations – such as a police whistle, train whistle, or Brazilian samba whistle – of 'call and communication',[16] rather than a solely musical use. Moreover, Moche whistles have

---

[13] This may be heard at <mapasonoro.cultura.gob.mx>, the Ministry for Culture's Sound Map of Mexico; search for 'Zona Arqueológica de Teotihuacan Estacionamiento' to hear the 'Vendedores en Teotihuacán' (Vendors in Teotihuacán).
[14] Dale A. Olsen, *Music of El Dorado: The Ethnomusicology of Ancient South American Cultures* (Gainesville: University of Florida Press, 2005), pp. 100-126.
[15] Ibid., p. 101.
[16] Ibid., p. 100.

strong cultural and religious associations, such as communicating with spirits.[17] All permutations of the globular or vessel flute, as well as the conch shell trumpets which I will discuss later, can be associated with signalling, calling, and communicating: whether to draw attention or to mimic the natural world.

As well as the ocarinas of Teotihuacán, other evocative sounds of contemporary Mexico include the conch shells of Mexica street performers in the Zócalo in Mexico City; the shouts of ticket sellers at the bus station; and the barrel organs played by licensed buskers.[18] The ocarina and the conch are emblems of pre-invasion culture, and are used to create an atmosphere for tourists: either to sell souvenirs, or to attract attention to a dance or cleansing ritual by costumed performers.

Perhaps unsurprisingly, Mexico City's soundscapes have been the object of study for scholars in the anthropology of sound. Two examples of such studies are those of Anthony Rasmussen, who investigated the speech and language of street vendors advertising their wares,[19] and Natalia Bieletto-Bueno, who composed an auto-ethnography of the stratified sounds of its regions. Bieletto-Bueno noted the contrast between her neighbourhood, an industrial working-class area, and the tourist-friendly suburb of Coyoacán (home to the Frida Kahlo Museum). She took issue with the curated nature of the Sound Map of Mexico, which is part of the National Sound Archive: 'yet another element of Mexico's cultural identity that has been repackaged as a touristic commodity'.[20]

Heritage tourism in Mexico is a widespread and successful industry. There is a direct visual link between the ancient artefacts such as those in the PCH collection, and the ocarinas of vendors in Mexico today, and this is a link that is being capitalised upon. The sound heritage of ocarinas is what Barbara Kirschenblatt-Gimblett called 'a mode of cultural production in the present that has recourse to the past … [giving] dying economies and dead sites a second

[17] Ibid., p. 126.
[18] This may be heard at <https://mapasonoro.cultura.gob.mx/>, the Ministry for Culture's Sound Map of Mexico; search for 'Librería El Sótano Bellas Artes, CDMX,' to hear the 'Organillero' (organ-grinder). Last accessed 20 June 2020.
[19] Anthony W. Rasmussen, 'Sales and Survival within the Contested Acoustic Territories of Mexico City's Historic Centre', *Ethnomusicology Forum*, 26:3 (2017), 307-330.
[20] Natalia Bieletto-Bueno, 'Noise, Soundscpae and Heritage: Sound Cartographies and Urban Segregation in Twenty-First Century Mexico City', *Journal of Urban Cultural Studies*, 4:1-2 (2017), 107-126, this citation from p. 114.

life as exhibitions of themselves.'[21] Visiting Teotihuacán is simultaneously a visit to an ancient city, and a visit to a site of contemporary heritage production.

The conch shell trumpet is also a significant icon of ancient cultures as well as for contemporary societies. There are several in the PCH collection which, even though they may seem far removed from their original culture, possess potent links with same type of instruments that are in use today. There is also significant evidence of skeuomorphs across ancient cultures, including items in the PCH collection: ceramic renderings of conch shell trumpets, which may have been made due to a scarcity of shells, or the inability to obtain them.[22] Arnd Adje Both discusses the prevalence of the conch shell trumpets in burials of Teotihuacán, Tenochtitlan, and the Maya area of Chamá Valley in Guatemala. He goes on to describe the use of the conch in contemporary Wixárika culture, notably by the *peyoteros* ('peyote pilgrims': the religious leaders who use the hallucinogen in ceremonies).[23] Both suggests analogies between these ceremonies and the use of conch shell trumpets in pre-invasion ceremonies associated with the god Quetzalcoatl. Contemporary uses of conch shells have been further investigated by ethnomusicologist Samuel Martí in the mid-twentieth century,[24] and more recently by Johannes Neurath.[25] The presence of conch shell trumpets in southern cultures such as Moche and Inca show the widespread use of these instruments and their booming call.[26]

Nationalism, tourism and indigeneity

The state of Michoacán in central-western Mexico has a plethora of cultural expressions that are of great attraction to visitors. Some are on the UNESCO heritage lists: the culinary traditions, the monarch butterfly reserve, the Day of the Dead festivals. Tourist information extolls the traditional fishing practice using large butterfly nets, the artisanal crafts and the

---

[21] Barbara Kirschenblatt-Gimblett, *Destination Culture: Tourism, Museums, and Heritage* (Berkeley: University of California Press, 1998), p. 7.
[22] Arnd Adje Both, 'Shell Trumpets in Mesoamerica: Music-Archaeological Evidence and Living Tradition', in Ellen Hickmann and Ricardo Eichmann (eds.), *Music-Archaeological Sources: Finds, Oral Transmission, Written Evidence: Papers from the 3rd Symposium of the International Study Group on Music Archaeology at Monastery Michaelstein, 9–16 June, 2002* (Rahden: Verlag M. Leidorf, 2004), pp. 261-278, this citation from p. 266.
[23] Ibid, p. 261.
[24] Samuel Martí, *Instrumentos musicales precortesianos* (Mexico City: Instituto National de Antropología, 1955).
[25] Johannes Neurath, *Las fiestas de la casa grande: Procesos rituals, cosmovisión y estructura social en una comunidad huichola* (Mexico City: Conaculta-Instituto Nacional de Antropología, 2002).
[26] Henry Stobart, 'Staging Sound: Acoustic Reflections on Inca Music, Architecture and Performance Spaces', in Matthias Stöckli and Arnd Adje Both (eds.), *Flower World: Music Archaeology of the Americas vol.2* (Berlin: Ekho Verlag, 2013), pp. 11-36; Olsen, *Music of El Dorado*, pp. 170-175.

'magical towns'. In particular, the Indigenous P'urhépecha, whose ancestors were called Tarascans by colonists, are at the centre of Michoacán cultural attractions. Amongst these are the *pirekua* songs in P'urhépecha language, and the *Danza de los Viejitos*, the Dance of the Little Old Men, which are the subject of critical studies into the touristification of Indigenous heritage. Ruth Hellier-Tinoco, focussing on the Night of the Dead festival and the *Danza de los Viejitos* that take place on and around Lake Pátzcuaro, shows how the appropriation of cultural history over the twentieth century by the federal governments profoundly affects the way that people perform their own heritage.[27] Georgina Flores Mercado et al. discuss the singing style *pirekua* and the effect of several strategies for cultural tourism, including the designation of Pátzcuaro as a 'Magical Town', on its performance.[28] The authors speak of dominance and power imbalances between tourists and residents, Indigenous and Western people, and the governmental initiatives which create an othering of P'urhépecha today which is packaged neatly and sold to tourists, without much financial gain for the 'true agents of the traditions'.[29]

Studying west Mexican culture takes place in the context of this repositioning and repackaging of heritage for a touristic audience. Alongside this, the twentieth century in Mexico gave rise to an appreciation and appropriation of indigeneity for nationalist reasons.

The roots of the popularity of pre-invasion ceramics can be attributed to the need for an idealised pan-Mexican heritage that characterises the rise of cultural nationalism in Mexico. The artists Diego Rivera and Rufino Tamayo believed that the archaeological remains of ancient cultures provided a link to a shared pre-invasion past. Rivera's Anahuacalli Museum near Mexico City and Tamayo's Museum of Prehispanic Arts in Oaxaca are examples of the reverence shown towards these artefacts in the 1930s-50s. Judy Sund criticises Rivera's use of west Mexico ceramics, pointing out that the 'high' cultures of Maya and Aztec were appropriated for his murals, whereas the west Mexican ceramics presented a primitive allure that were not developed enough for inclusion in his art.[30] The popularity of west Mexican

---

[27] Ruth Hellier-Tinoco, *Embodying Mexico: Tourism, Nationalism & Performance* (Oxford: Oxford University Press, 2011).
[28] Georgina Flores Mercado, Cecilia Reynoso Riqué, and E. Fernando Nava L., '"Esto es música p'urhépecha …": *Pireris, pirekuas* y turismo en Michoacán', in Georgina Flores Mercado and E. Fernando Nava L. (eds.), *Identidades en venta: Músicas tradicionales y turismo en México* (Mexico City: Instituto de Investigaciones Sociales, 2016), pp. 31-68.
[29] Flores Mercado and Nava L., *Identitdades en venta*, 12.
[30] Judy Sund, 'Beyond the Grave: The Twentieth-Century Afterlife of West Mexican Burial Effigies', *The Art Bulletin*, 82:4 (2000), 734-767, this citation from p. 735.

figures grew, and by the 1960s, images of Nayarit figurines were used to advertise Kahlúa, a coffee liqueur that became popular in the US after it was first imported by Jules Berman. Berman described the Nayarit figures as showing 'warmth and good humour'.[31] These portrayals of 'risible'[32] but alluring primitivism led to the trade and travel of ceramics between Mexico and the southern US which Crossley-Holland could later exploit for his collection.

As well as the interest in ceramic art, Indigenous music was also given attention in post-revolutionary Mexico, and Marina Alonso Bolaños charts the 'reconstruction and invention' of music, in the framework of protective federal institutions.[33] However, even a century before, in the years following Mexican independence, the ownership of antiquity was being used to create an identity for Mexico that asserted its freedom from Spain, one result of which was the formation of the National Museum.[34] In a similar vein to contemporary discussions of tourism, these uses of antiquity were placed in the world of intellectuals, politicians, and government, rather than actual Indigenous people, whose rights were being quashed at the same time as their cultural heritage was being utilised. Only in the 1990s was an accord reached whereby Indigenous self-determination and autonomy were granted, after prolonged campaigning by the Zapatista Army of National Liberation.[35]

Influential anthropologist Manuel Gamio, who spearheaded the restoration of the temples at Teotihuacán in the 1920s, was invested in the idea of a *mestizo* (mixed) Mexican identity which presented the integration of European and Indigenous ethnicity and culture. Gamio advocated the return of Anahuac, the semi-mythical Aztec city, as the 'glorious foundation of Mexican history and culture',[36] and which deified the grand Aztec civilisation as the basis for a nationalism that would 'transform a backward country into a modern nation able to defend itself from foreign hegemony.'[37] The role of Teotihuacán in Mexican patrimony was to prove

---

[31] Ibid.
[32] Ibid., p. 736.
[33] Marina Alonso Bolaños, *La 'invención' de la música indígena de México* (Buenos Aires: Editorial Sb, 2008), pp. 34-35.
[34] Miruna Achim, *From Idols to Antiquity: Forging the National Museum of Mexico* (Lincoln: University of Nebraska Press, 2017), p. 17.
[35] Nicolas P. Higgins, 'Mexico's Stalled Peace Process: Prospects and Challenges', *International Affairs*, 77:4 (2001), 885-903, this citation from p. 886.
[36] David A. Brading, 'Manuel Gamio and Official Indigenismo in Mexico', *Bulletin of Latin American Research*, 7:1 (1988), 75-89, this citation from p. 76.
[37] Ibid., p .77.

the advanced development of Mexico's ancestry.[38] The resulting ideas of *indigenismo*, an idealised pre-invasion heritage, in fact 'sought to destroy rather than fortify the peasant culture of native communities',[39] by blurring heterogeneous Indigenous identities into a pan-Mexican history which related to an ancient Aztec civilisation, rather than the living Indigenous communities of contemporary Mexico.

The collection and study of Indigenous musics also took a nationalist path: Javier León puts this in context with other Latin American countries by explaining that 'despite their apparent inclusiveness [*indigenismo* and *mestizaje*] tended to reproduce assumed inequalities regarding the musical and cultural sources that they pointed to as sources of inspiration.'[40] Musical scholarship of the time, as in many other countries in the early twentieth century, involved collecting the 'primitive' musics that could be categorised as ontologically different from Mexican music. The music cultures that were being documented, León states, 'constituted vestigial or distorted manifestations of more sophisticated musical systems that flourished in the pre-Columbian era',[41] thus separating the contemporary iterations of Indigenous cultures from the ideological aims of cultural patrimony. The vast pre-invasion history of Mexico has subsequently been filtered through these ideas of primitivism, *indigenismo*, *mestizaje*, and nationalism that pervade the anthropology and history of the last two centuries.

1.B. Owning cultural property

In this section, I will explain how there is another layer of complication when investigating ancient Mexico, additional to the distortion caused by twentieth-century history and politics: the dynamics of cultural property trade and its regulation by international and national bodies. I will discuss relevant legislation, the application of this legislation, ethical implications, and how these could affect the future use of the PCH collection.

[38] Renato González Mello, 'Manuel Gamio, Diego Rivera, and the Politics of Mexican Anthropology, *Anthropology and Aesthetics*, 45 (2004), 161-185, this citation from p. 167.
[39] Brading, 'Manuel Gamio and Official Indigenismo', p. 77.
[40] Javier F. León, 'Introduction', in Javier F. León and Helena Simonett (eds.), *A Latin American Music Reader* (Urbana: University of Illinois Press, 2016), pp. 331-342, this citation from p. 332.
[41] Ibid., p. 333.

1.B.i. Legislation based on the 1970 UNESCO Convention

UNESCO

In 1970, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) presented a treaty on the illegal trade of cultural property at its conference in Paris. The Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transport of Cultural Property has become an international benchmark. As of July 2020, 140 countries have agreed to implement this Convention. Mexico was one of the earliest countries to sign, accepting the Convention into law in 1973. The United States presented the Convention to Senate in 1972. The Senate advised ratification at this point, but it was not accepted until 1983. The United Kingdom signed up in 2002.

The Convention, which is now law in Mexico, the US and the UK, was conceived in consideration of the importance of cultural property for nations' own histories, for its global significance to cultural understanding, and for nations around the world to cooperate and communicate to protect it. The Convention applies to such objects as old musical instruments, archaeological finds (both legitimate and illicit), buildings, documentary evidence, furniture older than 100 years, sound recordings, and stamps. The Convention also applies to 'objects of ethnological interest' and 'property of artistic interest', which surely covers everything else.

The essence of the Convention is to prohibit illicit import and export, to actively take measures to stop existing illegal activity, and to prevent future activity. The Convention emphasises that museums and other similar institutions should not acquire cultural property which was gathered through illicit means. The governments concerned are required to make sure their national museums carry out good practice, and provide guidelines for other institutions to follow. There is advice concerning objects which are already in one nation's possession, but which can be proven to have been illicitly transferred from another country. The 'home' nation may request repatriation, with compensation if necessary.

The Convention outlines the ways in which governments should provide a budget and education for the implementation of the legislation, and that they should seek and give assistance to other nations. There is a proviso that nations which already had agreements about returning cultural property may continue implementing these arrangements (for

example, there is a 1970 accord between Mexico and the United States, for the 'Recovery and Return of Stolen Archaeological, Historical and Cultural Properties').[42]

In his 1978 article for the *Fordham Law Review,* Michael Blass set out arguments against the US government's implementation of these cultural property laws. Blass begins by describing the importance of outlawing cultural property theft, in particular the flow from the 'art-rich', usually developing nations, to the 'art-hungry' countries of Japan, the United States of America, and various in western Europe.[43] Blass emphasises the importance of cultural artefacts in the building of national identity, particularly in less-developed nations. Furthermore, he recognises that when archaeological objects have been illegally excavated, their provenance is usually purposefully obscured.[44] From Blass's point of view as a prosecutor, there are two pertinent points to make: firstly, Blass recognises that regardless of cultural objects' origins, their arrival in the United States puts them under the jurisdiction of that country; secondly, he is concerned with criminal acts – those that may be prosecuted in federal or state court.

Blass details a landmark case, United States vs McClain (1977), in which the five defendants were convicted of 'conspiring to transport, receive, and sell stolen pre-Columbian artifacts … in violation of the NSPA' [United States legislation, the National Stolen Property Act].[45] In 1972, the Mexican government made the pronouncement that all cultural objects are by law under the ownership of the national government – even those that were already in private collections, and United States vs McClain argued the efficacy of the Mexican statement of ownership in the US legal system. This case also showed the complications of identifying a plaintiff who has a rightful claim to ownership, as well as trying to prove the provenance of objects which probably travelled through several countries on behalf of illicit traders, and was thus without adequate documentation.

In US vs McClain, the case for the defendants stated that there was no evidence for when the material was removed from Mexico, and thus it was impossible to prove that it contravened

[42] United States Bureau of Educational and Cultural Affairs, 'Treaty of Cooperation Between the United States of America and the United Mexican States Providing for the Recovery and Return of Stolen Archaeological, Historical and Cultural Properties', 1970, <https://eca.state.gov/files/bureau/treaty01.pdf>, last accessed 20 June 2020.
[43] Michael Blass, 'Legal Restrictions on American Access to Foreign Cultural Property', *Fordham Law Review*, 46:6 (1978), 1177-1204, this citation from p. 1179.
[44] Ibid.
[45] Ibid., p. 1183.

the Mexican law. The court noted that a nation may state its claim for ownership over certain cultural property, regardless of where it is in the world, and regardless of whether the government had knowledge of its existence. Blass points out the danger of enacting this law; all museums and universities around the world may suddenly be prosecuted for theft: 'according to McClain, anyone possessing property in this country and knowing it was removed from a nation that has declared itself the owner of that property will be subject to criminal prosecution in the United States.'[46] The convictions in the McClain case were subsequently overturned, partly due to the worrying implications for prestigious museums, and partly due to the lack of evidence for criminal intent.

In another case, in 1974, an American art dealer was convicted for importing an artefact which had previously been declared the property of Guatemala.[47] In this case, the artefact was so well-known that it was deemed impossible for the dealer not to have known it was stolen. These two cases show that theft can only occur intentionally. To apply this rendering of law to the PCH collection: Crossley-Holland was not liable for prosecution, because it would have to be proven that the items had been removed from Mexico after 1972, and that Crossley-Holland had been aware that the artefacts which he bought were taken illegally. There is no evidence from the PCH archive that would prove or refute either point. I have seen nothing to suggest that Crossley-Holland was aware of the artefacts' past beyond the vendor from which he purchased them. Furthermore, there are a number of documents in the PCH archive which are labelled 'certificate of authenticity'. Crossley-Holland may have taken it in good faith that the certificates affirmed their legal status; most probably, the vendor intended for the certificate to have this effect to reassure the customer.

UNIDROIT

In 1995, the United Nations legal advisory body, UNIDROIT, issued a Convention of its own: The Convention on Stolen or Illegally Exported Cultural Objects. This serves as private law which enables the art and antiquities trade to enact the UNESCO convention, meaning that individuals can use this law to bring a case against other individuals. Each nation that agreed to the Convention is required to enshrine it into the legislation of its own governance, which then allows for governments, organisations and institutions to bring or defend a case.

[46] Ibid, p. 1184.
[47] Ibid, p. 1185.

The United States Convention on Cultural Property Implementation Act, which became federal law in 1983, provides more details about how other nations may claim archaeological or ethnological material from the United States, if it has at one point been stolen. There are also details of how the United States may help preserve cultural material which is in jeopardy; for example, due to war or other crises. Another similar US Convention details the roles of the President and the Federal Advisory Committee in the import and export of cultural property.[48] Particular mention is made of 'cultural property documented as appertaining to the inventory of a museum or religious or secular public monument or similar institution'.[49] This may be applicable to one or two of the objects in the PCH collection, which have accession stickers which appear to be from a museum. However, I have not been able to ascertain which institution they might relate to.

The United Kingdom accepted the UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property in 2002. It applies retroactively to all activity after 1970 but does not extend before 1970. In 2005, the Department for Culture, Media and Sport (Cultural Property Unit) published guidelines for the implementation of this law. This states that '[t]he 1970 threshold is a clear, pragmatic and practicable watershed that is already widely understood and supported.'[50] The 1970 watershed has been adopted by the Museums Association, in its Code of Ethics (2002);[51] supported by the UK government in a statement in 2000,[52] and adhered to by the British Museum in its acquisitions process.[53] These policies state that the correct procedure should

[48] United States Bureau of Educational and Cultural Affairs, 'Convention on Cultural Property Implementation Act', 1987, <https://eca.state.gov/files/bureau/97-446.pdf>, last accessed 6 November 2018.
[49] Ibid, p. 10.
[50] United Kingdom Department for Culture, Media and Sport (Cultural Property Unit), 'Combating Illicit Trade: Due Diligence Guidelines for Museums, Libraries and Archives on Collecting and Borrowing Cultural Material', October 2005, <http://webarchive.nationalarchives.gov.uk/20121204133803/http://www.culture.gov.uk/images/publications/Combating_Illicit_Trade05.pdf>, last accessed 6 November 2018.
[51] Museums Association, 'Code of Ethics for Museums', 2015, https://www.museumsassociation.org/download?id=1155827, last accessed 6 November 2018. The Museums Association is a UK organisation comprising (as of 2018) approximately 600 institutional members, 8300 individual members, and 260 corporate members.
[52] United Kingdom Department for Culture, Media and Sport, 'Ministerial Advisory Panel on Illicit Trade Report', December 2000, <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/78352/Report_AdPanel_Illicit_Trade.pdf>, last accessed 12 May 2020.
[53] British Museum, 'Acquistion of Objects for the Collection', December 2018, <https://www.britishmuseum.org/sites/default/files/2019-10/Acquisitions_objects_collection_policy_Dec_2018.pdf>, last accessed 12 May 2020.

also be followed for objects which were imported or exported from their country of origin prior to 1970.

The implementation of the UNESCO convention mainly concerns the acquisition of objects. Applying it retroactively to a collection which has already been purchased is ambiguous, as the Convention relates to the movement of objects more than their holding place; the UK guidelines and the UNESCO Convention are both concerned with institutions' acquisition practices. The guidelines for private collectors are more difficult to regulate. The emphasis is on official institutions, the auction-houses through which they may purchase acquisitions, and the border agencies which regulate import and export, as these are the points at which viable prosecutions may be made. The prosecution of private collectors and individual dealers would entail the difficulties that Blass discussed with United States vs McClain, over proof of their knowledge of illicit activity.

1.B.ii. Ethics and applications of the UNESCO Convention

The implementation of the 1970 UNESCO Convention, and its associated legislation, is carried out in three main spheres: by criminal investigation and law enforcement, usually by customs officials but also by the international policing agency Interpol; in policies for museums, and schemes of accreditation which require a code of conduct; and by the art and antiquities trade. I will focus on the application of the UNESCO Convention that affects museums, as this is most relevant when considering the future use of the PCH collection. Bangor University is not, of course, a museum, but it is in a similar class because it provides cultural benefits for the community, it receives some public funding, and it is a repository for knowledge and learning. Also, the fact that it holds an ethnographic collection means that many of the ethical guidelines and practical suggestions created for museums could also be applied to the PCH collection, and I will use the guidelines to suggest best practice for the future.

Respecting source communities

When considering the ethics of acquiring and researching artefacts which may have been looted or illicitly traded, the balance needs to be struck between respecting the culture from whence the artefacts came, and the benefits of research or display which the artefacts can engender. As the Museums Association explains:

> A common ethical question in all areas of human activity is whether or not ends should justify means. Buying and working with illicit specimens may advance your particular branch of investigation in the short term. But at what cost?[54]

The International Council of Museums (ICOM), which is a network of professionals from over 138 countries, has a Code of Ethics which was first adopted in 1986 and most recently revised in 2004.[55] The Museums Association is based in the United Kingdom, and has its own Code of Ethics; and the UK-based Collections Trust has a collection of advice and principles. These documents all have in common the need to balance the benefit to source communities as well as to the communities they serve. Each has recommendations which allow museums to put into practice the spirit of the UNESCO Convention as well as its legal ramifications.

The purpose of the ICOM Code is to present 'a minimum standard for museums' and it 'reflects principles generally accepted by the international museum community.'[56] There are eight principles which cover the manifold purpose of museums, which include furthering knowledge, safeguarding collections, and providing opportunities for public benefit; as well as the sometimes-conflicting responsibilities that museums have for artefacts and their source communities. The adherence to legal and professional standards is emphasised.[57] Much of the guidance concerning illicit trade of cultural property emphasises that museums should avoid acquiring such objects. This includes guidelines for establishing provenance,[58] and ensuring the scientific recovery of archaeological objects, as well as their legal export, import and trade.[59] There is no guidance to suggest exactly how museums should treat objects that have already been acquired.

---

[54] Museums Association, 'Illicit Trade: Ethics Case Studies', <https://www.museumsassociation.org/ethics/26012016-ethical-dilemmas-illicit-trade>, last accessed 20 June 2020.
[55] International Council of Museums, 'Missions and Objectives', <https://icom.museum/en/about-us/missions-and-objectives/>, and 'ICOM Code of Ethics for Museums', 2017, <https://icom.museum/wp-content/uploads/2018/07/ICOM-code-En-web.pdf>, last accessed 12 May 2020.
[56] 'ICOM Code of Ethics'.
[57] Ibid. The principles are: I. Museums preserve, interpret and promote the natural and cultural inheritance of humanity. II. Museums that maintain collections hold them in trust for the benefit of society and its development. III. Museums hold primary evidence for establishing and furthering knowledge. IV. Museums provide opportunities for the appreciation, understanding and management of the natural and cultural heritage. V. Museums hold resources that provide opportunities for other public services and benefits. VI. Museums work in close collaboration with the communities from which their collections originate as well as those they serve. VII. Museums operate in a legal manner. VIII. Museums operate in a professional manner.
[58] Ibid., 2.3: Provenance and Due Diligence.
[59] Ibid., 2.4: Objects and Specimens from Unauthorised or Unscientific Fieldwork.

A factor that appears in the guidelines of each of the associations mentioned is the need for respect, particularly around the acquisition, conservation and display or cultural property. ICOM asks that objects of 'sacred significance' be 'housed securely' and 'cared for respectfully.'[60] The Museums Association emphasises that museums hold a position of trust with source communities (among other stakeholders) and must make 'sound ethical judgements in all areas of work in order to maintain this trust.'[61] The Collections Trust advises that when dealing with cultural property, ethical considerations should include 'respect for diversity of belief … showing consideration to the cultural and historical backgrounds, beliefs and values relevant to all parties concerned.'[62]

This consideration for dialogue, respect and mediation is echoed in the Code of Ethics for the World Archaeological Congress, another not-for-profit international association. The underlying principle for this Code is that members of the organisation 'have obligations to indigenous peoples',[63] and this principle is then diffused throughout the code, with recommendations that archaeologists acknowledge the importance of cultural objects, acknowledge that they belong to their source community (or descendants, when dealing with ancient artefacts), recognise Indigenous knowledge and viewpoints, and crucially, have a relationship with the people whose objects or land they are working with. Of course, archaeologists undertaking field research will have much more contact with the people in the vicinity, and so ethical considerations focus more on the personal and institutional relationships with those communities, in balance with their research aims.

Acquisitions

In 2003, ICOM released a 'Red List', which identifies cultural property that is particularly at risk (including cultural property originating in conflict zones).[64] The list pertaining to Latin America contains 19 types of pre-invasion objects, one of which is ceramic figures from Nayarit. The PCH collection contains approximately 30 figurines from Nayarit. The exact number is difficult pinpoint, as much of the provenance of the artefacts is based upon stylistic comparisons and potentially unreliable information from dealers. According to ICOM's

[60] Ibid., 2.5: Culturally Sensitive Material.
[61] Museums Association, 'Code of Ethics'.
[62] Collections Trust, 'Ethical Contexts', <https://collectionstrust.org.uk/cultural-property-advice/ethical-contexts/>, last accessed 12 May 2020.
[63] World Archaeological Congress, 'Code of Ethics: First Code of Ethics', 1990, <https://worldarch.org/code-of-ethics/>, last accessed 12 May 2020.
[64] International Council of Museums, 'Red List: Latin American Cultural Objects at Risk', October 2003, <https://icom.museum/wp-content/uploads/2018/06/RL_LatinAmerica.pdf>, last accessed 13 May 2020.

research, Nayarit ceramic figures have been looted since at least the nineteenth century,[65] and they estimate that 90 percent of such figures enter the market after illegal excavations. This has increased towards the beginning of the twenty-first century, as a result of 'the development of tourism and urbanization.'[66] The Red List warns museums and other institutions away from acquiring these objects, and for customs officials to be aware that there is little chance such artefacts are legitimate.

As well as the guidance from ICOM, UK institutions can turn to the Department for Culture, Media and Sport (Cultural Property Unit), which published guidelines for 'Combating Illicit Trade'.[67] Within this document is a flowchart on the 'due diligence' required to ensure the ethical and legal acquisition of cultural property from outside the UK (see Figure 6).

Applying this to the PCH collection is not entirely useful considering the University has already acquired it. However, it does show that museums would probably not accept the artefacts, which suggests that it may have been unethical for the University to acquire it, since there is insufficient documentary evidence to show the provenance of the artefacts. As Crossley-Holland collected many of the artefacts from dealers in the United States throughout the 1970s, it is possible that they were held by the dealers since before 1970. As the UNESCO Convention was only implemented in Mexico in the early 1970s, and not yet in the United States, regulation of the illicit trade of archaeological artefacts was probably not being widely enacted, and so it is entirely possible that the objects were being moved illicitly during the 1970s. Without documentary evidence, it may be possible to consider the other sections in the flowchart: the analysis of the physical appearance, the age of repairs, experts' opinions, and so on.

The lack of documentary evidence does present a difficulty when considering the future use of the collection, even though the flowchart is intended for deciding whether to acquire objects or not: is it right to keep the objects, knowing that it is ethically dubious? However, there must be countless museums which hold artefacts whose provenance is undocumented as they were acquired before these ethical guidelines were produced. Each institution and collections manager should therefore make decisions over the use of the artefacts that correspond to their precise circumstances.

---

[65] Ibid., p. 14.
[66] Ibid., p. 15.
[67] UK Department for Culture, Media and Sport (Cultural Property Unit), 'Combating Illicit Trade'.

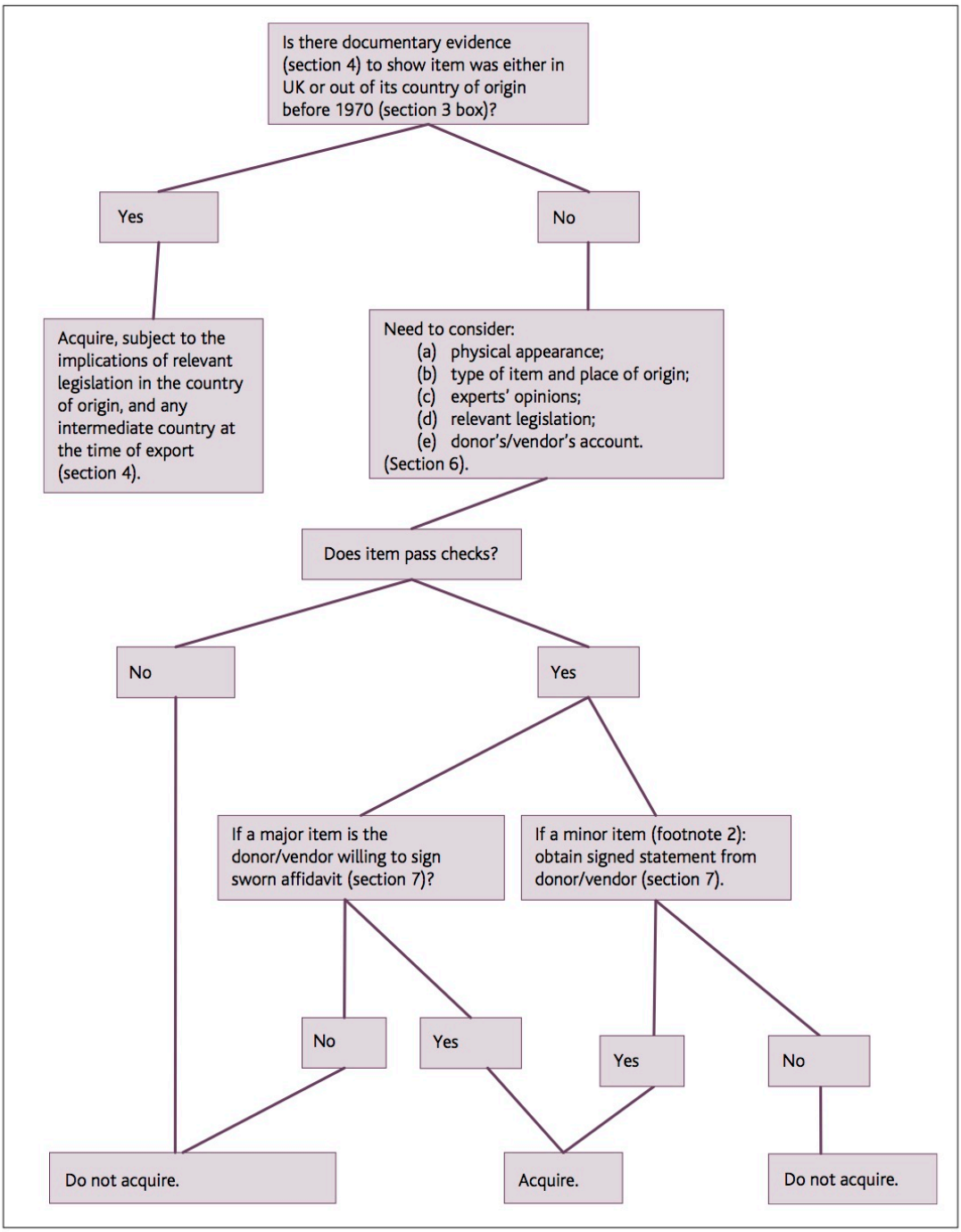


Figure 6: Summary flowchart advising whether a museum should acquire a certain artefact, from the United Kingdom Department for Culture, Media and Sport (Cultural Property Unit), 'Combating Illicit Trade: Due Diligence Guidelines for Museums, Libraries and Archives on Collecting and Borrowing Cultural Material', October 2005, <http://webarchive.nationalarchives.gov.uk/20121204133803/http://www.culture.gov.uk/images/publications/Combating_Illicit_Trade05.pdf>, last accessed 6 November 2018, p. 21.

In 2003, when Bangor University agreed the acquisition, the ratification of the UNESCO Convention was only just being put into motion in the UK. Additionally, Bangor University is not a member of any museum associations, and so is not required to abide by any code of conduct. I lay out these considerations here to contribute to decisions over the future use of the collection. The guidelines emphasise respect and dialogue, so an appropriate strategy

could be to enter into discussions with source communities and/or the government of Mexico to consider the options, which could include repatriation or restitution, or an agreement over the collection's use in its current situation.

1.B.iii. Looting, illicit trade, and academic research

In this section, I will explore whether it is ethical and reliable to use information that has been gathered from looted or illicitly traded artefacts. The two are linked: looted objects, with unreliable, invented, or absent provenance, are often traded illicitly. Illicit trade can encourage the inflated market value of cultural artefacts, due to the perceived difficulty in acquiring them. This can lead to looting in order to meet the increased demand.

Since the 1970 Convention, there has been a clear legal and ethical incentive for museum staff and academics to report objects which they suspect have been illicitly traded; but practically speaking, this only applies to illicit activities in the recent past. Neil Brodie, writing for the *Journal of Contemporary Criminal Justice*, shows that academics (particularly those working with ancient and historical cultural artefacts) are often heavily involved in the art trade, as experts or as consumers, and that there should be more scrutiny over this involvement.[68]

In the case of the PCH collection and many artefacts that have been acquired historically by museums, there is little actual evidence of any illicit trade or looting as it would have happened decades or even centuries ago. In these historic cases, there is some debate over whether the artefacts should be used as resources in academic research, when it is very likely for them to have been involved in illicit trade or looted. For example, the ICOM Red List mentioned above provides details of objects that were almost certainly looted and/or illicitly traded. Examples of the Nayarit ceramic figures that are listed are present in the PCH collection. Should they be utilised as resources for academic research, or does their unprovenanced and almost certainly illicit past negate their reliability? Is there an ethical mandate to avoid research on such artefacts?

Discussions on this topic vary, based broadly on whether the writer is an archaeologist or involved in the art and antiquities trade. Museums are often placed at the intersection of both archaeology and trade. I offer a short review of literature on this topic, which has been

[68] Neil Brodie, 'Congenial Bedfellows? The Academy and the Antiquities Trade', *Journal of Contemporary Criminal Justice*, 27:4 (2011), 408-437.

published in academic sources as well as more polemical arenas such as blogs. It can be an emotive topic, with strong views and language on both sides, evidenced not least by the titles of the articles such as 'stealing history' and 'fear of cultural objects', and the number of British newspaper articles and radio debates about the Parthenon Marbles. The view that cultural objects should be used as resources even when their history is chequered often goes together with the idea of a universal heritage and thus the blurring of lines of ownership of cultural artefacts. Archaeological methods are based upon being able to trace an object's biography, and its findspot is a vital aspect of this research. Any illicit trade after its excavation (whether the excavation was legitimate or not) produces red herrings, the potential for forgeries, and the loss of crucial information. As such, archaeologists tend to hold the view that illicit trade and dispute over ownership negate any cultural information the artefact may contain.

In a study of ceramic figurines from western Mexico, Jane Stevenson Day, Kristi Butterwick and Robert B. Pickering investigate how the artefacts could yield information even without stratigraphic or reliable archaeological information. The authors outline the problems which they face, and the effect of these problems on their work: for example, being able to handle a very limited number of sculptures, and viewing others only through photographs. Finding enough artefacts to provide reliable information involves searching museum catalogues as well as private collections, and so the authors found that sometimes only a photograph was available – from an auction house catalogue, for example. One consequence of this was that it is not possible to determine in detail the effect of 'the restorer's hand in modern repairs, and repainting of the structure or in the painting of new designs',[69] as seeing the artefact in person and up close is the only way to identify these changes. Stevenson Day et al. also specify the way that they have tried to limit the influence of fake and replica figurines: by finding a control group of figurines with documented archaeological provenance, compared with a 'second sample of known fakes'.[70] They point out that older museum collections, which were acquired before around 1960, are likely to be more reliable than more recent collections due to the exponential increase in looting and illicit trafficking in the latter half of the twentieth century. Illicit trade and fake artefacts are two sides of the same coin: as illicit trade creates a

[69] Jane Stevenson Day, Kristi Butterwick, and Robert B. Pickering, 'Archaeological Interpretations of West Mexican Ceramic Art of the Late Preclassic Period: Three Figurine Projects', *Ancient Mesoamerica*, 7:1 (1996), 149-161, this citation from p. 155.
[70] Ibid., p. 157.

more dangerous and mysterious allure for collectors, so too does it negate efforts to provide reliable comparisons to judge fakes from authentic objects.

There are several blogs which debate the use of cultural artefacts that have been looted: for example, the British archaeologist Neil Brodie runs *Market of Mass Destruction*;[71] Derek Fincham, an American professor of art and cultural heritage law, is the author of *Illicit Cultural Property*;[72] Michael E. Smith is an American archaeologist who works on sites in Mexico including Teotihuacán, and administers *Publishing Archaeology*.[73] Smith's website in particular contains a well-populated comments section, and it is illuminating to read the opinions of academics and museum professionals working in this area.

The now-defunct magazine *Lingua Franca*, which exists in an online archive, contains an article written by the American journalist John Dorfman.[74] Rather than writing a measured and measurable academic article, Dorfman had the freedom of an opinion piece to relate gossip and impressions. His article 'Getting their Hands Dirty: Archaeologists and the Looting Trade', conveys strong opinions about whether artefacts known to be looted should be displayed by museums or researched by academics. He cites a display of Maya ceramics at the Museum of Fine Arts in Boston, which was criticised for containing illegally-exported objects. The Museum maintained that the objects' provenance was sound, but among experts in Maya archaeology, 'it is widely acknowledged that any Maya artifact available for purchase by a collector has almost certainly been looted.'[75] Many of the articles concern the views of archaeologists, most of whom agree that displaying or publishing about looted adds legitimacy to artefacts that are missing crucial information. As well as the ethical issues around looted and illicitly-trafficked artefacts, the knowledge to be gleaned from them is almost completely lost. One of Dorfman's sources, a curator, states unequivocally that '[l]ooted pieces have no research value, only aesthetic value.'[76]

Dorfman also considers academics who are prepared to study looted objects, like David Stuart of the Peabody Museum at Harvard University. Stuart is an expert in Maya glyphs, and

---

[71] <https://marketmassdestruction.com/>, last accessed 25 May 2020.
[72] <http://illicitculturalproperty.com>, last accessed 25 May 2020.
[73] <http://publishingarchaeology.blogspot.com>, last accessed 25 May 2020.
[74] John Dorfman, 'Getting Their Hands Dirty? Archaeologists and the Looting Trade', *Lingua Franca*, May/June 1998 (published online 28 December 2005), <http://linguafranca.mirror.theinfo.org/9805/dorfman>, last accessed 25 May 2020.
[75] Ibid.
[76] Ibid.

reported to Dorfman that 'I work with looted objects routinely in my research … I have no qualms about using material if it's going to be scientifically useful.'[77] This contradicts statements from archaeologists who believe looting negates any scientific value. Even Stuart admitted that he would reconsider publishing about an object that has been involved in the art trade: publishing creates interest, which raises the price of similar objects, which in turn encourages more looting to satiate demand.

Dorfman's main thesis is that the use of looted or unprovenanced objects (in the case of Mesoamerican artefacts, these are often synonymous) depends entirely on whether the subject is an archaeologist interested in social history, or an art critic who appreciates connoisseurship and aesthetic value. This is evident in the mud-slinging amongst the academics he interviewed: 'dirt archaeologist', 'armchair archaeologist', 'ostensibly respectable dealers' and 'the art-appreciation crowd' are some rhetorical missiles thrown from opposite sides of the archaeologist-connoisseur divide.[78]

Michael E. Smith is resolutely of the position that looted artefacts should not be displayed in museums or used as illustrations in published articles. He cites the Society for American Archaeology's document 'Ethics in Professional Archaeology', which clearly states that

> The commercialization of archaeological objects – their use as commodities to be exploited for personal enjoyment or profit – results in the destruction of archaeological sites and of contextual information that is essential to understanding the archaeological record. Archaeologists should therefore carefully weigh the benefits to scholarship of a project against the costs of potentially enhancing the commercial value of archaeological objects.[79]

Smith, however, acknowledges that it is difficult to apply one rule to every situation, and so he developed guidelines for considering whether to publish research about such artefacts.[80] There are four components to his guidelines: initial recovery of the object, transport to another country, present location, and public knowledge of the object. Smith then outlines a sliding scale from situations which will probably be unproblematic, to those that must engender 'serious reservations about publishing the object.' If I apply a numerical scale to

---

[77] Ibid.
[78] Ibid.
[79] Society for American Archaeology, 'Principle No. 3: Commercialization', *Ethics in Professional Archaeology*, <https://www.saa.org/career-practice/ethics-in-professional-archaeology>, last accessed 25 May 2020.
[80] Michael E. Smith, 'Publishing Looted Material', *Publishing Archaeology*, 25 May 2008, <http://publishingarchaeology.blogspot.com/2008/05/publishing-looted-material.html>, last accessed 25 May 2020.

Smith's checklist, I can give the objects in the PCH collection a score showing the appropriateness of publishing its material. The higher the number, the more caution should be exercised.

A. Initial Recovery of the Object

0 Excavated or collected though documented legitimate archaeological methods
1 Excavated or collected through poorly documented or undocumented legitimate archaeological methods
2 Obtained through unknown methods
3 Obtained through looting
4 Obtained through illicit sale or theft from a legitimate archaeological collection

PCH score: 2

B. Transport to Another Country

Exported with valid government permission

0 Permanent export permit
1 Temporary export permit

Exported without valid government permission:

2 Date of the export (in relation to laws and international conventions)
3 Exported by a scholar or official
4 Exported by a dealer or collector

PCH score: 3 (no evidence of governmental permission)

C. Present Location

0 Federal or state government facility (in whatever country)
1 University or college
2 Major public museum
3 Small private museum (is the object likely to be deaccessioned?)
4 Private collection
5 Commercial art dealer/gallery

PCH score: 1

D. Public Knowledge of the Object

0 Has been published fully
1 Located in a public facility
2 Its existence is mentioned in a publication
3 Never been published

PCH score: 2

Out of the maximum possible score of sixteen, which would indicate 'serious reservations'[81] about publishing research, the PCH collection scores eight. This corroborates my evaluation of the collection from what I can glean from the provenance that exists: it is not entirely ethically sound, but it could be much worse. Smith concludes his guidelines by quoting Alison Wylie, who was one of the authors of the Society for American Archaeology's code:

> … the onus will be on individual researchers to justify their weighing of benefits and costs in quite concrete and local terms … those who endorse the publication of looted data will bear the burden of demonstrating … not only that they are operating within the law and that the data they would salvage offer insights which cannot be gained by any other means, but also that their use of these data does not, in fact, put archaeological resources at greater risk of destructive exploitation than they already face.[82]

In terms of the PCH objects, examining the circumstances of the collection provides an ethical assessment which could influence the collection's future use. The advantage of applying a numerical score is that it uses a quantifiable way of tracking whether the situation could become less problematic: reducing the score means reducing the risk of exploitation, and working more ethically. Certain circumstances in the PCH collection's future could change the score based on Smith's guidance: for example, repatriating the objects to the National Institute in Mexico (INAH) with an export permit would decrease the score from seven to three. Applying a score of legitimacy is perhaps an oversimplification; but this method shows what a responsible consideration of cultural property could look like.

1.B.iv. Repatriation and restitution

Having outlined some of the legislation from the United Kingdom, United States, and Mexico, and outlined the debate over whether looted artefacts should be studied, I turn now to the complex issue of the circumstances under which cultural property might be returned. This issue springs from the foundation of the ownership of cultural property. The legality is determined by a law being broken in a way that means that the accused criminals can be prosecuted. This is, of course, not to say that anything is legal if no-one finds out; rather, it suggests that there is a wider set of issues than legality, concerning the ethics of owning cultural property. While not enshrined in law, ethical practices are set out in codes and

[81] Ibid.
[82] Alison Wylie, 'Ethical Dilemmas in Archaeological Practice: Looting, Repatriation, Stewardship, and the (Trans)formation of Disciplinary Identity', *Perspectives on Science*, 4:2 (1996), 154-194, this citation from p. 179.

policies of many major museums and cultural institutions. The PCH collection is, in its current abode, neither a private collection nor belonging to a museum. Its previous iteration as a private collection has given it a discrete identity; on the other hand, the University is a public institution and the collection's current purpose is for research and display. For the purposes of this discussion, I will lay out some of the issues that museums face, as they are similar to issues which Bangor University may face in the future; particularly if the PCH collection is to be used for further display and research.

Repatriation from the US

In 1970, a Treaty of Cooperation between the United States of America and the United Mexican States was signed in Mexico City, 'in a spirit of close cooperation'.[83] The Treaty concerns the 'Recovery and Return of Stolen Archaeological, Historical and Cultural Properties'. This agreement came into force in March 1971. The Treaty defines the sorts of objects concerned as 'art objects and artifacts of the pre-Colombian cultures…. art objects and religious artifacts of the colonial periods',[84] as well as historically significant documents from before 1920, from both the United States of America and the United Mexican States.

The document refers only to objects 'that are the property of federal, state, or municipal governments or their instrumentalities', but the exact definition of these objects is to be discussed on a case-by-case basis. The document emphasises the need to promote legitimate archaeological study, and to address the problem of looting and illegal import and export trading, which was rife at that time. The rest of the Treaty concerns the legal enactment of the return of such objects, including a proviso that compensation may not be sought by any party. The Treaty requires government representatives of the United States of America and Mexico to meet from time to time, along with scientists and scholars from both countries, to discuss arrangements. Individual cases were to be discussed by representatives from both countries; if an agreement could not be made, a panel of impartial experts was to be consulted. The governments first met in 1967 to discuss the issue of the ownership of cultural property.[85] According to the Richard Nixon Foundation, this process was amongst 'the first and most

[83] Mexico—United States, 'Treaty of Cooperation between the United States of America and the United Mexican States Providing for the Recovery and Return of Stolen Archaeological, Historical and Cultural Properties', *The American Journal of International Law,* 65:5, (1971), 895-898, this citation from p. 895.
[84] Ibid., p. 896.
[85] Alex Marshburn, 'Treaty on Archaeological, Historical, and Cultural Properties', *Nixon Foundation*, 26 February 2015, <https://www.nixonfoundation.org/2015/02/treaty-archaeological-historical-cultural-properties/>, last accessed 7 September 2018.

important in the development of government regulation of the responsible industries in each country.'[86]

This Treaty is still in effect, and was applied in 2012 when over four thousand objects were recovered by the United States Immigration and Customs Enforcement and returned to the Mexican government in an official ceremony at the Mexican consulate in El Paso, Texas.[87] The repatriation ceremony was announced as a confirmation of the excellent partnership between the US and Mexican authorities, and an attestation to the 1970 Treaty.

Repatriation from the UK

In recent decades, repatriation in the UK has been discussed with regard to the Parthenon ('Elgin') marbles: a widely-known example of cultural objects which were removed from their country of origin to be kept in a foreign museum. There are vociferous supporters for the British Museum both keeping and losing their marbles. The key argument for repatriation is that the marbles were removed under illegal circumstances, and that cultural objects hold efficacy only in their original cultural context. The main arguments for the marbles remaining in London are that the British Museum acts as custodian for world heritage, and that they are displayed as a monument to a shared European culture. The British Museum's current position is that the marbles should stay on display in London, to allow 'different and complementary stories' to be told about the marbles (different from and complementing displays in Athens at the Acropolis Museum).[88]

An example of a successful request for restitution is detailed Mark O'Neill's chapter 'Repatriation and its Discontents: The Glasgow Experience'. In the late 1990s, a group of Lakota Sioux people enabled the return of a Ghost Dance shirt, an item of great cultural significance, from the Kelvingrove Museum in Glasgow to the Lakota Nation. The Ghost Dance shirt was taken from the United States shortly after the 1890 massacre at Wounded Knee. It is believed to have been worn by a Sioux warrior during the attack. It was sold to the

---

[86] Ibid.
[87] United States Immigration and Customs Enforcement, 'ICE returns stolen and looted archeological art and antiquities to Mexico', 23rd March 2015, <https://www.ice.gov/news/releases/ice-returns-stolen-and-looted-archeological-art-and-antiquities-mexico>, last accessed 7 September 2018.
[88] A precis of the British Museum's position is available on their website: British Museum, 'Parthenon Sculptures in the British Museum', <https://www.britishmuseum.org/parthenon-sculptures-british-museum>; the British Museum Trustees' statement, which refutes 'common misconceptions' about the issue is also available: <https://www.britishmuseum.org/parthenon-sculptures-trustees-statement>. Last accessed 25 June 2020.

Kelvingrove Museum in Glasgow by its looter, a member of a vaudeville troupe who was in South Dakota at the time.

Marcella Le Beau of the Lakota Sioux, the great-granddaughter of one of the survivors of Wounded Knee, campaigned for the shirt to be returned to the Lakota people. After much debate at the museum, and a public vote in Glasgow, the shirt was returned to the Lakota Nation. Le Beau herself made a replica shirt which she donated to the museum. The staff at Kelvingrove and Glasgow City Council (Glasgow Museums' directors) were lauded for their handling of the process, and their policy influenced the Museums and Galleries Commission Guidelines.[89] During the Ghost Shirt proceedings, Glasgow City Council created a set of criteria by which repatriation requests should be considered. The considerations are:

1. The Status of those making the request, i.e. their right to represent the community to which the object/s originally belonged.
2. The continuity between the community which created the object/s and the current community on whose behalf the request is being made.
3. The cultural and religious importance of the object/s to the community.
4. How the object/s have been acquired by the museum and their subsequent and future use.
5. The fate of the object/s if returned.[90]

In the case of the Ghost Shirt, the artefact was requested by a member of the Lakota Sioux; she was directly related to a survivor of the massacre; the Lakota community attribute great cultural importance to the particular object; the shirt was brought from the battleground by a foreigner who profitted from the atrocity; and the Lakota community pledged to display the shirt upon its return.

In another case at Glasgow Museums, looted artefacts from Benin were requested on behalf of the contemporary Oba (king). The request for repatriation was based on the artefacts' importance as holders of cultural and religious practices. The objects were acquired following the attack on Benin City in 1897 and the subsequent plundering of sacred objects by the British invaders. This request was refused on 'professional grounds': the Director of Glasgow Museums had objections to the objects' removal from the public domain (the objects were on

[89] Mark O'Neill, 'Repatriation and its Discontents: the Glasgow Experience', in Eleanor Robson, Luke Treadwell and Chris Gosden (eds.), *Who Owns Objects? The Ethics and Politics of Collecting Cultural Artefacts* (Oxford: Oxbow Books, 2006), pp. 105-128, this citation from p. 108.
[90] Select Committee on Culture, Media and Sport, 'Memorandum submitted by Glasgow City Council', April 2000, <https://publications.parliament.uk/pa/cm199900/cmselect/cmcumeds/371/0051808.htm>, last accessed 1 November 2018. Mark O'Neill, author of the chapter cited in the previous footnote, was a member of this committee.

permanent display in two Glasgow museums) to the private ownership of the Oba. The Director attributed more significance to the objects' function for the education and entertainment of the people of Glasgow than the religious and cultural functions of the Oba and his immediate community.[91]

The Glasgow City guidelines were conceived based on a specific series of requests, and so are difficult to apply elsewhere, but indicate one possibility for acting upon restitution requests. This highlights the problem institutions face when dealing with ethics: they must be discussed in terms of their implementation. For example, if an institution wishes to acquire objects, the ownership of cultural property can be discussed in relation to acquisitions policies: the discussion of ownership is the theoretical problem, and the acquisition policy is its practical implementation.

The Museums Association recognises that '[r]epatriation is a complex issue involving a range of emotional, ethical, legal and political factors [and] has been hotly debated'.[92] As such, it provides general guidance for best practice, which ultimately focusses on the need for sensitivity, input from source communities, and flexibility. One statement in the Museums Association Code of Ethics is repeated in their guidance on repatriation: 'museums should inform originating communities of the presence of items relevant to them in the museum's collections, wherever practical.'[93] The practicalities of this are debatable, hence restitution often becomes an issue only when members of a community have requested a specific item or items.

Glasgow City Council's criteria are not directly transferable to the PCH collection, but they provide a useful framework for discussion. Considering points 1-3 from the procedure: the collection is made up of 329 artefacts from many different source communities, and it is difficult to determine the extent to which the contemporary societies could benefit from the return of the objects. Much of the information about contemporary Indigenous groups in

---

[91] Ibid. More recently, in 2017, the French President commissioned a report on the restitution of African artefacts, which was carried out by the academics Felwine Sarr and Bénédicte Savoy. Their report can be found here: <http://restitutionreport2018.com>. As a result, the French cultural minister has promised the return of 26 artefacts to Benin from the Musée du Quai Branly by 2021. However, in order for repatriation to take place, new legislation must be enacted in France to allow the deaccessioning of the artefacts. See <https://www.theartnewspaper.com/news/france-benin-objects> for more information.

[92] Museums Association, 'Policy Statement on Repatriation of Cultural Property', September 2006, <https://www.museumsassociation.org/policy/01092006-policy-statement-on-repatriation-of-cultural-property>, last accessed 6 November 2018.

[93] Ibid.

Mexico and their links to pre-invasion communities is based on anthropology carried out since the early twentieth century which brings with it the biases inherent in academia. Furthermore, the onus to prove a connection is on the members of the source communities, which requires an understanding of the discourse of ancestry in non-Indigenous contexts; a mediator could provide this, such as Le Beau with the Glasgow Council. As Alice Beck Kehoe points out, this process can be arduous and complicated: 'determining "descendant communities" with standing to request repatriation can become an adversarial court battle ... no histories are straightforward chronicles or lineages.'[94] As in the case of the Lakota Ghost Dance shirt, it would be advisable for an advocate to be appointed for the various contemporary Indigenous societies which the PCH collection represents.

Point 4 of the Glasgow City guidelines presents several issues when applied to the PCH collection. Firstly, the objects were acquired by the University in a transaction from the previous owner's widow. However, the complicated legal issues presented above show the complexity of the University's ownership of the Mexican artefacts. If any of the objects were at some point looted, and especially if this happened after 1970, then Crossley-Holland's rightful ownership could be contested, and subsequently the University's. With regards to the second part of the point, the collection has not had much use since the University's acquisition. My research is the only current project. Several years before the commencement of my doctoral research, in 2011, the Mexican collection was studied by Susan Rawcliffe, an instrument-maker and former colleague of Peter Crossley-Holland's. Rawcliffe took detailed photographs of the instruments and made several recordings. Professor Andrew Lewis, a composer who works at Bangor University, utilised these recordings in one of his compositions.[95] Should the collection remain in the UK, it would be the only repository of west Mexican artefacts of its size in Europe (excluding private collections that I am not aware of) and it could be utilised as a resource for study – notwithstanding the reservations detailed in the previous section on the validity of illicitly-traded objects.

The final point of the Glasgow City Council guidelines pertains to the fate of the objects if returned. In a high-profile case of the repatriation of several thousand stolen and looted pre-invasion objects from Texas in 2012, the artefacts were returned to the Mexican

---

[94] Alice Beck Kehoe, 'Manifest Destiny as the Order of Nature', in Philip L. Kohl, Irina Podgorny, and Stefanie Gänger (eds.), *Nature and Antiquity: The Making of Archaeology in the Americas* (Tucson: University of Arizona Press, 2014), pp. 186-201, this citation from p. 195.
[95] Andrew Lewis,' Skyline: Acousmatic Music in 8 Channels', 2016, Composition. See <http://www.andrewlewis.org.uk/works/skyline.php>, last accessed 6 November 2018.

government.[96] Presumably, the Mexican government will decide the best future use for the objects. In the case of the PCH collection, the Mexican government certainly have more expertise in dealing with these objects than Bangor University or the UK government; however, the best scenario would be for Indigenous communities to be involved in the future use of these objects. Moving the objects to the National Museum in Mexico City may make them almost as inaccessible as they are in North Wales, to Wixáritari people living in rural communities of the Sierra Madre Occidental mountains of west Mexico.

Turning again to ethical guidelines developed by and for museums, the International Council for Museums has developed a Code of Ethics in which issues of restitution and repatriation are embedded in the ideas of cooperation, sharing, partnerships, and communication. The following points are taken from the ICOM Code:

> 6.1 Cooperation. […] The possibility of developing partnerships with museums in countries or areas that have lost a significant part of their heritage should be explored.
>
> 6.2 Return of Cultural Property. Museums should be prepared to initiate dialogue for the return of cultural property to a country or people of origin […]
>
> 6.3 Restitution of Cultural Property. When a country or people of origin seeks the restitution of an object or specimen that can be demonstrated to have been exported or otherwise transferred in violation of the principles of international and national conventions, and shown to be part of that country's or people's cultural or natural heritage, the museum concerned should, if legally free to do so, take prompt and responsible steps to cooperate in its return.[97]

These points are open to interpretation, as they are intended to be used in a range of situations. The complicated entanglements of ownerships and the non-linear nature of cultural antecedence make any monolithic pronouncement on restitution and repatriation impossible. However, the ethos of this Code is unambiguous: the promotion of openness, dialogue, and fairness. In Chapter 6, 'Sustainability', I will show that repatriation can be less an exchange of material in the name of parity than a process that utilises the potential of cultural heritage to develop the wellbeing of people whose ways of life are at risk due to systemic and prolonged inequality. I suggest that the discourse of restitution needs to move on from the debates about ownership and universal heritage, to how countries and classes in

[96] United States Immigration and Customs Enforcement, 'ICE Returns Stolen and Looted Archeological Art and Antiquities to Mexico', 24 October 2012, <https://www.ice.gov/image-gallery/newsroom/27596>, last accessed 7 September 2018.
[97] International Council of Museums, 'ICOM Code of Ethics for Museums', 2017, <https://icom.museum/wp-content/uploads/2018/07/ICOM-code-En-web.pdf>, last accessed 18 June 2020.

positions of privilege can actively promote sustainable development in communities which do not have the same material wealth.

I began this chapter by outlining the ways that various ideological currents have swayed the way that Mexican identities are represented, particularly in cultural tourism. I moved on to discuss the legal and ethical implications of owning cultural property, concluding that restitution can redress the balance of ownership: not only of the material artefacts, but of the representation of identities. The next chapter provides more detail pertaining to the origins and ownership of the PCH artefacts.

Chapter 2: Provenience and provenance

The definition of the PCH collection is embedded in Crossley-Holland's methods of collection. It exists as a discrete collection only due to his activities. Crossley-Holland began his collection in the realm of the art and antiquities trade. In this chapter, I will detail Crossley-Holland's research on the origins of the artefacts, which he calls the provenance, but which I will refer to as provenience (meaning the exact site of its discovery). Using archival information, I will also investigate provenance – the manner by which they came into Crossley-Holland's possession, and from where. As the artefacts are assigned cultural value then economic value and cultural again, the line between art and ethnographic object is blurred, and that can affect our understanding and knowledge of west Mexican cultures. This includes the underbelly of the art and antiquities world: fakes, forgeries, and illegal trading. Although there is no evidence that Crossley-Holland was involved in these dealings, any collection of west Mexican artefacts will have some connection with this world, due to the prevalence of illegal and unethical activity around such objects.

It is necessary to determine the meaning of the collection before strategizing for its interpretation, future dissemination activities, and its sustainability. The collection is an invention of Crossley-Holland's design. By examining the meanings he gave to the objects, it will then be possible to unpick these meanings from other possible valid definitions of the objects. This is the first step in the process of decolonising the collection.

2.A. Telling object stories

It is incongruous for this collection to be in Bangor, and by showing the links between their origins and their current situation, I focus on the journeys of these objects, rather than treat them solely as apparatus for conveying information about distant cultures. Arjun Appadurai describes museum objects as 'accidental refugees … testaments of fixity and not of circulation, though complex processes of circulation and displacement are what is most important about them.'[1] Museum displays tend to display cultural objects as icons of information about another time and place, but they are also worthy of study as contemporary objects.

The meaning of objects, and their relationships to humans and other objects, has been the subject of debate among anthropologists and archaeologists as they seek to consider what

[1] Arjun Appadurai, 'Museum Objects as Accidental Refugees', *Historische Anthropologie*, 25:3 (2018), 401-408.

objects mean. In this chapter, I discuss the way that the PCH artefacts have passed from dealer to owner to donor to custodian, in and out of trade, and been exchanged for money or other objects, whilst simultaneously being valued for their cultural and historical significance. Rather than regarding these values as exclusive, I apply Bauer's idea of 'itinerant objects'[2] as the artefacts hold all of these values simultaneously and can travel between them. Bauer suggests an 'itinerary' instead of an object biography, and he invokes Tim Ingold's description of a spider web, a 'meshwork'[3] of lines along which objects and subjects travel – human, natural, and artificial. The idea of the meshwork, as explained by Ingold, is to suggest that there are human-made webs of meaning, in which objects interact. These lines, and the movement of people and objects, show that artefacts can have different interactions based on different contexts. The itinerancy of objects reflects this movement, rather than an object biography, which suggests a linear chronology.

A typical object biography of the PCH artefacts would start with an unknown: there is very little precise provenience for any of the objects, and their period is defined within a range of hundreds of years. Therefore, I cannot say how the objects acted within their original cultures. The next stage is also unknown – how and when the artefacts were uncovered. I have no information about where the objects were between their origins and the 1970s when they were purchased by Crossley-Holland. There is some information about the dealers from whom Crossley-Holland purchased his artefacts, and where. Then the objects enter a stage of being kept in a private collection, before moving to Bangor University and being kept largely undisturbed until the commencement of my doctoral studies, whereupon they are now a research collection rather than a private one. As Chris Gosden and Yvonne Marsden discuss in their article on 'The Cultural Biography of Objects', these objects' lifespans include the 'cycles of production, exchange and consumption' and the 'value creation'[4] that enhance our understanding of how they are situated today, as products of trade, emblems of art, and holders of cultural knowledge.

I am guilty of placing my own ideas of what a proper artefact is on the PCH collection. I see the artefacts as archaeological and cultural, and the way that I investigate them has involved

---

[2] Alexander A. Bauer, 'Itinerant Objects', *Annual Review of Anthropology*, 48 (2019), 335-352.
[3] Tim Ingold, 'When ANT meets SPIDER: Social Theory for Arthropods', in Carl Knappett and Lambros Malafouris (eds.), *Material Agency: Towards a Non-Anthropocentric Approach* (New York: Springer, 2008), pp. 209-215, this citation from p. 212.
[4] Chris Gosden and Yvonne Marshall, 'The Cultural Biography of Objects', *World Archaeology*, 31:2 (1999), 160-178, this citation from p. 170.

trying to put back something that has been lost: some context, some cultural activity, some music, some sunlight. Igor Kopytoff suggests a framework for this way of thinking, which means having to decide whether a thing is 'commoditized' or 'individualized'.[5] The commoditization of objects implies a process, whereby sometimes an object is treated as a commodity and sometimes not; or it is simultaneously a commodity from one point of view, while at the same time, something else. By entering the art market, these objects have a different type of cultural value to their original social function. Moreover, the commoditized stage of the objects' journeys is an integral part of their meaning – a stage which I have the tools to examine, using the Crossley-Holland archive. And, in fact, the conflicting accumulations of meanings from their artefacts' burial, excavation, selling, collecting, and displaying causes the 'drama … in the uncertainties of valuation and of identity'[6] which form the definitions of the collection, and which I describe during this chapter.

Bauer (after Rosemary Joyce) suggested going beyond biographies to itineraries – that is, recognising the itinerancy of objects[7] – and this is how I will consider the artefacts of the PCH collection. Their uncovering from underground, moving to the surface, being commoditized and singularized and assembled into a collection, are all mobile actions, and suggest movement along the lines of Ingold's web. This chapter places the objects in a relational web of market forces, value, and exchange, at the same time they exist as cultural avatars of ancient people, and physical representations of material.

2.B. Provenience

2.B.i. Organising the collection

The catalogues and documentation which Crossley-Holland compiled, with notes on each object in the collection, present further evidence of the author's ideas about interpreting the collection. Crossley-Holland primarily organised objects in his collection into geographical areas, which he calls 'style zones'. The zones are labelled using the contemporary Mexican states which occupy the areas. Crossley-Holland refers to archaeological resources throughout the documentation; either by citing publications or noting a conversation with an

[5] Igor Kopytoff, 'The Cultural Biography of Things: Commoditization as Process', in Arjun Appadurai (ed.), *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge, 1988), pp. 64-94, this citation from p. 64.
[6] Ibid., p. 90.
[7] Bauer, 'Itinerant Objects'; Rosemary A. Joyce and Susan D. Gillespie (eds.), *Things in Motion: Object Itineraries in Anthropological Practice* (Santa Fe: School for Advanced Research Press, 2015).

academic specialist. On this basis, he created 14 style zones.[8] The style zones create order and structure throughout Crossley-Holland's documentation. In the list below, the number in square brackets indicates how many items in the collection he assigned to that zone.

Zone I
North and Central Sinaloa [9]

Zone II
Aztatlan (South Sinaloa, North Nayarit, Coastal and South Lowland Nayarit) [18]

Zone III
Nayarit (South Nayarit Highlands and Jalisco) [67]

Zone IV
Jalisco (Northern Central Jalisco and border of the Nayarit Highlands) [22]

Zone V
Zacatecas (Northeastern Jalisco) [1]

Zone VI
Colima (excluding the coastal area) [117]

Zone VII
Jalisco-Colima (Southern Jalisco) [22]

Zone VIII
Michoacán-Colima (Coastal Southwest Michoacán) [11]

Zone IX
Cihuatlán (Coastal Jalisco and Colima) [9]

Zone X
Lerma-Cuitzeo [16]

Zone XI
Lake Chapala Basin [13]

Zone XII
Michoacán Highlands [13]

Zone XIII
Tepalcatepic [3]

Zone XIV
Lower Río Balsas (South Michocán/North Guerrero) [8]

[8] Maps showing the distribution of cited archaeological sites, as organised into these zones, can be found at <https://www.google.com/maps/d/drive?state=%7B%22ids%22%3A%5B%221CnJhf9inBABgeg30pDq95OQNIDNisJq6%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%221130162392359328576 14%22%7D&usp=sharing> (Zones I-X) and <https://www.google.com/maps/d/drive?state=%7B%22ids%22%3A%5B%221IyDqxauFomRpzmylAEkj5gNq4yqZK0wg%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%221130162392359328576 14%22%7D&usp=sharing> (Zones X-XIV). Last accessed 24 June 2020.

In some areas of the documentation, Crossley-Holland adds a fifteenth category: The Syncretistic Style, which contains PCH 328 and 329, reportedly from the early colonial period (1523-1600). Appendix 2 provides photographs of examples from the PCH collection from these style zones.

These categories refer to both the geographic origins of the artefacts, and their stylistic commonalities. Crossley-Holland gleaned provenance largely by comparing their style, colour and form to objects in other collections and museums. He also took advice from specialists, such as antiquities dealers and archaeologists at UCLA. [9] Many of the objects have insufficient data to determine provenance and findspot; stylistic attributes pinpoint an origin by comparison. Crossley-Holland also grouped the objects by date, although many of the date labels cover hundreds of years.

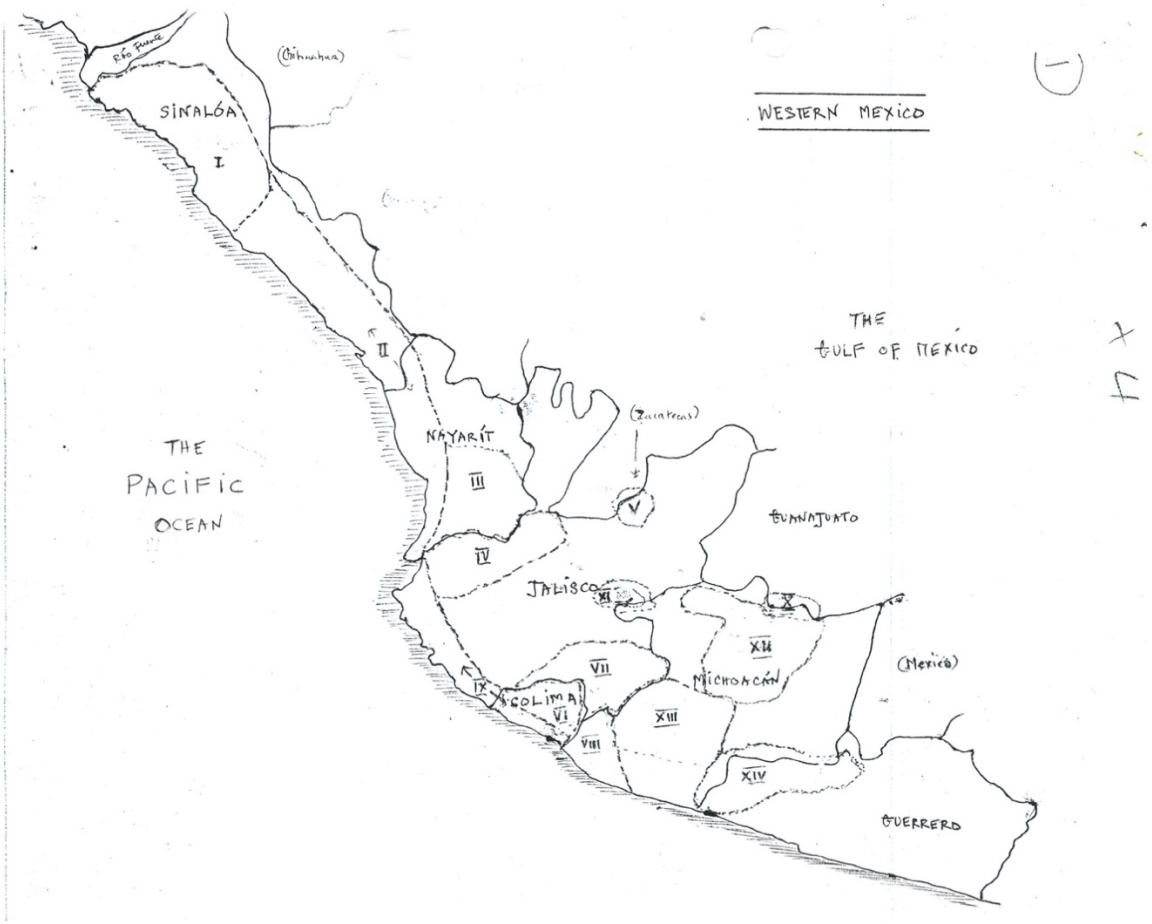


Figure 7: Map hand drawn by Peter Crossley-Holland, showing western states and his designated style zones. BUCHA (uncatalogued box).

[9] Crossley-Holland shows some scepticism about information from dealers: for example, PCH 79, a conch trumpet, was 'Reported by a previous owner as the State of Jalisco. VW (17/7/82) says the steps/rectangular designs could suggest Michoacán yet it seems so obviously Las Cebollas type.' VW refers to Hasso von Winning, an archaeologist with specialisms in west and central Mexico. From 'The Documentation', held at Bangor University Crossley-Holland Archive (BUCHA), Box F61, 79.1.

The problem with using a collection as a microcosm of west Mexico more widely is that the distribution of artefacts amongst zone and time period is biased towards artefacts available for sale and purchase. The availability of objects from certain areas can be attributed to various economic and social factors. The PCH collection shows the availability of various objects and the ease with which Crossley-Holland could collect them, and cannot necessarily be extrapolated to show a broader pattern in the significance of music in these cultures. Another result of Crossley-Holland's collecting practices, situated in the world of art and antiquities, is that the prettiest and most interesting objects are represented: those objects which please the eye of the American art collector or auctioneer. In the words of Mary Beard, 'where are the blobs?'[10] The objects in this collection can be interpreted as avatars of their original cultures, but with the caveat that they embody particular aesthetics and artistic values which are perhaps not representative of the wider material cultures.

Moreoever, the reliability of archaeological research about the PCH collection is dubious, due to extensive looting of Mexican sites since at least the nineteenth century.[11] In the accompanying documentation to his collection, Crossley-Holland references provenance (by which he means provenience or findspot: the exact location where the artefact was discovered), but there is scant information about the chain of custody for the instruments since their extraction. I will discuss the issues with unprovenanced artefacts later in this chapter; here, I will outline the information that Crossley-Holland offers about the origins of the instruments in his collection, and evaluate the methods that he used to glean that information. The archival documents to which I refer are titled (by him) the 'Documentation', the 'Accessions List', and the 'Inventory Chart'.

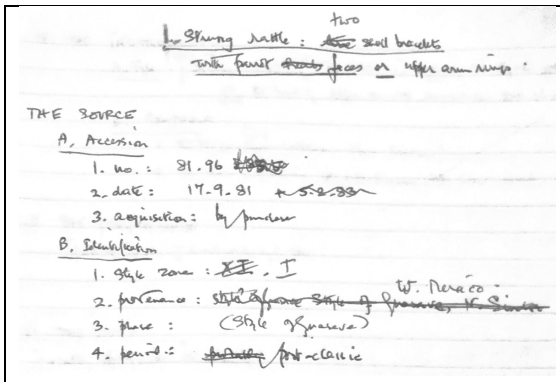
2.B.ii. The Documentation: provenience gleaned by stylistic comparison

The 'Documentation' is Crossley-Holland's catalogue and accompanying documentation, with various data about each object. Crossley-Holland compiled his Documentation as an archaeological typology, detailing the objects' origins, sound properties, and information such as cultural context, speculation about their function, references to published works, and diagrams. Each record contains varying quantities of notes for each of these sections.

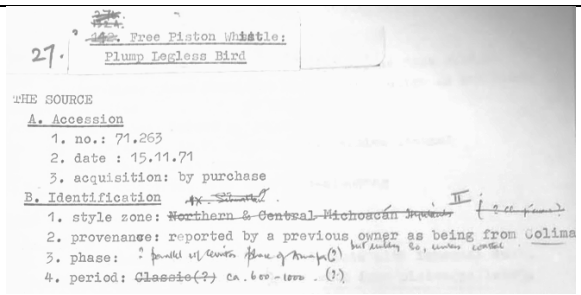
[10] Dominic Dalglish, 'Imagining the Divine: Where Are the Blobs?' 5 February 2018, <https://empiresoffaith.com/2018/02/05/imagining-the-divine-where-are-the-blobs/>, last accessed 11 December 2019.
[11] International Council of Museums, 'Red List: Latin American Cultural Objects at Risk'.

The data that relates to the provenience of the artefacts are categorised into ‘style zone’, ‘provenance’, ‘phase,’ and ‘period’, which often overlap. As seen in the two examples in Figure 8 below, the style zone refers to Crossley-Holland’s designations shown in Figure 7 above. For provenance, Crossley-Holland labels the general area from which the object is thought to originate. Some are simply labelled ‘W Mexico’, others a state – ‘Style of Nayarít and Magdalen Lake Basin (Jalisco)’ – and one is labelled even more specifically as ‘Tomb I (Las Cebollas, Tequilita, State of Nayarit)’. There are only 26 artefacts in the collection which are similarly labelled with a particular site as the area of origin. Some of these labels may refer to the style of comparable objects from a known site, rather than their own specific location.

Crossley-Holland occasionally includes the source of his information: sometimes provenance was reported from a previous owner, or it has been suggested from consultation with an archaeologist. For the majority of the artefacts, provenance seems to have been identified by style comparisons. ‘Phase’ can refer to a more exact site of origin, as well as a particular style which indicates a specific time period. These often also refer to the style of pottery: for example, ‘Capacha’ or ‘San Sebastian Red’. ‘Period’ refers to the Mesoamerican eras of pre-classic, classic, and post-classic. Some entries display a date range, but many are labelled with one of the phases.[12]



1. Style zone: I
2. Provenance: W. Mexico
3. Phase: (Style of Guasave)
4. Period: Post-classic



1. Style zone: II
2. Provenance: reported by a previous owner as being from Colima [added in handwriting] but unlikely so, unless coastal
3. Phase: ? parallel w/Cerritos phase of Amapa(?)
4. Period: ca. 600-1000 (?)

Figure 8: Excerpts from the Documentation, with transcript of the Identification section showing information about provenience. BUCHA, Box F61.

[12] See Figure 3 in the Introduction above for a summary of the major phases and styles of west Mexico.

I will now focus on one artefact, PCH 77, which has been attributed to a specific site, in order to evaluate Crossley-Holland's conclusion. This excerpt is from the final section of this entry, titled 'Extrapolation'.

> Although I purchased this from a regular dealer in New Mexico in 1978, it is certainly the piece which was salvage-excavated from Tomb I, Las Cebollas, Tequilita (a small family community of about 300 inhabitants), S.W. Nayarít, and illustrated inadequately for organalysis by Peter Furst in his (perhaps) unpublished dissertation written for UCLA (see Furst 1966:34a,b). The tomb is a shaft-and-chamber tomb which yielded a large number of artifacts, including 125 conches, one of which yielded a carbon-14 date of ca.A.D.100.[13]

This is a rare example of an artefact whose provenience is stated in detail. Crossley-Holland is certain of its origin but it is unclear where he obtained this information, unless he is simply comparing this artefact with the illustration in Furst's dissertation.[14] This may be the same shaft tomb mentioned by Day et al., who wrote an interpretative analysis of west Mexican ceramic figurines that included artefacts in museums as well as private collections in a 1996 article for *Ancient Mesoamerica*. Although their article concerns house models, it is probable that the artefacts arose from the same site, that Crossley-Holland references.

> The models are generally recognised as coming from southern Nayarit, although the only documented provenience is from a shaft tomb in Jalisco (von Winning, 1974:11). Circumstantial evidence led Furst (1966:85) to conclude that a house model may have been looted from a shaft tomb at Las Cebollas in southern Nayarit.[15]

As Crossley-Holland also references Furst's dissertation it appears that he is also using this evidence of provenience, which Day et al. identified as 'circumstantial' rather than committing to a definitive connection.

Three further points arise from Crossley-Holland's caption to PCH 77: firstly, the use of the term 'salvage excavation'. This refers to the excavation of objects from an archaeological site where they are in danger if left in situ (for example, due to being in an active war zone). In this case, it may have been reported to Crossley-Holland that the artefact was rescued due to the threat of looting, or as an expedition after a site had been looted, to salvage what was left;

---

[13] Peter Crossley-Holland, 'The Documentation', held at Bangor University Crossley-Holland Archive (BUCHA), Box F61, 77.4.

[14] Peter T. Furst, *Shaft Tombs, Shell Trumpets and Shamanism: A Culture-Historical Approach to Problems in West Mexican Archaeology* (PhD Dissertation, University of California, Los Angeles, 1966).

[15] Jane Stevenson Day, Kristi Butterwick, and Robert B. Pickering, 'Archaeological Interpretations of West Mexican Ceramic Art from the Late Preclassic Period: Three Figurine Projects', *Ancient Mesoamerica*, 7:1 (1996), 149-161.

however, it could have been a euphemism, as we know looting was so widespread. Secondly, organalysis is an important method for Crossley-Holland, so owning the actual object is far superior to a sketch carried out by a non-musician. Thirdly, it is significant that carbon-dating is mentioned in this description; it is notable by its absence from the rest of Crossley-Holland's documentation. This is because carbon dating works by measuring the decay of Carbon-14 in organic materials. The inorganic ceramic instruments do not provide any results, so many of the objects in the PCH collection have instead been dated by comparing their style, decoration, and construction with similar objects from the same era. This shows the importance of recording in detail the way that organic and inorganic objects are organised within a site: comparative carbon-dating, combined with stratigraphic analysis can yield more reliable information than stylistic comparisons.

2.B.iii. The Accessions List: a record of findspots reported by vendors

There is another document, regarding more detailed provenance: a handwritten list in Peter Crossley-Holland's hand, called the 'Accessions List', which contains information about the vendors, with receipts, 'certificates of authentication', prices, and so on. There is also some information about the origins of the artefacts, as reported by the vendor. I will discuss this document later in this chapter, alongside further information about provenance, but in this section, I will discuss Crossley-Holland's explanations of the findspots. The Accessions List provides little additional information about the artefacts' origins, compared with the Documentation, with much of the provenience determined by stylistic characteristics. The findspots that are mentioned were 'reported by previous owner', and Crossley-Holland disputed some. For example, PCH 27, a whistle shaped like a bird, was 'reported by a previous owner as being from Colima, but unlikely so, unless coastal.'[16] PCH 33, a rattle in the shape of a jaguar, was also reported to be from Colima, 'probably because acquired there, or from the fashion of calling W Mexican things "Colima" to get a better sale'.[17]

There are receipts in the Crossley-Holland archive which corroborate the information that Crossley-Holland included in the Accessions List. However, there is no additional information about provenance prior to the objects' movements from the dealer or shop to Crossley-Holland. For the majority of artefacts (177 out of the 329), there is a receipt showing the shop or auction house from which the item was bought, along with the price and

[16] 'The Documentation', BUCHA, Box F61, 27.1
[17] 'The Documentation', 33.7.

date of purchase. A further 100 objects have accompanying information about the shop, auction house or person from which the object was bought or received, but with no additional information; and for 52 objects, there is no information at all about the acquisition. For some of the items in this latter category, this is because Crossley-Holland has designated the exchange 'anonymous'; although, confusingly, there is occasionally an object which has been labelled 'anonymous' in one document, but with the name of the donor in another.

The Accessions List shows much more detail about the part of the objects' journey about which Crossley-Holland could be sure: the dealers from which he purchased the items. Crossley-Holland attempted to fill in some of the missing archaeological information by studying artefacts in other collections around the world, both in museums and private ownership. He traced provenience by consulting archaeological publications, and which he recorded in his Inventory Chart.

2.B.iv. The Inventory Chart: archaeological sites in west Mexico

The third document is labelled 'Inventory Chart'. This document lists numbers of artefacts from private collections and various museums, with the associated archaeological sites and the methods of removal (archaeological or otherwise). Crossley-Holland appears to have traced the origins of the western Mexican artefacts of which he was aware. The list is organised using the same zones as the Documentation, divided further by specific archaeological site.

The following example, which I have transcribed from the original handwritten document, is an excerpt from the Inventory Chart which contains the largest amount of detail compared with other entries on the chart, and which presents many of the problematic aspects of the PCH collection's provenance. In the original, Crossley-Holland used abbreviations to refer to the type of site, recovery method, and agency; he provided a key in another document titled the 'Inventory Book', which I have used to expand the abbreviations for this table.

Zone IV: Jalisco (Northern Central Jalisco and Border of the Nayarit Highlands								
Site		**Type of site**	**Recovery**	**Agency**	**Date**	**Collection**	**Reference**	**No. of items**
1. Hacienda de Guadalupe		Burial mound	Local excavation		1896	Bristol Museum	Breton 1903	1
2. El Arenal	a. Tumba de El Arenal (= Tomb I)	Shaft tomb (looted)	Excavation	Instituto Jalisciense de Antropología e Historia	1955	Instituto Jalisciense de Antropología e Historia (Instituto Nacional de Antropología e Historia?)	Corona Nuñez 1955	2
	b. El Arenal (entirely separate cache)	Burial	Excavation	UCLA	1963	UCLA Museum of Cultural History	Long 1966b; Museum + Crossley-Holland	5
	c. Tomb III		Exploration	UCLA	1963	UCLA Museum of Cultural History	Long 1966a	1 (+1)
3. Etzatlan	a. San Sebastian Tomb I		~~Purchased but verified/Salvaged~~ Excavation	UCLA	1963	LA County Museum of Natural History	Long 1966a; Museum + Crossley-Holland	6
	b. Oconahua		Local excavation	Alfredo Ramos/ Dr Hernandez	1960s	UCLA Museum of Cultural History	Long 1966b; Museum + Crossley-Holland	5
	c. Huistla		M*	UCLA	1962-1964		Glassow 1967	2
* 'M' does not appear on Crossley-Holland's key to abbreviations for recovery methods. It was probably supposed to be in the previous column, type of site, where it could stand for 'Mound'.								

Figure 9: Excerpt from the Inventory Chart. BUCHA, Box F59.

The 'local excavation' of the first entry could refer to amateur archaeologists from the vicinity, or perhaps Crossley-Holland means Mexican archaeologists rather than those from abroad. The exact artefact is unspecified as he notes only the number of relevant artefacts in this collection, without further description. 'Breton', from the reference column, is Adela Breton, whose collection is still held by the Bristol Museum. Much of the collection at Bristol Museum comprises watercolours and sketches, made by Adela Breton during one of her journeys in Mexico in the 1890s; there is a single musical instrument present in this collection, but it is reported to be from Ixtacihuatl in the State of Mexico.[18] Crossley-Holland could be referring to a drawing of an object; Breton produced copious illustrations of buildings, landscapes and objects during her visits to Mexico. There is a watercolour of a figure in the Bristol Museum collection dated 1896, which corroborates with Crossley-Holland's date.[19] The drawing is annotated 'from Mound, Hacienda of Guadalupe near Etzatlan, Jalisco, 5.5.96.'[20] According to Mary French McVicker in a biography of Breton, she was present at the excavation of this site.[21]

Many of the other entries in this extract refer to various excavations by Universities, and artefacts from museum collections. The two artefacts from 2a, El Arenal Tomb I, were excavated from a looted shaft-tomb (ST). It is unclear whether the excavation happened after the looting of the tomb or beforehand. The information about these artefacts is taken from the 1955 publication *Tumba de El Arenal* by Mexican archaeologist José Corona Núñez.[22]

Stanley Long, an archaeologist from UCLA who was supervised by Clement Meighan, carried out excavations in Jalisco in 1963: the results of which were included in his 1966 dissertation, *Archaeology of the Municipio of Etzatlan, Jalisco*.[23] The artefacts excavated during this fieldwork are held at UCLA, and presumably Crossley-Holland was familiar with these objects from his visits to the UCLA Museum of Cultural History. Michael Glassow was a student assistant during the excavations around Etzatlán. He recalls the circumstances in his

---

[18] Object number E4916, 'flute' from the Breton Collection at Bristol Museum; catalogue record available online at <http://museums.bristol.gov.uk/details.php?irn=240280>, last accessed 17 May 2020.
[19] Object number Ea8251e, 'watercolour', from the Breton Collection at Bristol Museum; catalogue record available online at <http://museums.bristol.gov.uk/details.php?irn=310581>, last accessed 17 May 2020.
[20] Ibid.
[21] Mary French McVicker, *Adela Breton: A Victorian Artist Amid Mexico's Ruins* (Albuquerque: University of New Mexico Press, 2005), p. 41.
[22] José Corona Núñez, *Tumba de El Arenal, Etzatlán, Jal.* (Mexico City: Instituto Nacional de Antropología e Historia, 1955).
[23] Stanley Long, *Archaeology of the Municipio of Etzatlan, Jalisco* (PhD Dissertation, University of California, Los Angeles, 1966).

foreword to the 2013 book *Correspondence Analysis and West Mexico Archaeology*. Here, he describes the difficulty of excavating in an area rife with looting:

> Prior to fieldwork, Stan [Long] had learned that the entire contents of a shaft tomb in the Etzatlán vicinity had ended up with an antiquities dealer in Los Angeles. Stan ultimately ascertained that the collection had come from a shaft tomb at San Sebastián. He became good friends with the family who owned the property where the tomb was located … One of the family members had been in the tomb when the hollow figurines and other mortuary goods were discovered and removed [by looters], and Stan spent a good deal of time interviewing him to determine the placement of interments and mortuary goods within the tomb's chamber.[24]

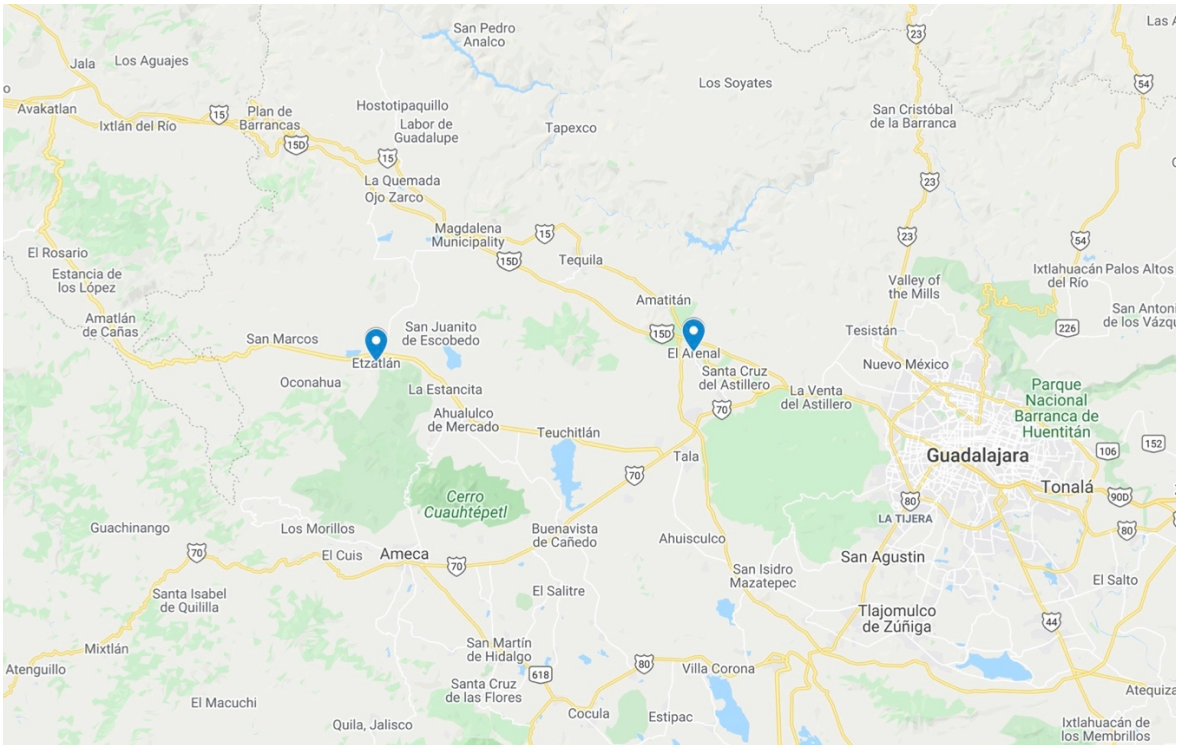


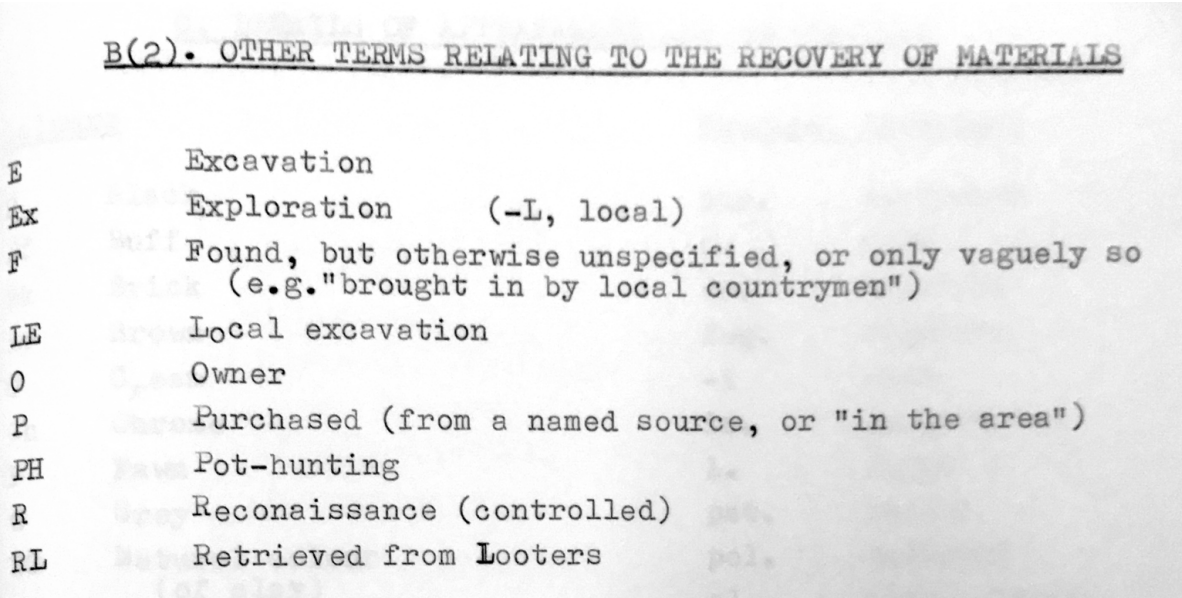
Figure 10: Location of archaeological sites mentioned in Figure 9 above. Left hand pin shows Zone IV 1, Hacienda de Gudalupe, and 3, Etzatlán (the sites are in a similar location); right hand pin shows El Arenal (Google Maps 2020).

Returning to Crossley-Holland's Inventory Chart: notable by its absence is evidence about the artefacts of the PCH collection, to which there are several references throughout the chart, but which feature only in the columns labelled 'collection' and 'reference'. I believe this Inventory Chart is a record of Crossley-Holland's research into west Mexican artefacts, and so he did not need to include detail about his own artefacts, as that was documented in the Documentation. The absence of detail also points towards the lack of information available

[24] Michael A. Glassow, 'Foreword', in C. Roger Nance, Jan de Leeuw, Phil C. Weigand, Kathleen Prado, and David S. Verity (eds.), *Correspondence Analysis in West Mexico Archaeology: Ceramics from the Long-Glassow Collection* (Albuquerque: University of New Mexico Press, 2013), pp. xv-xix, this citation from p. xvii.

about Crossley-Holland's artefacts regarding the exact site from which they were taken. There is also no way to cross-check items labelled PCH on the Inventory Chart to those in the Documentation, so the origins of specific artefacts cannot be gleaned from this without using the sources that Crossley-Holland cited. Crossley-Holland cross-referenced his Accessions List with the Documentation, by including the accession number in both, but on the Inventory Chart there are no such numbers. The organisation of the items into the same Zones as the categories in the catalogues suggest that they do correspond to exact artefacts but as there are no physical descriptions or other identifiers, it would be impossible to map the data from the Inventory Chart onto specific artefacts.

Crossley-Holland's key for his abbreviations indicate the range of problems with gleaning provenience, and the extent of the unethical, unregulated, or illegal methods of extraction that were used to gather ancient artefacts from west Mexico. [25]



B(2). OTHER TERMS RELATING TO THE RECOVERY OF MATERIALS

E	Excavation
Ex	Exploration (-L, local)
F	Found, but otherwise unspecified, or only vaguely so (e.g."brought in by local countrymen")
LE	Local excavation
O	Owner
P	Purchased (from a named source, or "in the area")
PH	Pot-hunting
R	Reconaissance (controlled)
RL	Retrieved from Looters

Figure 11: Key to abbreviations from Crossley-Holland's Guide to the Documentation. BUCHA, Box F59.

A pothunter is someone who 'seeks objects of archaeological interest or value for personal use or benefit, especially by unscientific or illicit methods.'[26] This obliterates any meaning of the object, as its context is immediately expunged. The practice of archaeological discovery, with careful analysis of sites in their entirety and individual objects' relationships to their

[25] Peter Crossley-Holland, 'Guide to the Documentation, BUCHA, Box F59.
[26] Definition taken from the Oxford English dictionary: <https://en.oxforddictionaries.com/definition/pothunter> last accessed 26 April 2018.

surroundings, is voided. Moreover, pothunters may damage the objects or the site by performing extractions without due care or appropriate methods or tools.

Aside from the legality of these methods, other categories in Crossley-Holland's key are dubious in their reliability. Any category apart from 'Excavation', and possibly 'Reconnaissance', is without archaeological rigour. Academic practice is not always unquestionably ethical, of course; but it at least provides a standard level of care and damage limitation. Another issue that comes into play is the idea of academic colonialization. One of the characters mentioned in Crossley-Holland's documentation is Señor Delgado, as the donor of five artefacts to the PCH collection. I believe this person to be Héctor Manuel Delgado Sala, born in 1938, nicknamed *El Chino billetero*.[27] *Chino* is a Mexican colloquialism for someone with curly hair, and a *billetero* is a seller of lottery tickets. The ticket selling, as well as apparently being a previous job of Delgado's, is also connected with good luck (in a similar manner to chimney sweeps in British culture). An article in a Culiacán magazine, *Revista Espejo*, writes of Delgado as a sort of renegade,[28] man-of-the-people character, pitted against the central bureaucratic governments institutions.[29] Delgado keeps a collection of ancient artefacts which he has rescued, and is celebrated by his local community,[30] and even labelled 'the Mexican Indiana Jones' by a newspaper.[31] Officially, the central Mexican government has claimed that all objects lying within the boundaries of their country belong to them. As well as having implications for the international export of cultural objects, this also impacts local aficionados as well, whose ownership of land containing archaeological remains could be argued to afford them some ownership of artefacts therein.

[27] César Hernández, 'Se busca un museo: Entrevista con Héctor Manuel Delago Salas, El Chino Billetero', *Espejo*, 24 October 2015, <https://revistaespejo.com/2015/10/24/se-busca-un-museo-entrevista-con-hecor-manuel-delgado-salas-el-chino-billetero/>, last accessed 17 May 2020.
[28] Ibid.
[29] Rodrigo Ampie, 'La increíble Colección de Arqueología Sinaloense del Chino Billetero', *Debate*, 14 January 2018, <https://www.debate.com.mx/mexico/Tengo-71-anos-rescatando-la-historia-y-al-gobierno-ni-le-interesa----20180113-0379.html>, last accessed 17 May 2020.
[30] Archivo Histórico General del Estado de Sinaloa, 'Homenaje a Héctor Manuel Delgado Salas "El Chino Billetero"', 2015, <https://ahgs.gob.mx/homenaje-a-hector-manuel-delgado-salas-el-chino-billetero/>, last accessed 17 May 2020.
[31] Karen Bravo, 'Héctor Manuel Delgado Salas, el Indiana Jones Mexicano', *El Heraldo de México*, 22 March 2019, <https://heraldodemexico.com.mx/artes/hector-manuel-delgado-salas-el-indiana-jones-mexicano/>, last accessed 17 May 2020.

2.B.v. Archaeological research amongst widespread looting

The reliability of unauthorised or uncontrolled excavation is an acknowledged problem with west Mexican artefacts, and the effect on our knowledge of these cultures is summarised by Betty Bell in her chapter in the 1971 *Handbook of Middle American Indians*:

> The archaeological art of perhaps no other area of Mexico is as well known as that of the modern states of Nayarit, Colima, and Jalisco, but in perhaps no other area has there been so little controlled excavation. Countless fine figurines and other artifacts are in private collections, lacking secure provenience, assignable to regions only on stylistic grounds, and thus of limited use in culture-historical reconstructions. Earlier travellers to the area, such as Lumholtz (1902), Starr (1897), and Hrdlička (1903), gave detailed descriptions of the archaeological material they saw, but their collections too were largely purchased and thus cannot be fitted neatly into reconstructions based on controlled scientific work.[32]

Bell's analysis shows the importance of delineating the provenance of artefacts, whether excavated scientifically, or by pothunters or looters – and how difficult it is to retroactively apply analyses to artefacts which were extracted from sites in uncontrolled situations. The publications of the 1950s-1970s, by Long, Ekholm, Meighan, Corona Núñez, and so on, begin to fill the gap with stratigraphic descriptions, and these accounts are characterised by lists of artefacts and their placements within sites, rather than any interpretation or extrapolation of cultural meaning. However, their work can be built upon with the advent of technology and new analytical techniques: this has been put into practice by Nance et al., who carried out correspondence analysis based on the artefacts in the Long-Glassow collection at UCLA.[33]

In recent music archaeology research, the importance of stratigraphy as well as interpretation can be seen. Barber and Hepp's contribution to *Studien zur Musickarchäolgie VIII* centres on ceramic aerophones from coastal Oaxaca. Their chapter has many elements recognisable in Crossley-Holland's documentation, such as the discussion of secondary zoomorphic aspects and noting the condition in relation to sonic function. However, the key difference is in their

[32] Betty Bell, 'Archaeology of Nayarit, Jalisco and Colima', in Gordon F. Ekholm and Ignacio Bernal (eds.), *Handbook of Middle American Indians, Volumes 10 and 11: Archaeology of Northern Mesoamerica* (Austin: University of Texas Press, 1971), pp. 694-753, this citation from p. 697.
[33] C. Roger Nance, Jan de Leeuw, Phil C. Weigand, Kathleen Prado, and David S. Verity (eds.), *Correspondence Analysis in West Mexico Archaeology: Ceramics from the Long-Glassow Collection* (Albuquerque: University of New Mexico Press, 2013).

discussion of provenience, which gives vital information about the function of the aerophones which can only be evidenced by stratigraphic analysis from the archaeological site.

> While high status individuals and ritual practitioners probably had access to a wider range of instruments and played music in more varied social situations than did non-elites, the presence of instruments in non-elite domestic middens confirms that people of various social positions produced music … Music was part of public and likely widely-accessible actions that took place in public ritual facilities like temples. It was also a domestic activity …[34]

Barber and Hepp use interpretative and scientific archaeological methods to enable a deeper understanding of this ancient culture, where one method alone would create an incomplete, and thus inaccurate, picture.

Similarly, Matthias Stöckli gleaned the sound-producing activities of ancient residents of Aguateca, Guatemala by observing and interpreting the dispersion patterns of sounding artefacts throughout this archaeological site. He could piece together information from other artefacts about the status and gender of the residents, and conclude that sound was performed in domestic settings. He discusses the role of gender in music, suggesting that there were typically male instruments (drums) and typically female ones (flutes) but women and children also played drums, albeit possibly only in private or enclosed settings.[35] He concludes that women were generally more involved in domestic music-making than men.[36] Of course, Stöckli is studying Mayan society in Guatemala, so his conclusions are not directly applicable to the PCH collection. However, I mention his article as it exemplifies the process of music archaeology and the important conclusions which can be wrought from studying artefacts in the context of their findspots.

West Mexican artefacts can be discussed in relation to their sites, as well as interpreted as artistic objects. This combination of art critique and archaeology is largely necessary, due to the paucity of evidence from controlled excavations. An example of the focus on the

---

[34] Sarah B. Barber and Guy David Hepp, 'Ancient Aerophones of Coastal Oaxaca, Mexico: The Archaeological and Social Context of Music', in Ricardo Eichmann, Fang Jianjun and Lars-Christian Koch (eds.), *Sound from the Past: The Interpretation of Musical Artifacts in an Archaeological Context: Papers from the 7th Symposium of the International Study Group on Music Archaeology at the Tianjin Conservatory of Music, Tianjin, China, 20–25 September, 2010* (Rahden: Marie Leidorf, 2012), pp. 259-270, this citation from p. 262.
[35] Matthias Stöckli, 'Playing Music as a Domestic Activity? Interpretations of the Finds of Sound-producing Artifacts at Aguateca, El Petén, Guatemala', *The World of Music*, 49:2 (2007), 17-33, this citation from p. 28.
[36] See Roberta Gilchrist's critique of the assumption of gender roles as a trope, particularly relating to labour and technology, which can be adopted by archaeologists due to the universalisms and evolutionary models from anthropological discourse: Roberta Gilchrist, *Gender and Archaeology: Contesting the Past* (London: Routledge, 1999), p. 37.

iconography and artistry is an article by Jane Stevenson Day, Kristi Butterwick, and Robert B. Pickering, curators at the Denver Museum of Nature and Science. Their article focusses on three types of ceramic figurine sculptures. As well as using examples from the collections at Denver Museum, they cite objects from unspecified private collections. They explicitly state the problems with working with unprovenanced and potentially looted objects. Their language is reflective, using 'we can speculate' and 'some evidence suggests'.[37] They also delineate between statements that can be deemed reliable, based upon archaeological data, and interpretations of visual aspects of the objects which can be contextualised with comparative artefacts.

For example, they mention the plausible connection between music, dance, drama and ball-game, which is evident in the attire of the figurines which they study, when viewed in comparison with other studies of cultures across Mesoamerica that are based upon archaeological excavations.[38] They conclude by recommending that further investigation be made into 'alliance forged between ceramic art on the one hand, and analytical and scientific techniques on the other.' This approach could allow artefact-based study in which provenance is not necessarily a prerequisite, because 'as a primary artistic medium, ceramic figurines and models communicate ideological and sociological values', 'cultural significance' and 'social meaning'.[39] Archaeological studies can be used alongside iconographic interpretations, to create a more reliable methodology.

These approaches to studying ancient artefacts, from the perspectives of archaeology, music archaeology, and artistry, show the benefit of using a combination of techniques and methodologies to glean cultural information. This is what Crossley-Holland seems to have been intending with his three different documents. It is unclear why he did not wish to assimilate these, as all three help to provide understanding of these objects. I suspect that he may have realised that the provenance of the objects is suspect, and that he should not advertise that by publishing. Also, there is some reference to items being 'donated anonymously', with the donor cited in a separate document, so Crossley-Holland could have been aware or could have been asked to hide their identity due to issues around competition or legality. Instead, Crossley-Holland focussed on interpretations which were largely artefact-

[37] Day, Butterwick, and Pickering, 'Archaeological Interpretations of West Mexican Ceramic Art', p. 153.
[38] Ibid.
[39] Ibid., p. 156.

based: their sounds, and their morphology, and of cultural interpretations predicated by his personal philosophy. I will discuss these interpretations in greater depth in Chapter 3.

2.C. Provenance

2.C.i. Provenance as reported by Crossley-Holland

Crossley-Holland acquired items for his collection from the early 1970s until 1983, which coincided with his retirement from UCLA and subsequent move back to the United Kingdom. The earliest acquisition date recorded is in 1971. The accession numbers assigned by Crossley-Holland are somewhat complicated regarding the earlier acquisitions, as he originally collected items from all parts of Mesoamerica; at some point in the mid-1970s, he began to focus on building the west Mexican musical collection separately to the rest of the Mesoamerican artefacts, but had already assigned accession numbers that related to all of the objects that he had acquired in a given year. The documentation regarding his earlier collecting activities therefore relate to a combined collection of all these artefacts, and the later documents to the discrete western Mexican collection.

The majority of objects in the west Mexican collection were acquired by purchase, from shops, dealers or at auction. The exceptions are a few gifts and donations, from his wife, Nicole Marzac, or from dealers from whom he had also purchased items (presumably as a buy-one-get-one-free deal).

All of the vendors that Crossley-Holland frequented were based in the United States, and many in the state of California. Some names that occur frequently in Crossley-Holland's Accessions List are as follows (the number in brackets is the number of PCH artefacts attributed to that seller):

Ronald 'Rock' Dammann of Stendahl Galleries, Hollywood [120]
Michael Kelly, a private dealer based in Ventura [5]
Ian Arundel of the Old Curiosity Shop in Los Angeles [34]
Kaplan's of Laguna Beach [14]
Don McLeod, an auctioneer based in Pasadena [21]
Millard 'Skip' Holbrook, the Old Trail Trading Post, Santa Fe, New Mexico [8]
Fran Tolland, a dealer based in El Paso, Texas [12]

The first three on this list are notable, for different reasons. Firstly, Stendahl Galleries was a prominent and successful business, whose archives have been donated to the Getty Institute. Michael Kelly was involved in a court case in the late 1980s concerning the illicit trade of cultural property; and Ian Arundel's transactions shed light on the relationship between him as a dealer and Crossley-Holland as the customer.

Stendahl Galleries

Stendahl Galleries was established in 1911, and continued trading until the retirement of its president Ronald Dammann in 2017.[40] The founder of the company, Earl Stendahl, was reportedly inspired by Diego Rivera's collection of Mexican ancient ceramics to branch out into dealing pre-Columbian artefacts in the mid-1930s.[41] His archive, detailing his visits to central and southern America and his dealings with celebrity collectors such as George Gershwin, Vincent Price, and Nelson Rockefeller, is held by the Getty Research Institute.[42] The archive contains documents and images which are described as

> .. showcasing Stendahl's efforts to position pre-Hispanic art in US museums and private collections … the Stendahl Art Galleries Archive significantly bolsters the Research Institute's holdings realied to the contemporary Latin American art market in the United States and complements existing collections at the Institute related to ancient archaeological sites …'[43]

This collection could be invaluable for future research pertaining to the provenance of items from the PCH collection, as the archive contains photographs and pricing records, which could be invaluable for future research into the unknown movements of the artefacts during the period previous to their purchase by Crossley-Holland.[44]

It is interesting to consider Crossley-Holland's relationship with Dammann and the Stendahl Galleries. It shows that Crossley-Holland positioned himself as a private collector, who bought from art dealers, and this in turn helps to define the collection. Our understanding of these ceramic objects, and others in museums across the United States, in large part comes about because the objects have been donated to museums from private collections; that is, gathered and sold by dealers rather than excavated by archaeologists (although, of course,

---

[40] Stendahl Galleries, 'Stendahl Galleries Ceases Trading after 106 Years', <https://www.stendahlgalleries.com/>, last accessed 23 May 2020.
[41] The Getty Research Institute, 'Latin American Dealer Archives', <https://www.getty.edu/research/special_collections/notable/LAD.html>, last accessed 23 May 2020.
[42] Ibid.
[43] Ibid.
[44] Ibid.

there are significant donations by archaeologists too, for example the Long-Glassow collection at the Fowler Museum at UCLA). With artefacts such as those in the PCH collection, our understanding of what typical objects from these cultures look like and what they could mean is biased, because they represent what dealers and collectors feel are valuable – 'valuable' in the sense of sellable and buyable. The Natalie Wood collection of Chupícuaro ceramics, held at the Fowler Museum, is an example of how a museum can comprise a donated collection of 'art' that the actor bought for personal or aesthetic reasons, which then becomes 'ethnographic' when placed in the environment of a research institute, and interpreted for public view via exhibitions.[45]

Michael Kelly

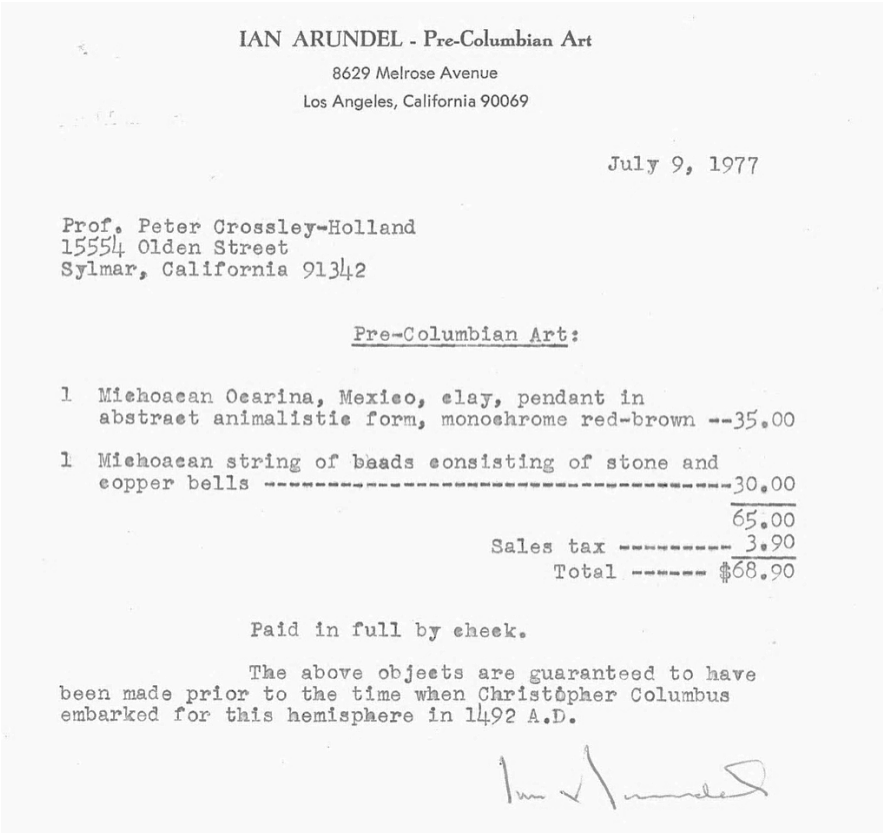
Michael Kelly was a British citizen who lived in southern California and who sold several artefacts to Crossley-Holland in the early 1980s. By the latter years of that decade, Kelly had become embroiled in a criminal operation to smuggle ancient Peruvian artefacts into the United States.[46] According to Roger Atwood, author of *Stealing History: Tomb Raiders, Smugglers and the Looting of the Ancient World*, Kelly had come close to bankruptcy, and his father had become seriously ill, prompting a visit to his home in London.[47] Kelly could not afford to pay the cost of the flight, so was given the fare in return for a favour by a Californian art restorer-turned-smuggler, David Swetnam. Swetnam bribed customs officials in Peru to allow the transport of artefacts to London, whereupon Kelly collected them, and had them shipped to the United States. Atwood reports that the artefacts were wrapped in old British newspapers to appear as if they had been part of a British collection, helping to achieve false provenance, and that Kelly passed the artefacts off as inheritance from his father in order to bring them to the US. Kelly was not charged himself, as he volunteered to become an informant for United States Customs, and later testified against Swetnam and an associate. Atwood's account is sympathetic towards Kelly, showing Swetnam as the mastermind of the smuggling, but Kelly was aware of his wrongdoing: 'they [Swetnam and his associate] knew as I did, as all dealers do, that it's illegal to bring pre-Columbian art from Peru to this country [the United States] without the authorization of the Peruvian

[45] Fowler Museum at UCLA, 'Chupícuaro: The Natalie Wood Gift of Ancient Mexican Ceramics', <https://www.fowler.ucla.edu/exhibitions/fowler-at-fifty-chupicuaro-ancient-mexican-ceramics/>, last accessed 23 May 2020.
[46] Carol McGraw, 'Couple Indicted in Art Smuggling Investigation', *Los Angeles Times*, 18 November 1988, <https://www.latimes.com/archives/la-xpm-1988-11-18-me-603-story.html>, last accessed 23 May 2020.
[47] Roger Atwood, *Stealing History: Tomb Raiders, Smugglers and the Looting of the Ancient World* (New York: St Martin's Press, 2004), p. 84.

government.'[48] Although Crossley-Holland had ceased contact with Kelly before this criminal activity, the story illustrates how close to illegality the market was, and how dealers who saw such affluence from smuggling could be persuaded to behave unlawfully.

Ian Arundel of the Old Curiosity Shop

The Old Curiosity Shop in Los Angeles was the source of 34 of the artefacts in the PCH collection. In the Crossley-Holland archive, there is a box of receipts from the various dealers and shops that Crossley-Holland frequented. The receipts from the Old Curiosity Shop are notable because they contain a declaration of authenticity: 'The above is guaranteed to have been made prior to the time when Christopher Columbus embarked for this hemisphere in 1492 A.D.' This is unreliable as a statement of authenticity: it is difficult to either prove or refute. Also, Cortés was the first European invader to Mexico, not Columbus, so artefacts produced in Mexico between 1492 and 1519 are more accurately pre-Cortésian not pre-Columbian. The distinction perhaps suggests a tendency for the dealer to provide a blanket statement, rather than one based upon factual information about the origins of the artefacts.



IAN ARUNDEL - Pre-Columbian Art
8629 Melrose Avenue
Los Angeles, California 90069

July 9, 1977

Prof. Peter Crossley-Holland
15554 Olden Street
Sylmar, California 91342

Pre-Columbian Art:

1 Michoacan Ocarina, Mexico, clay, pendant in abstract animalistic form, monochrome red-brown --35.00

1 Michoacan string of beads consisting of stone and copper bells ----------30.00

65.00
Sales tax --------- 3.90
Total ------ $68.90

Paid in full by check.

The above objects are guaranteed to have been made prior to the time when Christopher Columbus embarked for this hemisphere in 1492 A.D.

Figure 12: Receipt from Ian Arundel. BUCHA, uncatalogued box.

[48] Ibid., p. 82.

This declaration may have been produced in good faith and with primary evidence (e.g. of archaeological site and method of excavation). However, I think it is more likely that they were invented as a means of giving a veneer of good practice and authenticity in a competitive market of cultural artefact sales.

2.C.ii. Fakes, forgeries, and reconstructions

Jane Stevenson Day, Kristi Butterwick, and Robert B. Pickering, authors of a study of west Mexican ceramics from an artistic point of view, state that according to their analysis, 'almost no North American museum collection is to be considered free from replicas, fakes, or modified figurines.'[49] The PCH collection was amassed in North America, and is therefore unlikely to be an exception. Crossley-Holland noted in his Documentation which artefacts had had noticeable repairs and reconstructions, especially if they affected the sound-producing mechanism. He also includes a description of the condition of each object, although this is sometimes simply 'good' or 'fair'.

In this section, I will outline the proportion of the artefacts that have undergone modifications or repairs, and identify the two objects for which Crossley-Holland's description might point towards a fake or replica.

PCH 55, a figure playing a rattle, was bought by Crossley-Holland from Standahl Galleries. In his Accessions List, Crossley-Holland added a note which reads: 'Stendahl $500. Originally $750 but red[uced] after Belgian dealer offered same figures.'[50] My interpretation of this is that a Belgian dealer was selling replicas or fakes, thus reducing the value of the original, on sale at Stendahl Galleries. The alternative is that the figurine now in the PCH collection is the replica. However, it is possible that Crossley-Holland meant that the Belgian dealer was offering the same sort of figures rather than replicas – or even that a Belgian dealer offered similar artefacts for the figure of $500, thus allowing Crossley-Holland leverage to haggle.

Crossley-Holland suspects that another of his artefacts, PCH 168 (whistle shaped like a human head with fish tail) could be 'a duplicate disposed of by LACoMNH [Los Angeles

[49] Day, Butterwick, and Pickering, 'Archaeological Interpretations of West Mexican Ceramic Art', p. 157.
[50] 'Accessions List', BUCHA, uncatalogued box. The date of accession is 1980. $500 in 1980 is worth approximately $1550 (£1216) in 2020. <https://www.in2013dollars.com/us/inflation/1980?amount=500>, last accessed 25 June 2020.

County Museum of Natural History] … A virtually identical Colima piece from the LACoMNH has been illustrated by Furst (1964) … the size is given as 4 1/4" which compares to our 10.8cm.'[51] Again, it is not clear whether 'duplicate' means a replica or a very similar-looking item. Another alternative is that Crossley-Holland believes the object to have been deaccessioned by LACoMNH at some point between 1964 (Furst's publication, in which it has been identified as being part of the museum's collection) and 1983, when he purchased it from Skip Holbrook who owned an antiques shop in Santa Fe, New Mexico.

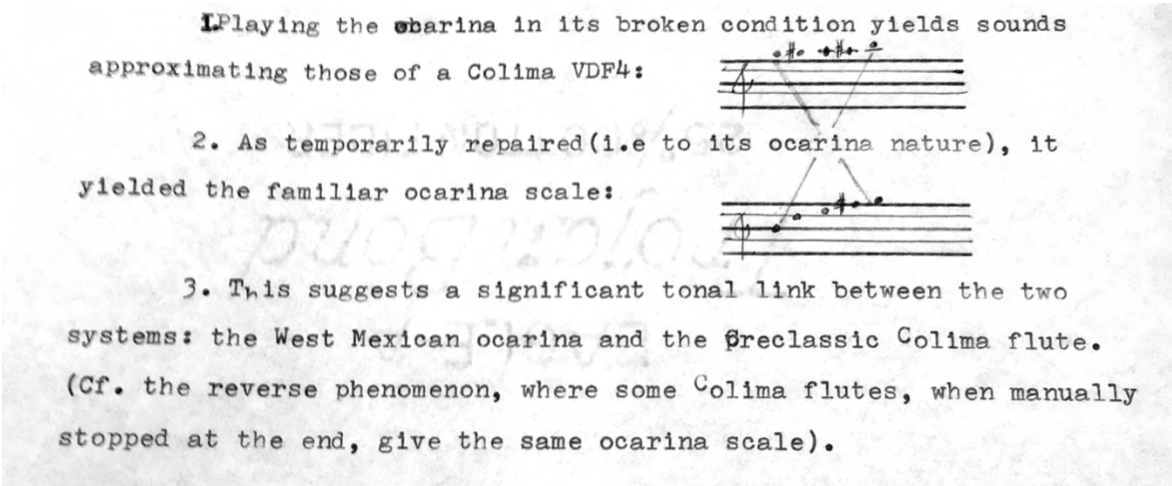
93 of the artefacts in the PCH collection have been repaired. The nature of the repair is generally to affix an appendage which had broken off. In some cases, the entire piece had been broken and reassembled. Many of the other artefacts in the collection are reported as damaged, but without repair. Several of the objects have no condition survey, which could mean that the condition is fine, or that Crossley-Holland had yet to examine it closely enough. It is useful to consider the proportion of objects that have been repaired or modified, as this suggests that the objects had been part of the art and antiquities market for some time before Crossley-Holland's acquisition. It also indicates that Crossley-Holland acquired these objects primarily for aesthetic purposes; their authenticity as material evidence of musical culture is severely compromised following modification of their form.

It is notable that Crossley-Holland apparently had no qualms over testing the acoustic properties of instruments which had been repaired or restored. PCH 52, a figurine depicting a 'one man band', is reported to have damage to its right hand, which has been replaced with 'an object not the original'.[52] The left hand of the figure holds 'panpipes' (several tubes together in a row), and Crossley-Holland expects the damaged right hand to hold a rattle, due to the presence of that configuration in other figurines. PCH 125, which is an ocarina in the shape of a frog, shows a repair to one of its hind legs. This part of the ocarina does not affect the sound-producing mechanism, but Crossley-Holland notes that the replacement may have been 'applied from some other object.'[53]

PCH 214, an ocarina in the shape of a bird, had undergone repairs to the left leg, tail, and head. During this repair, the body cavity had not been fully sealed, so air escapes when the ocarina is played. To investigate its sounds, Crossley-Holland first plays the ocarina in its

[51] 'The Documentation', BUCHA, Box F61, 168.2.
[52] 'The Documentation', 52.1.
[53] 'The Documentation', 125.1.

broken state, with air escaping. He then temporarily blocks the hole, creating an intact resonating chamber. The pitches produced from the broken ocarina approximate the pattern of those played on vertical flutes from Colima. In its 'intact' state, the scale approximates the predicted ('familiar') ocarina pitch series.[54] Aside from the difficulty of testing repaired instruments as if they were original, this is problematic because it is confirmation bias, particularly since the pitch of wind instruments can be so variable depending on the player's technique. If Crossley-Holland was expecting to recreate a certain pitch series, then he could produce that series. This is compounded by the fact that he transcribed pitch series into Western staff notation, which meant homogenising pitches so that they adhere to tempered tuning.


1. Playing the ocarina in its broken condition yields sounds approximating those of a Colima VDF4:

2. As temporarily repaired (i.e to its ocarina nature), it yielded the familiar ocarina scale:

3. This suggests a significant tonal link between the two systems: the West Mexican ocarina and the preclassic Colima flute. (Cf. the reverse phenomenon, where some Colima flutes, when manually stopped at the end, give the same ocarina scale).

Figure 13: Excerpt from the Documentation, showing 'Sound' section for PCH 214. BUCHA Box F61, 214.3.

Several of the vertical flutes have been broken into pieces and repaired: for example, PCH 256, PCH 257, and PCH 258 (see Figure 14). Crossley-Holland deems the repaired instrument to be acoustically intact but, similar to the preceding example, this could mean that he was able to produce the pitch series that he was expecting to be able to produce. In *Heritage of Power*, Kristi Butterwick describes shaft tombs as containing 'jumbled human remains and broken ceramics from different epochs … [which] indicates that the Colima peoples honoured the sacred nature of these burials by reusing the tombs.'[55] It is possible that the flutes were broken before their internment, and perhaps never even intended to be played. Again, the paucity of stratigraphic evidence, and the presence of broken artefacts due to overzealous excavations by looters, obscures reliable information from these sites.

[54] 'The Documentation', BUCHA, Box F61, 214.3.
[55] Kristi Butterwick, *Heritage of Power: Ancient Sculpture from West Mexico* (New York: Metropolitan Museum of Art, 2004), p. 18.

Figure 14: PCH 256, 257, 258; images on the left of the entire flute, on the right, close-ups of the repaired fractures. Photographs by Susan Rawcliffe.

PCH 256 has an adornment which is shaped like a stylised dog's head. Crossley-Holland's description of this flute is problematic for several reasons. Firstly, the flute was reported to have been excavated in Jalisco, but Crossley-Holland identifies the style as being closer to Colima. He also mentions similarities with Mixtec and Zapotec imagery. Crossley-Holland had not seen any similar example from west Mexico. The closest, he reports, is a flute in the Musical Instrument Museum of Brussels, of Totonac origin (that is, from eastern Mexico). That flute had a distinctive loop at one end, which partially stopped the end of the flute, and held safe a pellet which would vibrate inside the flute when blown. From this, Crossley-Holland speculates that PCH 256 may have had a pellet, but when the end was broken, the pellet was lost, and the flute was repaired without it. It is not possible to say for certain, due to such modification. Is it useful for Crossley-Holland to speculate at all, when it is impossible to find evidence to support or refute the claim? Dorfman's interviewees would disagree: Clemency Coggins, professor in Maya art and archaeology at Boston University, believes of unprovenanced artefacts that 'Each one is a little dead end on its own. It's not intellectually honest to study them.'[56] I would extend this assertion to carrying out research with objects that have been modified so vastly from their original, through repairs and restoration.

[56] John Dorfman, 'Getting Their Hands Dirty? Archaeologists and the Looting Trade', *Lingua Franca*, May/June 1998 (published online 28 December 2005), <http://linguafranca.mirror.theinfo.org/9805/dorfman>, last accessed 25 May 2020.

Another point to consider is that the repair and modification of artefacts could point to their falsity. In *Faking Ancient Mesoamerica*, Nancy Kelker (an art historian) and Karen Bruhns (an archaeologist) provide an analysis of various Mesoamerican antiquities, and the issues surrounding several particular styles. The authors acknowledge the difficulty in even approaching the issue in public – 'to a museum, "fake" is the ultimate F-word'[57] – but show that forgeries are prevalent throughout the art and museum world, and that the creation and dissemination of forgeries is not a recent phenomenon. They also point out that there can be a tendency amongst museum staff to view 1970 as a cut-off point, when the UNESCO Convention was published, and artefacts acquired before 1970 must be safe. Kelker and Bruhns dispute this, stating that '… this is far from the case in the New World, where forgeries were certainly being produced early in the period of the Conquest.'[58]

There is a scarcity of published work about forgeries in collections of ancient Mesoamerican artefacts; even Kelker and Bruhns' work has a light-hearted tone. This could be because there is a stigma around taking the issue of forgeries seriously: either one must admit to being duped, or implicate an authority in being duped. Either option would reveal the precarious data which lends credence to the material culture which is fundamental to our museums and our understanding of historical cultures. On the other hand, there are very public declarations of unmasking a fake: the Bolton forgers, the crystal skulls, and countless forgeries of European paintings. Recently, museums have begun to display forgeries that are labelled as such, for example the Victoria and Albert Museum's 2010 exhibition of fakes and forgeries successfully uncovered by the Metropolitan Police,[59] and the Israel Museum's display of the Ivory Pomegranate, after a debate that came to a head in 2005 with a declaration that the object may be a modern forgery; it was kept on display in order to promote public understanding of the problems of unprovenanced objects.[60]

In her article 'Truth in Forgery', Esther Pasztory describes herself as 'the Grim Reaper, sending three spectacular Aztec masks to the netherworld of forgeries',[61] referring to her 1982 article which uncovered three masks at the British Museum as fake. She describes the

---

[57] Nancy L. Kelker and Karen O. Bruhns, *Faking Ancient Mesoamerica* (London: Routledge, 2016), p. 11.
[58] Ibid., p. 12.
[59] Tom Hardwick, '"The Sophisticated Answer": A Recent Display of Forgeries Held at the Victoria and Albert Museum', *The Burlington Magazine*, 152:1287 (2010), 406-408.
[60] Christopher A. Rollston, Davis Parker, and Heather Dana, 'The Public Display of Forgeries: A Desideratum for Museums and Collections', *Near Eastern Archaeology*, 68:1/2 (2005), 75.
[61] Esther Pasztory, 'Truth in Forgery', *Anthropology and Aesthetics*, 42 (2002), 159-165, this citation from p. 159.

motivation for Euro-Americans to believe in the authenticity of fakes, as forgeries are created to accord with their own perception of what a particular civilisation should look like: in the case of the masks, 'exquisite and brutal'.[62] Fakes are convincing because they fit into a 'schema' of a defined style.[63]

Kelker and Bruhn describe the problems with provenance and forgeries in west Mexico specifically, citing López Mestas and Ramos de la Vaga's analysis of a shaft tomb in Huitzilapa, Jalisco, in 1993, as 'the first time [that] archaeologists could associate tomb figurines, other ceramics and artifacts, and human remains in situ … So now we know what we are missing.'[64] The authors evaluate the social and cultural biases which have influenced the study of western Mexico: the ceramics 'embody very essence of "primitiveness"'[65] and the association with shamanism fitted a 1970s North American gap in the market for esoterica. This led to an exponential rise in both looting and forgeries, as west Mexican ceramics became desirable collectors' items.

Robert Pickering carried out an evaluation of Colima ceramic dogs, a particularly appealing form of sculpture due to their fattened bodies, upturned tails, and smiling faces; Crossley-Holland labels one of his examples as a 'friendly puppy'. Pickering concluded that 'at least 40% of the Colima dogs we see all over the world are not Precolumbian … I have documentation for the fact that hundreds of the little dogs were shipped out of west coast Mexico in the late 19th Century.'[66]

Kelker and Bruhn state that 'Widespread fakery has led to a situation in which there are perhaps more fake than genuine pieces out there. Moreover, many of the so-called "real" pieces are pastiches.'[67] They make the point that furniture restoration is regulated so that only a certain proportion of an ancient piece may be changed before it must be sold as a reproduction rather than an antique, but the ceramics of Mesoamerica have no such standardisation. This results in the situation apparent in Crossley-Holland's collection, where nearly one third of the objects show obvious signs of repair, and there is no way of knowing how closely the restored item resembles the original.

---

[62] Ibid.
[63] Ibid., p. 160.
[64] Kelker and Bruhns, *Faking Ancient Mesoamerica*, p. 151.
[65] Ibid., p. 149.
[66] Ibid., p. 150.
[67] Ibid., p. 154.

2.D. Defining the collection

2.D.i. The motivations of collectors

The character and behaviour of collectors has increasingly been explored in museums: for example, a 2019-20 exhibition at the British Museum about Sir Stamford Raffles displayed the artefacts with contextual information and an examination of his collecting practices.[68] The exhibits showed how Raffles's work with the East India Company and his involvement in the British colonial governance in south-east Asia shaped his collecting practices, and latterly, how the perception of Javanese culture in Britain was influenced by his artefacts. Margaret Birley, Keeper of Musical Instruments at the Horniman Museum in London, summarises the need to study the collector in order to investigate the meaning of the collection, in her chapter for the edited volume *Collectors: Expressions of Self and Others*:

> an examination of the meanings invested by collectors in their collections, their intellectual milieus, the historical and social contexts, and their methodologies of collecting is a pre-requisite for a critique of any corpus of knowledge that has been promulgated by a museum.[69]

Birley goes on to examine how the collections of musical instruments at the Horniman were often acquired from collectors who were neither specialists in music, nor systematically collected musical artefacts. The artefacts which now comprise the museum's collections inspire different forms of knowledge, which depend upon the context and choices of the collectors. This in turn influences the way that the displayed objects may be interpreted.

Susan Pearce discusses the motivations for collection in her 1993 study *Museums, Objects and Collections.* She created her own typology to the nature of collecting, classifying collections into 'systematic, fetishistic and souvenir.'[70] The first of these categories is 'attributed scientific status, while the other two are determined by the personal predilections of those that have assembled them.'[71] Crossley-Holland's collection ostensibly falls into the

---

[68] Alexandra Green, 'Sir Stamford Raffles – Collecting in Southeast Asia', *British Museum Blog*, 19 September 2019, < https://blog.britishmuseum.org/sir-stamford-raffles-collecting-in-southeast-asia/>, last accessed 24 May 2020.

[69] Margaret Birley, 'Merchants, Musicians and Missionaries: Contributors to the Musical Instrument Collection of the Horniman Museum 1898-1998', in Anthony Shelton (ed.), *Collectors: Expressions of Self and Other* (London and Coimbra: Horniman Museum and Gardens and Museu Antropológico da Universidade de Coimbra, 2001), pp. 137-145, this citation from p. 137.

[70] Susan Pearce, *Museums, Objects and Collections: A Cultural Study* (Leicester: Leicester University Press, 1992), p. 68-69.

[71] Anthony Sheldon, *Collectors: Expressions of Self and Other* (London and Coimbra: The Horniman Museum/Museu Antropológico da Unversidade de Coimbra, 2001), p. 13.

first category, judging by the extensive 'scientific' documentation he accumulated, and by the imposition of a strict classification system in the form of Hornbostel-Sachs. However, Crossley-Holland had a personal interest in spirituality and mysticism, and this may have contributed a 'fetishistic' or compulsive interest in assembling instruments and figurines from this ancient and mysterious culture as evidenced by his frequent mention of shamanistic and ritual practices.

The Pitt Rivers Museum, part of the University of Oxford, was founded using the collection of Augustus Henry Lane Fox (1827–1900), a Victorian officer of the British Army, who had a lifelong interest in anthropology and archaeology. He amassed a collection of objects from all over the world, mainly acquired through 'dealers, auction houses, and fellow members of the Anthropological Institute.'[72] The museum was founded in 1884, after Pitt Rivers donated his collection to the University of Oxford, with the specification that the university must 'build a museum to house it, appoint a lecturer to teach about it and maintain the general mode of display.'[73] The typological displays, the lighting, the labels, the density of cases, are anachronistic in an age of family-friendly and accessible exhibition spaces. The Pitt Rivers is a museum of museums: in the words of Michael O'Hanlon, director of the museum from 1998 to 2015, 'an institution preserved in amber.'[74] In *Knowing Things: Exploring the Collections at the Pitt Rivers Museum 1884–1945*, Chris Gosden and Francis Larson chart the shifting meanings of the museum from its inception during which various characters (anthropologists, missionaries, administrators) and collected objects intertwine to create the museum's significance.[75]

Gosden and Larson examine one aspect of Pitt Rivers's demeanour and the way that he and his contemporaries viewed and used cultural artefacts to present a certain image of themselves. Pitt Rivers gave a presentation to the Ethnological Society of London in 1869, about a marble armlet from Nigeria. Gosden and Larson report that 'In presenting this object Pitt Rivers was also presenting himself as a man of far-flung and useful connections, who had

[72] Pitt Rivers Museum, 'History of the Museum', <https://www.prm.ox.ac.uk/history-museum>, last accessed 24 May 2020.
[73] Ibid.
[74] Michael O'Hanlon, 'Foreword', in Chris Gosden and Frances Larson, *Knowing Things: Exploring the Collections at the Pitt Rivers Museum 1884-1945* (Oxford: Oxford University Press, 2007), pp. xvii-xviii, this citation from p. xvii.
[75] Chris Gosden and Frances Larson, *Knowing Things: Exploring the Collections at the Pitt Rivers Museum 1884-1945*.

an in-depth knowledge of the material culture of the world.'[76] Although Crossley-Holland was collecting one hundred years later than Pitt Rivers, it is plausible that he too was attracted by the allure of cultural objects which could also act as physical evidence of his identity as a specialist in music cultures of the world.

Crossley-Holland similarly paid much attention to the physical attributes of his objects, which included the mechanisms by which they make noise. Crossley-Holland's documentation contains copious description of iconography, which is reminiscent of Gosden and Larson's report of Pitt Rivers's presentation of the marble armlet at the Ethnological Society which included 'A brief physical description … but information regarding its provenance was not recorded … These details were important, but attention was also focused firmly on the object's physical qualities.' Similarly, the lack of provenance of the PCH artefacts meant that Crossley-Holland's research focussed on the observable characteristics.

Crossley-Holland was positioned within the world of art and antiquities, of dealers and auction houses. Based upon this, I infer that Crossley-Holland first became motivated by personal aesthetic choices to begin a private collection, perhaps even as a hobby, and his research was performed after the collection had been assembled. When he bought the artefacts, he was removing them from the world of trade and exchange to an academic environment. However, in the late 1980s, he began looking for a buyer for the collection, thus attempting to return it to the world of commerce, but which may in turn have led back to an educational environment.

2.D.ii. Attempts to sell the collection

Nineteenth-century collectors contributed to the collections of many UK museums; some even became the basis of the entire museum, like the Pitt Rivers. Likewise, Crossley-Holland wanted his collection to be kept in a museum eventually, although he wished to sell rather than donate it. There are letters in the Crossley-Holland archive showing that ideally, Crossley-Holland wished for the collection to be used for research; however, he also used an auction house to advertise the collection for private sale.

In the Crossley-Holland archive there are several letters between Crossley-Holland and various organisations about the possible sale of the collection. He met with Professor Brian

[76] Ibid., p. 41.

Morris of the Museum and Galleries Commission (a precursor to Museums, Libraries, and Archives Council), who then got in touch with various curators on Crossley-Holland's behalf. This led to correspondence with several institutions in the United Kingdom, and Crossley-Holland also sent speculative letters to organisations in the United States. The earliest correspondence about a potential sale dates from 1988. In 2000, an advertisement was printed in the magazine *Apollo*, and there are letters dating intermittently from the intervening years which are summarised in the table below.

Date	**Organisation**	**Subject**
02.10.88-21.02.91 12 letters	Pitt Rivers Museum, Oxford, UK	The PRM were interested in acquiring the PCH collection. Crossley-Holland asked for £180,000; as the acquisitions budget for the year for the whole museum was a maximum of £2000, the Director of Ethnology and Prehistory at the PRM hoped to raise the money from grants. In the final letter the Director is waiting to hear about some funding opportunities, but as there is no further correspondence, presumably he was unable to raise the capital.
24.04.90-12.10.90 3 letters	Horniman Museum, London, UK	The curator of musical instruments expressed interest in the acquisition of the PCH collection, and visited Crossley-Holland in Wales. The Horniman's director was 'enthusiastic' about acquiring the collection, but Crossley-Holland heard nothing for several months. Eventually the curator apologises for having heard nothing from the director either, and the correspondence appears to have halted subsequently.
11.05.93	Trust of the West, Los Angeles, US	A colleague of Crossley-Holland's suggested that the Trust of the West had contact with the Mexican government, so might purchase the collection with a view to returning it to Mexico. Crossley-Holland writes to them, saying that he is 'anxious to find a permanent home' for his collection as well as to 'recover the substantial investment' he had made. He wishes for his enquiries to be kept confidential. He concludes that 'Somehow the Mexicans seem the right people to have [the collection], and would, I feel sure, respond to an appropriate gesture.' There is no answering letter.

07.05.95	National Museum of the American Indian, Smithsonian Institution, Washington D.C., US (to Kevin Crossley-Holland, who made enquiries on his father's behalf).	This letter was sent on behalf of the Curatorial Council of the NMAI, who considered the offer to purchase the PCH collection. The Council's concerns are of the ethics of acquiring funerary objects; the lack of evidence for the artefacts' legal acquisition; adherence to the UNESCO Convention of 1970 and the bilateral agreement between Mexico and the US. Finally, the offer was rejected, due to a limited acquisitions budget.
12.09.95	'Kevin' [Crossley-Holland]	Kevin was based in the USA during 1995, and made enquiries about the sale of his father's collection to the Heard Museum, University of Texas, and the University of Minnesota. None of the institutions were interested in purchasing it.
15.05.96	Royal Northern College of Music, Manchester, UK	Crossley-Holland sent a contact at the College some information about his collection and accompanying documentation. He states that his 'intention is to find a permanent home for the collection and it would be nice to think that home might be in Britain.' There is no further correspondence.
22.06.97	'Merêd and Phyllis' [Meredydd Evans, Welsh folk singer and Phyllis Kinney, American folk singer; a married couple who were well-known in Wales for their song-collecting, recordings, and Welsh language advocacy]	Crossley-Holland sent a copy of the information about his collection and documentation for an unnamed friend of the couple's 'in Harvard' who might be interested in its purchase.
02.10.98	National Library of Wales	The Library is interested in purchasing part of Crossley-Holland's collection: 'the works that are not already represented here in any edition.' Presumably, this refers to items in the Celtic book collection. There is no further correspondence.
30.11.98	From Peter Crossley-Holland to University of Wales, Bangor	Crossley-Holland refers to several visits by a member of staff to his house to view his Archive: i.e. his library, Mexican collection, and LPs. He asks for the sum of £400,000 to cover all three; he would negotiate separately for his compositions. There is no evidence of a reply.

29.03.99	Schubert Club, St Paul, US	The Schubert Club intended at one point to purchase the PCH collection, but when this 'proved impossible' they hoped to find another purchaser in the US, but to no avail. In the process, they lost the set of photographs that Crossley-Holland had sent.

Figure 15: Summaries of letters from the Crossley-Holland Archive, regarding his wish to sell the collection. Information from BUCHA, uncatalogued box.

Finally, Crossley-Holland arranged an advertisement in the magazine *Apollo: The International Magazine of the Arts*, which was published in the July 2000 issue titled 'Antiquities'.[77] The full-page advert featured photographs of some of the figurines, and a conch shell trumpet. There are letters in the archive between Crossley- Holland and Howard Neville, the dealer, discussing the layout and content of the advert.

Figure 16: (R) Advert for the PCH collection in Apollo; (L) adverts on the opposite page. BUCHA, uncatalogued box.

[77] Howard Neville, 'Unique Collection of Musical Artefacts from Pre-Hispanic West Mexico', *Apollo*, July 2000, 11.

After Crossley-Holland's death in 2001, the value of the collection had been reconsidered, and its price reduced to £10,000. This is evident in a handwritten letter in the Crossley-Holland archive which is undated and unsigned, transcribed below.

> Re: Pre-Col. Coll. [Pre-Columbian Collection]
>
> Prof Crossley-H approached me w. a view to selling his pre-Col. col. after his having tried in vain to dispose of it with Academic and Museum Institutions since 1989.
>
> This collection consists of pottery figurines and are [sic] accompanied by academic and scientific documentation. The pieces are of scientific interest and not of artistic interest.
>
> I have tried in vain to help Prof C-H to dispose of this collection, having advertised it and approached possible buyers at home and abroad for over 18 months.
>
> In view of the above I consider that, in the present circumstances, this collection is unsaleable and I value it at £10,000.[78]

I believe that this letter was composed by Howard Neville, the dealer who assisted Crossley-Holland for about 18 months before his death. The letter is in Nicole Crossley-Holland's handwriting, but it appears to be a copy – either she could not access a photocopier, or someone was reading out a letter to her. A missive about personal matters on the reverse of this document proves that the hand is Nicole's, and, from the contents of this missive, it may be implied that the copy dates from after her husband's death.

It is of note that the collection has been defined variously as of scientific, academic and artistic value. The assertion that the collection is 'not of artistic interest' appears to be based on its lack of saleability through auction, while the 'scientific interest' is due to Crossley-Holland's accompanying documentation. It is difficult to say whether Crossley-Holland himself felt the collection lacked artistic merit. From my examination of his research and his collecting practices, I conclude that he actually held many of the objects in high artistic regard. He refers with admiration to the manufacturing techniques and creative decoration and adornment of some of the objects. He also placed a high monetary value on the collection, suggesting that he felt the collection had become a financial investment as a piece of fine art.

The three sets of documents from his archive – the Documentation, the Accessions List, and the Inventory Chart – show that the collection had multiple meanings for Crossley-Holland. It comprises evidence of pieces bought from renowned art dealers in California; it represents an

[78] Handwritten letter, possibly by Nicole Crossley-Holland, BUCHA, uncatalogued box.

ancient and mysterious series of cultures; and it engenders a new type of musicological study. These latter points form the premise of the next chapter.

Chapter 3: Interpreting the collection

In this chapter, I will describe and analyse Crossley-Holland's use of his collection as a resource for academic research. In Chapter 2, I showed that he assembled his collection using art dealers and antiques shops. Crossley-Holland subsequently started researching ancient Mexican music through artefact-based study. Firstly, I outline the circumstances in which he was operating as a Professor of Ethnomusicology at the University of California, Los Angeles (UCLA). Several of his colleagues were investigating the use of transcription in music analysis, and how machines could be used to assist this; the classification of musical instruments was also an important feature of organological research at the time. Fieldwork and ethnography are significant features of ethnomusicology today, and it is a methodology which draws from the influence of Malinowskian anthropology. At UCLA, the study of ethnomusicology was a musicological pursuit, and so analytical techniques were more common than at universities in which ethnomusicology was aligned more closely with anthropology. Alan Merriam, who was Professor of Anthropology at Indiana University from 1962-1980, defined ethnomusicology as 'the study of music in culture'.[1] He emphasised the need for ethnomusicologists to move on from 'the day of the "armchair ethnomusicologist" who sits in the laboratory' to 'spending time in the field gathering his materials at first hand.'[2] However, at UCLA, the methods of compiling taxonomic systems and visualisations of sound were still at the forefront of their activities.

In the second part of this chapter, 3B, I evaluate Crossley-Holland's research on his collection, in the context of UCLA's ethnomusicological pursuits as well as his own views on music and culture. His musical and cultural interpretations of the collection reflect his seemingly dissonant approaches to research, which range from speculation about the function of instruments to the compilation of large amounts of numerical data about their sound.

3.A. Context

3.A.i. Crossley-Holland at UCLA

Crossley-Holland's most notable professional role was as Professor of Ethnomusicology at UCLA, which he held from 1968 to his retirement in 1983. Drawing from material at the UCLA University Archives, I will describe the ethnomusicological background to Crossley-Holland's activities at UCLA during the 1960s and 1970s: an exciting time in the

[1] Alan P. Merriam, 'Ethnomusicology: Discussion and Definition of the Field', *Ethnomusicology*, 4:3 (1960), 107-114, this citation from p. 109.
[2] Ibid., p. 113.

development of the discipline. The head of Ethnomusicology at the beginning of Crossley-Holland's tenure was Mantle Hood, one of the pioneers of ethnomusicology in the United States. Hood created the Institute of Ethnomusicology in 1960, an 'Organised Research Unit' within the Department of Music.[3] He also encouraged ethnomusicology as a specialism for undergraduate study within music and folklore studies. It was at UCLA that Mantle Hood established his ground-breaking concept of bi-musicality,[4] and Charles Seeger developed his Melograph.[5] A Latin American programme was introduced in 1966 by Robert Stevenson,[6] along with a Mexican music performance ensemble. During the following decades, the ensemble music modules in various genres became key to ethnomusicological study at UCLA – a practice which continues today. These performance-based modules were developed in line with Hood's concept of bi-musicality: students are expected to achieve a high technical standard of music performance in a style from a culture other than their own.

Prior to his appointment at UCLA, Crossley-Holland worked firstly for BBC radio, and then at the Institute for Comparative Music Research in Berlin.[7] His work at the BBC was as a producer for the Third Programme. Radio programmes which he produced and introduced included the subjects of Tibetan music, the Aeolian harp, and Indian classical music.[8] During his stint in Berlin, he began more serious studies into Celtic music and music in Tibet,[9] culminating in the publication of three LPs in the UNESCO Collection of Traditional Music of the World series: 'The Music of Tibetan Buddhism'.[10]

After leaving Berlin, Crossley-Holland briefly became a visiting professor at universities in Illinois and Hawaii.[11] This experience, as well as his wider experience in world music

---

[3] Ron Conner, 'History of Ethnomusicology at the University of California, Los Angeles', 5 December 2011, <https://www.ethnomusicology.org/page/HS_InsUCLA>, last accessed 23 June 2020.
[4] Mantle Hood, 'The Challenge of "Bi-musicality"', *Ethnomusicology*, 4:2 (1960), 55-59.
[5] Charles Seeger, 'The Model b "Melograph": A Progress Report', *Journal of the International Folk Music Council*, 14 (1962), 168.
[6] UCLA Department of Ethnomusicology, http://www.ethnomusic.ucla.edu/history-of-the-department, last accessed 23 February 2016.
[7] James Porter, 'The Distant Isle: The Scholarship and Music of Peter Crossley-Holland (1916-2001)', *Ethnomusicology*, 46:2 (2002), 323-329, this citation from p. 323.
[8] 'Music from Tibet: Two Illustrated Talks by Peter Crossley-Holland', BBC Third Programme, 6 and 13 January 1962; 'Musical Curiosities: The Aeolian Harp', BBC Third Programme, 2 June 1950; 'Indian Classical Music', BBC Third Programme, 22 February, 7 March, 28 March, and 11 April 1964.
[9] Nazir A. Jairazbhoy, 'Introduction', in Nicole Marzac-Holland and Nazir A. Jairazbhoy (eds.), *Essays in Honour of Crossley-Holland on his Sixty-Fifth Birthday* (Los Angeles: University of California, Los Angeles, 1983), pp. ix-xii, this citation from p. x.
[10] Various Artists. *The Music of Tibetan Buddhism*. 1961. LP record. Three discs. Bärenreiter-Musicaphon. BM30L2011. Recordings, photographs and notes by Peter Crossley-Holland.
[11] Nazir A. Jairazbhoy, 'Introduction', p. x.

research, seems to have contributed to his appointment at UCLA. However, his activities as a composer may have drawn Mantle Hood's attention as well; Hood himself was a composer, and gathered other composers to staff his Ethnomusicology department, namely Nazir Jairazbhoy and J.H. Kwabena Nketia.

From 1969, Crossley-Holland took on undergraduate teaching responsibilities in Ethnomusicology, leading seminars in Comparative Music Theory, Musical Instruments of the Non-Western World, Music Cultures of the World, and his specialist subject, Music in Tibet.[12] In 1971, Mantle Hood proposed the creation of a Department of Ethnomusicology as a separate entity from Music. Crossley-Holland signed a letter in support of this proposal, along with 20 other members of staff, including Charles Seeger.[13] However, in later discussions, Crossley-Holland backtracked and positioned himself as 'on the fence', in a letter to the Dean of College.[14] There was some contention over the proposal to create a separate Department, as many staff felt that Ethnomusicology students should also have a high standard of Western aural and theory training, which should take place within the Department of Music. The creation of a new Department of Ethnomusicology would furthermore encourage confusion among the students, cause both departments to be weaker than one combined, and duplicate labour. The Chairman of the Music Department conducted interviews with his staff to determine their views on the proposal, and 33 out of the 38 were strongly opposed, citing the above reasons as well as Hood's 'dilettantism', his 'empire building', and his attempt to 'feather his own nest without any consideration for the University.'[15] Mantle Hood left UCLA in 1974, which brought an end to the Institute for Ethnomusicology, although it continued to be a specialism within the Department of Music. Peter Crossley-Holland was the Chair of the Council of Ethnomusicology at UCLA from 1976-79, which was a post that oversaw the Ethnomusicology curriculum and its administration. Eventually, in 1986, Ethnomusicology became more administratively autonomous, and the Department of Ethnomusicology was finally created in 1989.[16]

---

[12] Schedule of classes 1968-1976, held at University of California, Los Angeles Library Special Collections, LD781.L7 S34, Box 003.
[13] 'Proposal to Establish a Department of Ethnomusicology', 23 February 1971, held at University of California, Los Angeles Library Special Collections, UARC.0595, Box 595.
[14] Letter from Walter H. Rubsamen, Chairman of the Department of Music to Charles Speroni, Dean of the College of Fine Arts, detailing the responses of 38 members of staff to the proposal to separate Ethnomusicology from the Department of Music, 14 October 1971, held at University of California, Los Angeles Library Special Collections, UARC.0595, Box 595.
[15] Loc. cit.
[16] Ron Conner, 'History of Ethnomusicology at the University of California, Los Angeles'.

During Crossley-Holland's tenure at UCLA, he began to collect artefacts from pre-invasion Mesoamerica, and eventually these formed his collection of west Mexican musical objects. There was another specialist in Mesoamerican music at UCLA: Robert Stevenson, who published on Aztec and Inca music as well as post-invasion colonial music in Mexico. In conversations with former students during my visit to Los Angeles in May 2018, a fierce rivalry between the scholars was reported, with Stevenson deriding Crossley-Holland's studies of his Mexican artefacts. Similarly to Crossley-Holland, Stevenson began his career as a composer before entering academia. However, he achieved greater success in the academic world than Crossley-Holland, judging by his number of publications and awards he received. Stevenson contributed to the UCLA publication *Essays in Honour of Peter Crossley-Holland on his Sixty-Fifth Birthday*, but his chapter details Crossley-Holland's work as a composer rather than discussing his work on pre-Columbian music.[17] Crossley-Holland does not cite Stevenson in his documentation for the PCH collection, even though he did hold a copy of Stevenson's *Music of Mexico* in his personal library.[18] The researchers from UCLA whom Crossley-Holland does reference belonged to other disciplines: the anthropologist Peter Furst, and archaeologists Phil Weigand and Clement Meighan.

This brief institutional history shows that Ethnomusicology at UCLA was populated with strong characters and weathered administrative fluctuations. It was in this environment that Crossley-Holland developed his research methods, as he had never been trained in ethnomusicology. From his published and unpublished works, I infer that he favoured interdisciplinarity, and preferred his own methodologies rather than conforming to his colleagues' ways of working.

In this chapter, I will evaluate Crossley-Holland's approach to ethnomusicological study, compared with other activities at UCLA at the time. I will focus on the major musical methodologies that he employed in his interpretations of the PCH collection: transcription, classification, and performance. The notable lacuna in Crossley-Holland's research is fieldwork. His performance research was limited to the sound-producing properties of each artefact, and he played the instruments in order to create the transcriptions and classification

[17] Robert Stevenson, 'Peter Crossley-Holland: Composer', in Nicole Marzac-Holland and Nazir A. Jairazbhoy (eds.), *Essays in Honour of Crossley-Holland on his Sixty-Fifth Birthday* (Los Angeles: University of California, Los Angeles, 1983), pp. 1-10.
[18] Robert Stevenson, *Music in Mexico: A Historical Survey* (New York: Crowell, 1971).

system of the collection, rather than as a method for determining the cultural relevance of music.

In an article which he wrote for the journal of the ICTM, Crossley-Holland encapsulates his predilection for the 'collect and preserve' style of ethnomusicology practised in the early part of the twentieth century.[19] Collecting and preserving the world's music was an approach taken by many scholars of the twentieth century, and it involved the assemblage of the material evidence of music in order to categorise and compare. Alan Lomax was a proponent of this approach, as seen in his system of classifying folk music from around the world, which he called Cantometrics.[20] This system focussed on vocal music only, and involved the rating of different styles based upon characteristics such as rhythm, melodic shape and form, tempo, volume, and rubato. There are thirty-seven categories in total, limited by the size of the coding sheet that Lomax used to record his data.

Hornbostel-Sachs classification and transcription also represent this 'collect and preserve' approach to ethnomusicology, and Crossley-Holland applied both methods to his Mexican collection. This resulted in the accumulation of a huge amount of data. The difference between Crossley-Holland's accumulation of data and Lomax's is their use in determining patterns. Lomax intended to compare music of all the world's cultures, whereas Crossley-Holland had a mass of information about a niche collection of musical material.

In the *Grove Music* article on cantometrics, Thieme notes that '[c]ritics of the system argue that scientific objectivity and rigour suffer because the analyses include evaluative and intuitive assessments of data, and because some conclusions are founded on hypotheses rather than facts or proven data.'[21] A similar criticism can be made of Crossley-Holland's approach, which is based in part on the assemblage of 'objective' numerical data, but also on a very speculative, hypothetical analysis of the cultural context of the artefacts, which I will discuss further in section 3.B.ii below.

[19] Peter Crossley-Holland, 'Preservation and Renewal of Traditional Music', *Journal of the International Council for Traditional Music*, 16 (1964), 15-18.
[20] Alan Lomax, 'Song Structure and Social Structure', *Ethnology*, 1:4 (1962), 425-451.
[21] Darius L. Thieme, 'Cantometrics', *Grove Music Online*, 2001, <https://doi.org/10.1093/gmo/9781561592630.article.04788>, last accessed 10 April 2020.

3.A.ii. Classification

Crossley-Holland applied Hornbostel-Sachs classifications to each instrument and instrument effigy in his collection. At the time, Hornbostel-Sachs was in widespread use, and many museums continue to use the system as a way of ordering their musical instrument collections. Mantle Hood was critical of over-reliance on the Hornbostel-Sachs system in his seminal publication *The Ethnomusicologist*, in which he censured Hornbostel-Sachs's inconsistency of criterion for categorisation.[22] Hood also stated that their system did not appropriately express the point of organological study: 'What unique information is represented by a musical instrument? We are not classifying flora or fauna …'[23] The taxonomy of instruments must somehow convey what is specific about the musical instrument and its function. Crossley-Holland makes no mention of any such criticism of Hornbostel-Sachs; however, he must have found the system to be inadequate, as he had to add his own modifiers to many of the classifications.

The advantages of using the Hornbostel-Sachs system are that it is widely understood by scholars, and that it defines the acoustic properties of the instruments. In the case of the PCH collection, the musical attributes of an artefact are sometimes obscured by its form or decoration, so adding the Hornbostel-Sachs classification emphasises its sonic use; Crossley-Holland's defining characteristic of the collection is the musicality of the artefacts.

Classification systems have primarily been devised by curators of musical instrument collections, for example those by Victor-Charles Mahillon (Musée Instrumental du Conservatoire Royal de Musique, Brussels),[24] Curt Sachs (Staatliche Instrumentensammlung, Berlin),[25] and André Schaeffner (Musée de l'Homme, Paris).[26] Geneviève Dournon, who wrote the chapter about organology in Myers's seminal *Ethnomusicology: An Introduction*,[27] was herself an ethnomusicologist working on musical instruments at the Musée de l'Homme. Dournon advocates a 'holistic' approach to the study of musical instruments, which reaches

---

[22] Mantle Hood, *The Ethnomusicologist* (New edition; Kent: Kent State University Press, 1982), p. 125.
[23] Ibid., p. 126.
[24] William Waterhouse, 'Mahillon, Victor-Charles', *Grove Music Online*, 2001, <https://doi.org/10.1093/gmo/9781561592630.article.53197>, last accessed 10 April 2020.
[25] Howard Mayer Brown, 'Sachs, Curt', *Grove Music Online,* 2001, <https://doi.org/10.1093/gmo/9781561592630.article.24735>, last accessed 10 April 2020.
[26] Christiane Spieth-Weissenbacher, revised by Jean Gribenski, 'Schaeffner, André', *Grove Music Online,* 2001, <https://doi.org/10.1093/gmo/9781561592630.article.24735>, last accessed 10 April 2020.
[27] Geneviève Dournon, 'Theory and Method: Organology', in Helen Myers (ed.), *Ethnomusicology: An Introduction* (London: Macmillan, 1992), pp. 245-300.

'beyond the material structure of the instrument and [takes into] account acoustics, scales, the musician, performance practice, and to integrate historical and genetic data as well as socio-cultural factors and beliefs which determine the function of the instrument.'[28] Although Dournon published this after Crossley-Holland had ceased work on his collection, it encapsulates his attempts to study the physical, acoustic, and cultural elements of the instruments. As shown later in this chapter, some of the elements were given more consideration than others, and the manner in which he approached these studies varied from empirical to speculative. Dournon also emphasises the importance of fieldwork in musical instrument research, which Crossley-Holland did not undertake.

Hornbostel-Sachs is useful when comparing many instruments across cultures, and to convey physical and acoustic properties. However, one of its shortcomings is that it cannot distinguish between instruments which are physically similar, even if they are significantly different in their aesthetic and cultural aspects. Most of the instruments in Crossley-Holland's collection fall into the categories of 421.221.11/12 (open flute with internal duct without finger holes/with finger holes) and 421.221.41/42 (vessel flute with internal duct without/with finger holes). The system of classification is redundant if applied to a discrete collection wherein most of the classifiers are the same. An analogous problem would be applying the Dewey Decimal System to a collection of Shakespeare's plays. Each book would be labelled 822.33; difficulties would arise when trying to locate any single play. Similarly, it is not possible to convey information about individual PCH artefacts using Hornbostel-Sachs classifications; additional context about the instruments' archaeological origins, physical components, or cultural information is what differentiates them.

3.A.iii. Transcription and transcription machines

Transcription has long been a mainstay of ethnomusicological study. Bruno Nettl posits that it is the 'single fundamental skill that is required of all ethnomusicologists … if there is such a skill'.[29] Usually transcription is employed as a tool to analyse a particular performance or recording, as experienced during fieldwork, and Nettl points out that 'only with difficulty can transcription be separated from description and analysis of music, techniques that normally both precede and follow it.'[30] Transcription is a tool used to make wider analyses, but

[28] Ibid., p.249.
[29] Bruno Nettl, *The Study of Ethnomusicology: Thirty-Three Discussions* (Urbana: University of Illinois Press, 2015), p. 72.
[30] Ibid., p. 74.

Crossley-Holland uses it as the end point of his research, without employing description and analysis. It is possible that he intended to analyse the diagrams further if his monograph were to be published, but as the documentation stands, the transcriptions are presented without further explanation. Of course, it was not possible for Crossley-Holland to carry out fieldwork in the ancient cultures of west Mexico, but without any ethnographic research, the transcriptions provide limited understanding.

Machines have been used to aid transcription by ethnomusicologists since the early twentieth century: notably by Milton Metfessel in the United States, [31] Karl Dahlback and Olav Gurvin in Norway, [32] and Dalia Cohen and Ruth Katz in Israel. [33] Metfessel used photography and a stroboscope to measure vibrations with light pulses, and displayed the results on a graph.[34] He noted the implications for the study of folk songs; he felt the minute changes in pitch and attack that he heard could be displayed usefully by the graphic form of the sound waves.[35] Similarly, Dahlback, Gurvin, Cohen, and Katz employed machines to determine patterns in vocal folk music of their vicinities, and evaluated their use as aids for transcription.

At UCLA, a notable champion of transcription machines was Charles Seeger, who invented the Melograph.[36] This machine gave a graphic rendering of a recording of music. It was used in particular to portray the elements of music which cannot be expressed precisely through Western notation: microtones, glissandi, vibrato, attack, and relative loudness.[37] This influential machine was used in music research across the world, including by the scholars of Norwegian and Jewish music cited above. Mantle Hood employs Melograms in *The Ethnomusicologist*, to illustrate the acoustic properties of the oboe during a discussion on problems of notation.[38] He believes the Melograph Model C 'gives promise of a solution to

[31] Milton Metfessel, *Phonophotography in Folk Music: American Negro Songs in New Notation* (Chapel Hill: University of North Carolina Press, 1928).
[32] Karl Dahlback, *New Methods in Vocal Folk Music Research* (Oslo: Oslo University Press, 1958); Olav Gurvin, 'Photography as an Aid in Folk Music Research', *Norweg*, 3 (1953), 181-196.
[33] Dalia Cohen and Ruth Katz, 'Remarks Concerning the Use of the Melograph in Ethnomusicological Studies', *Yuval: Studies of the Jewish Music Research Centre*, 1 (1968), 155-168.
[34] Milton Metfessel, 'A Photographic Method of Measuring Pitch', *Science*, 68:1766 (1928), 430-432.
[35] Milton Metfessel, 'The Collecting of Folk Songs by Phonophotography', *Science*, 67:1724 (1928), 28-31.
[36] See a short film which includes a demonstration of the melograph in UCLA's Ethnomusicology Lab. *A World of Music*. Directed by Jim Ward. 1972. https://archive.org/details/calauem_000054, last accessed 19 April 2020.
[37] Dalia Cohen and Ruth Katz, 'Melograph', *Grove Music Online*, 2001, <https://doi.org/10.1093/gmo/9781561592630.article.18359>, last accessed 17 April 2020.
[38] Hood, *The Ethnomusicologist*, pp. 104-110.

the problem of rhythmic subtleties',[39] which cannot be adequately conveyed by Western notation.

Seeger introduces his experiments with using machinery to aid transcription in a 1957 article for the International Folk Music Council. Within this, he posits that 'our conventional notation will not serve … the need of a universal music sound-writing.'[40] He emphasises the need for legible and comprehensible graphic notation, with the aim to deliver 'entirely objective graphs.'[41] Seeger also advocates the combination of standard Western notation and graphic; the two should complement each other, and provide a greater depth of information for the musicologist.

The following year, Seeger published an article in which he expounded upon the theoretical problems of notation, identifying in particular the difference between prescriptive notation (as practised in Western art music) and descriptive notation, which provides a more 'scientific' method.[42] Using a machine to transcribe music and sound removes the ethnocentricity of using Western notation, and thus levels all musics to their physical sound: 'the objectivity of the electronic reduction of the oscillograph curve … is vastly superior' to hand-drawn graphs, or indeed, staff notation.[43] In this article, Seeger labels (ethno)musicology a 'descriptive science', to which graphing devices and techniques can provide a scientific, objective method. However, he goes on to outline the importance of cultural and interpretative information only achievable with the human ear and brain. Seeger's mention of bi-musicality belies his association with Mantle Hood, and the musicological, rather than anthropological, emphasis of UCLA ethnomusicology; as a colleague at UCLA, Crossley-Holland would have developed his understanding of ethnomusicology along the same lines. Indeed, Crossley-Holland's documentation exemplifies Seeger's method of a combination of graphic, machine-produced notation and Western staff notation, as well as interpretative descriptions of the sounds of the artefacts.

---

[39] Ibid., p. 116.
[40] Charles Seeger, 'Toward a Universal Music Sound-Writing for Musicology', *Journal of the International Folk Music Council*, 9 (1957), 63-66, this citation from p. 66.
[41] Ibid., p. 63.
[42] Charles Seeger, 'Prescriptive and Descriptive Music-Writing', *The Musical Quarterly*, 44:2 (1958), 184-195, this citation from p. 187.
[43] Ibid.

Crossley-Holland edited a volume of *Selected Reports in Ethnomusicology* which was an assemblage of articles about the Seeger Model C Melograph and its applications.[44] In his cursory introduction, Crossley-Holland describes how the articles 'help to explore the capabilities and limitations of this recent addition to laboratory equipment designed for the objective analysis of sound.'[45] Although the Melograph was not relevant to Crossley-Holland's study of his collection, his role as editor of this volume shows that he was aware of how useful transcription machines could be.

Naizir A. Jairazbhoy, the head of Ethnomusicology at UCLA after Hood's resignation, analysed the use of mechanical aids in two articles, published in the same 1977 issue of *Ethnomusicology.* In one of these, he writes of the technical advantages and disadvantages of using the machinery, in which he mentions the use of the Stroboconn at UCLA's Ethnomusicology Lab; in the other, he evaluates the application of mechanical aids in the study of music.[46]

I have shown that Crossley-Holland's contemporaries experimented with mechanical aids for transcription. The extent of Crossley-Holland's research into acoustics can be inferred to be a reflection of this ubiquitous approach to music analysis that focussed on machines and on graphical outputs. As the Melograph was used to compare different iterations of vocal music, its usefulness to Crossley-Holland's study was limited. He used a Stroboconn to assist the measurement of pitch, as his aim was accurate pitch readings.[47] In *Musical Artifacts of Pre-Hispanic West Mexico: Towards an Interdisciplinary Approach* Crossley-Holland mentions measurements taken in 'controlled conditions in a physics laboratory'.[48]

UCLA's physics laboratory was utilised by other academics to measure musical instruments: ancient Peruvian whistling water bottles. This study was carried out by Steven Garrett (from the Department of Physics at UCLA) and Daniel K. Stat (from the Museum of Cultural History at UCLA). Their findings were published in 1977, in the *Journal of the Acoustical*

---

[44] Peter Crossley-Holland (ed.), *Selected Reports in Ethnomusicology, Volume II No.1: The Melograph* (Los Angeles: University of California, Los Angeles, Institute of Ethnomusicology, 1974).
[45] Ibid., p. vi.
[46] 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.
[47] 'The Documentation', held at Bangor University Crossley-Holland Archive (BUCHA), Box F61, 158.10. 'Notation from Stroboconn (ML)'. ML refers to Mark Levy, who wrote an article in *Selected Reports Volume II No.1* which explained how the Melograph worked.
[48] Peter Crossley-Holland, *Musical Artifacts of Pre-Hispanic West Mexico: Towards an Interdisciplinary Approach* (Los Angeles: University of California, Los Angeles, 1980), p. 15.

Society of America.[49] There are some similarities in the methods mentioned in this article and in Crossley-Holland's documentation: for example, using a compressed air source, and placing the sound level meter or microphone in a position which mimics the distance from the artefact to a player's ear. Garrett and Stat describe fully their method, including a diagram showing the configuration of the machines in the laboratory. I would suggest that Crossley-Holland used a similar setup, although he does not explicitly state anywhere in his documentation what his method was.

Another similarity between Garrett and Stat's study and Crossley-Holland's approach is the use of numerical data for comparative purposes, and the rendering of these data in the form of diagrams and tables. This is suggestive of the use of graphs and tables in transcription research, and shows the connection between the ethnomusicological transcription approach as seen in Seeger's research and the organological approach taken by Garrett and Stat. Crossley-Holland adapted the conventional ethnomusicological methodologies and made them appropriate for the ancient artefacts.

Garrett and Stat's study deviates from Crossley-Holland's in that they utilise the data to suggest the cultural origins of the Peruvian artefacts. It is possible that Crossley-Holland intended to analyse his data further, and draw these sorts of inferences himself, but moved on from his project before it developed that far. Instead, he provided a more speculative description of the meaning of music and culture in ancient west Mexican cultures.

Crossley-Holland includes photographs that illustrate instruments' spectra (the frequencies of sound which contribute to timbre or quality). These present as bright white lines on a black background. The images are not attributed to any equipment in particular. However, a comparison with photographs taken using a cathode-ray oscilloscope in the *Grove Music* article on this subject suggests that he used that machine.[50]

The following image appears in the documentation under the heading 'timbre', showing the spectrum produced by one pitch on this instrument (a ceramic conch trumpet, PCH 47).[51]

---

[49] Steven Garrett and Daniel K. Stat, 'Peruvian Whistling Bottles', *The Journal of the Acustical Society of America*, 62:2 (1977), 449-453.
[50] Charles Taylor and Murray Campbell, 'Sound', *Grove Music Online*, 2001, <https://doi.org/10.1093/gmo/9781561592630.article.26289>, last accessed 20 April 2020.
[51] 'The Documentation', BUCHA, Box F61, 47.3.

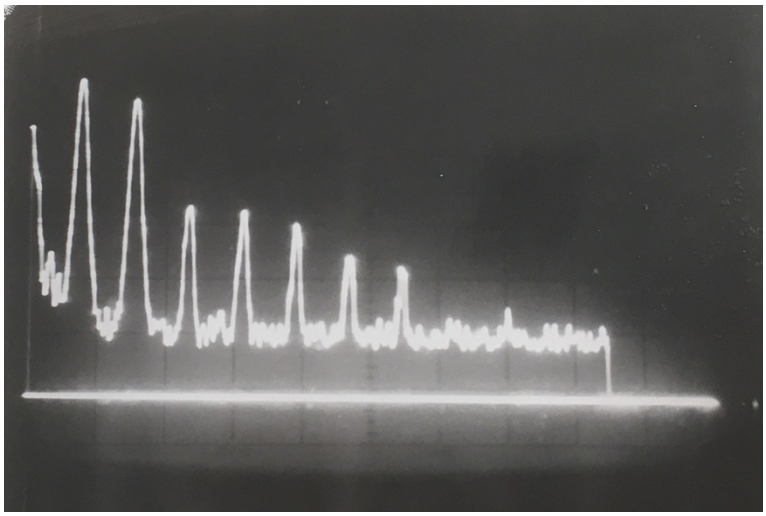


Figure 17: Image from Crossley-Holland's Documentation, showing 'spectrum'. BUCHA, Box F61, 47.3.

Crossley-Holland's inclusion of this data in documentation appears to link to the in contemporaneous ethnomusicological research trend (at UCLA in particular) for including graphs and tables, for the purposes of determining patterns across one or many music cultures. However, the limitation of Crossley-Holland's study – being unable to investigate the original cultural context of the ancient musical instruments – could have led him to produce this acoustic information as the only element that he was able to research. Garett and Stat set a precedent for using the physics laboratory for acoustic research of artefacts, and the equipment available there suited Crossley-Holland's investigations more than the Seeger melograph, which was used to analyse the minutiae of active vocal cultures.

Transcription and the 'descriptive science'

Crossley-Holland was certainly aware of the potential of Seeger's Melograph in ethnomusicological research, having edited a volume about the machine in 1974.[52] In a review of the volume, Dworsky and Dworsky criticise the mathematical approach to music analysis, suggesting that the outputs of graphs and numbers obscure the fact that the method of transcription by machine lacks scientific validity, whilst ignoring the interpretative cultural elements of the music.[53]

This criticism was shared by other academics at the time: for example, UCLA ethnomusicologist Jairazbhoy, in his article on 'The "Objective" and Subjective View in

[52] Crossley-Holland, *Selected Reports Vol II*.
[53] Tamara Lowe Dworsky and Lawrence N. Dworsky, 'Review: Selected Reports in Ethnomusicology by Peter Crossley-Holland', *Ethnomusicology*, 19:3 (1975), 490-493.

Transcription'.[54] Jairazbhoy notes that Mantle Hood described the 'objective display produced by automatic notation devices', and that Bartók stated that the hard evidence of recorded music is the only 'true' form of notation.[55] However, Jairazbhoy posits that automatic transcription machines can distort the validity of music research, by appearing objective when they can obscure the subjective and interpretative elements of human listening, which affect research even when machines are employed. He calls for greater examination of 'this "objective" look at sound'.[56] My criticism of Crossley-Holland's approach echoes Jairazbhoy's criticism of the overreliance on numerical data: '"objective" measurements in dB or cents give no real indication of what one experiences in any specific context.'[57] Crossley-Holland's inclusion of these data do not relate to any musical context. In an article questioning 'who actually needs transcription?',[58] Marian-Bãlaça describes this process as 'the objectification of subjectivity',[59] and argues that it is an epistemological tool in the construction of ethnomusicological study. He cites scholars from the early to the late twentieth century who created the 'illusion of making science by looking for methodological exhaustiveness', including Seeger and his search for objectivity by transcription machine to validate the science of ethnomusicology.[60]

Transcription in ethnomusicology can be used as 'objectively quantifiable and analysable data … a form of documentation for supporting scientific theories',[61] according to Ter Ellingson, who asks whether transcription has a place in modern (that is, late twentieth-century) ethnomusicological study. The sciencification of cross-cultural music study, which I believe motivated Crossley-Holland to use transcription and graphics in his research, is a part of the 'objectivist intercultural discovery procedures'[62] from which ethnomusicology was moving away in the 1990s. During the 1970s, though, transcription and its limits was being investigated and innovated, as seen in the proliferation of research into transcription machines, building upon Seeger's ideals.

---

[54] Jairazbhoy, 'The "Objective" and Subjective View in Music Transcription'.
[55] Ibid., p. 264.
[56] Ibid., p. 265.
[57] Ibid.
[58] Marin Marian-Bãlaça, 'Who Actually Needs Transcription? Notes on the Modern Rise of a Method and the Postmodern Fall of an Ideology', *The World of Music*, 47:2 (2005), 5-29.
[59] Ibid., p. 6.
[60] Ibid., p. 8.
[61] Ter Ellingson, 'Transcription', in Helen Myers (ed.), *Ethnomusicology: An Introduction* (London: MacMillan Press, 1992), pp. 110-152, this citation from p. 110.
[62] Ibid., p.111.

3.A.iv. Fieldwork and ethnography

Transcription is the 'single fundamental skill'[63] that ethnomusicologists should possess, but the data-gathering and recordings to be transcribed come from fieldwork: the foundation of ethnomusicological study. Fieldwork and ethnography as a methodology comes from the influence of anthropology; but even in Mantle Hood's model of ethnomusicology that has its foundations in musicology, fieldwork is an important part of learning another music culture and becoming 'bi-musical'.[64]

Crossley-Holland never undertook any fieldwork in the classic anthropological sense: he had a period of study leave in 1976, during which he visited museums in Europe, Mexico, and the United States.[65] During this sabbatical, he also visited several private collections in Mexico and London.[66] The visits to museums, including to collections not on display, had the purpose of finding comparable objects to those in the PCH collection. Crossley-Holland also acquired several objects himself during this period, so it gave him the opportunity to expand his personal collections from sources further afield than south-west United States.

In a report completed after his sabbatical leave,[67] Crossley-Holland describes his intentions for the visits: to examine artefacts in museums and private collections which could inform his documentation about his own collection, and in turn be developed into a book. He also states that his collection of west Mexican musical objects grew from 80 to 105. At this time, Crossley-Holland had a collection of musical artefacts from various areas of southern and central America. The sabbatical leave appears to have solidified Crossley-Holland's focus on

[63] Nettl, The Study of Ethnomusicology, p. 72.
[64] Hood, 'The Challenge of "Bi-Musicality"'.
[65] He visited four museums in Los Angeles; nine in Mexico; eleven in western Europe. Visit <https://www.google.com/maps/d/drive?state=%7B%22ids%22%3A%5B%221KrJEgLfSLkGBZzJyo-uQrL55ZN67-g5T%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%221130162392359328576 14%22%7D&usp=sharing> for more details.
[66] In Mexico: the collections of Señor Manuel Delgardo [sic] in Culiacán, Señora Maria Ahumada de Gomez in Colima, and Professor Salvador Prospero Roman in Morelia. In England: the collection of Michael Kelly in London. In *Musical Artifacts*, Crossley-Holland notes that Sra Ahumada and Prof. Prospero played ocarinas for him; Prospero was a 'musician of Purepecha (Tarascan) descent', whose 'fluid style of playing and the use of half-stops proved to be of unusual interest' (p.34).
[67] Peter Crossley-Holland, 'Report on Sabbatical Leave, January–June 1976'. Held at BUCHA, uncatalogued box.

the artefacts from western Mexico specifically, which then grew to the 329 objects currently at Bangor University.[68]

Crossley-Holland was never trained in ethnomusicology or anthropology; his musicological skill came from his studies in composition at the Royal College of Music, with further study at the University of Oxford.[69] Jairazbhoy noted that Crossley-Holland's work as a composer was the foundation of his interest in music cultures of the world, stating that his 'devotion to ethnomusicology clearly stems from his creative work as he sought new media through which to express his musical individuality but … he seems to have been motivated more by the spiritual content of the music he heard than by its sounds alone.'[70] In their two obituaries for Crossley-Holland, James Porter and Robert Simon emphasise Crossley-Holland's interest in the spirituality of music and its cross-cultural origins rather than in a particular anthropological study of any one musical culture.[71] Porter describes him as being

> deeply immersed in philosophical approaches to music and not at all interested in adopting or promoting fashionable anthropological dicta. Rather, he stressed in his work the spiritual aspect of whatever music he was dealing with … bread-and-butter matters were always of lesser interest to him that the spiritual intentions and transcendental affect of the music.[72]

This worldview explains Crossley-Holland's employment before UCLA, when he worked for the BBC Third Programme and produced programmes on Tibetan and Indian music. His position at the Berlin Institute for Comparative Music Studies, followed by stints as a visiting Professor on Ethnomusicology at the University of Illinois and the University of Hawaii, comprised his experience in academic ethnomusicology prior to his appointment at UCLA.[73]

As well as his personal views on studying music cultures, Crossley-Holland had a valid reason not to undertake fieldwork, as many of his musical artefacts are thousands of years old, and thus their 'field' is inaccessible. However, ethnographic analogy is a methodology

---

[68] I have been told by two of Crossley-Holland's former students that the artefacts from other areas of Mexico and southern America are now in private ownership in the United States.
[69] Nazir A. Jairazbhoy, 'Introduction', in Nicole Marzac-Holland and Nazir A. Jairazbhoy (eds.), *Essays in Honour of Crossley-Holland on his Sixty-Fifth Birthday* (Los Angeles: University of California, Los Angeles, 1983), pp. ix-xii, this citation from p. ix.
[70] Ibid.
[71] James Porter, 'The Distant Isle: The Scholarship and Music of Peter Crossley-Holland (1916-2001)', *Ethnomusicology*, 46:2 (2002), 323-329; Robert L. Simon, 'In Memoriam: Peter Crossley-Holland', 2001, <https://senate.universityofcalifornia.edu/_files/inmemoriam/html/PeterCrossley-Holland.htm>, last accessed 29 April 2020.
[72] Porter, 'The Distant Isle', p. 323.
[73] Simon, 'In Memoriam: Peter Crossley-Holland'.

used by archaeologists, which Crossley-Holland intended to apply to his music research. Ethnographic analogy involves studying a contemporary iteration of an ancient society, to reverse-engineer information about the original culture. Crossley-Holland cites more archaeologists than ethnomusicologists in his documentation, so it follows that he was aware of this methodology. Today, archaeologists are critical of analogy: for example, Hodder points out that it can be little more than 'subjective story-telling, pure speculation',[74] as some superficial similarities between societies do not mean other aspects of culture are analogous. However, it was an influential methodology later in the twentieth century, in the formation of an interdisciplinary approach to music archaeology. Crossley-Holland mentions ethnographic analogy in his publication, but does not go into detail about how he would approach this, and he apparently did not pursue this line of investigation.

Although Crossley-Holland does not explicitly discuss ethnographic analogy as a methodology, he makes some comparisons between ancient and modern iterations of musical culture in *Musical Artifacts in Pre-Hispanic West Mexico*. He cites Peter Furst as an example of a scholar working to 'discern something from the living shamanistic traditions of west Mexican Indian tribes like the Huichol'.[75] Crossley-Holland takes the example of a gourd-shaped clay rattle, found in his collection, as an example of a 'ritualistic'[76] rattle of which a version is used in modern times by Huichol shamanic practitioners. He mentions the similarity of the decoration of the rattle, a 'crux decussata',[77] which is present on both the ancient and modern iterations.

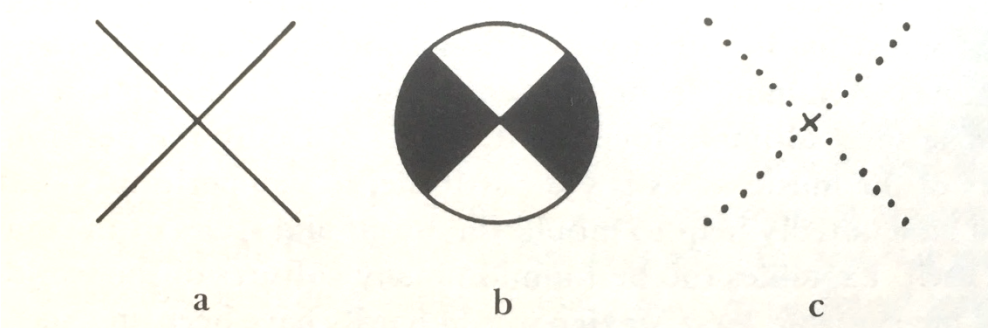


Figure 18: Illustration from Peter Crossley-Holland, Musical Artifacts of Pre-Hispanic West Mexico: Towards an Interdisciplinary Approach (Los Angeles: University of California, Los Angeles, 1980), p. 26. His caption reads: 'The crux decussata ("St. Andrew's Cross"). a. its basic form; b. as painted on a Pre-classic Nayarit drum effigy; c. as perforated in the wall of Pre-classic Colima rattle.'

[74] Ian Hodder, *The Present Past: An Introduction to Anthropology for Archaeologists* (Barnsley: Pen and Sword Archaeology, 2012), p. 18.
[75] Crossley-Holland, *Musical Artifacts of Pre-Hispanic West Mexico*, p. 25.
[76] Ibid., p. 28.
[77] Ibid., p. 26.

Crossley-Holland compares this cross shape to musical practice via the *voladores*: a group of dancers who leap from the top of a pole (attached by ropes) and wind their way down to the ground, accompanied by a singer playing a rattle sitting atop the pole. Crossley-Holland places significance on the number four: there are four corners pointed out by a crux decussata; there are four *voladores*; and the musician on the pole plays to four directions in turn. The Mexica four world directions are portrayed widely in pre-invasion iconography, and cardinal points feature in the art of modern Native America as well. Considering all of these points, Crossley-Holland concludes that 'musical form is directly determined by symbolic concept'[78] in this case, with the number four and the cardinal directions being key to the visual and musical uses of the ancient rattle. The reasoning behind this connection is thus based upon the iconography of a musical instrument, an iteration of modern musical culture, and a truism of ancient Mexico (that the cardinal directions are significant in visual art and have a part in cultural practice as well).

A lacuna in Crossley-Holland's research is what he labels the 'method of native exploration'.[79] This is the closest that he gets to mentioning ethnographic analogy or fieldwork. This method is one of a list of four, which Crossley-Holland explains thus:

> (1) First, we can measure the sounds under controlled conditions in a physics laboratory. … We shall call this the *method of "objective" measurement.*
> (2) Second, after taking certain physical measurements of the instrument and then applying various correction factors … we can calculate its sounds theoretically. … This is the *method of theoretical calculation*.
> (3) In a third approach, we can give a pre-Hispanic instrument to a native musician believed to be descended from peoples living in the area at the time of contact or earlier; then, when he has had time to familiarize himself with it, we can hope that any features he may have "inherited" from ancient traditional styles will come out in his performance. Such an approach necessarily takes time and is not easy to make. We call this the *method of native exploration*.
> (4) Then, in a fourth type of approach, we can ask an experienced flautist, who is also an ethnomusicologist striving to overcome his ethnocentricity, to get to know the instrument and to see what he can produce with systematic exploration in mind. … We call this the *method of informed experiment*.[80]

The final two methods are categorised as 'based on human and musical experience' rather than the 'so-called objective' methods of the first two.[81] Regarding the 'inherited' knowledge of 'native exploration', Crossley-Holland presumably meant that a current practitioner of a

[78] Ibid., p. 29.
[79] Ibid., p. 16.
[80] Ibid. Emphasis original.
[81] Ibid.

musical culture will know techniques which relate to the ancient form, having been passed down by oral tradition, although the word does imply an innate ability to understand and play music due to genetics. In an endnote, Crossley-Holland mentions that he has listened to an ocarina played by a 'musician of Purepecha (Tarascan) descent': Professor Salvador Prospero Roman of Morelia, whom he visited during his sabbatical leave in 1976. Crossley-Holland notes that he has 'not been able to pursue the method of "native exploration" in the course of [his] present research'.[82] Modern investigations into music archaeology have utilised ethnographic analogy and performance research, a development from Crossley-Holland's explorative approach. For example, José Cuéllar researched Mesoamerican ocarinas at the Peabody Museum in Harvard, and Mark Howell investigated the modern performance of the K'iche' Maya dance-play *Rab'inal Achi* in highland Guatemala compared with pre-invasion practice, as evidenced by iconography, oral history, and written sources over hundreds of years.[83]

In Crossley-Holland's fourth method, 'informed experiment', the flautist/ethnomusicologist in question is Dale Olsen. Crossley-Holland details the finger placement and the production of a scale on the vertical flutes in his Documentation, hence the involvement of a flautist who understands the configuration of fingering which can produce certain tones, along with embouchure and so on. Olsen's contributions are prioritised over the 'native' method, perhaps due to convenience. Crossley-Holland states the difficulty and time-consuming nature of 'native exploration': finding a musician who meets the criteria, making new relationships, carrying out fieldwork, and travelling to or organising the travel of the musician. Thus the 'informed' experimenter is an American student, already available at UCLA.

3.A.v. Crossley-Holland's publications

Musical Artifacts *in context*

A comparable publication to Crossley-Holland's *Musical Artifacts* is the 1984 book *Los Instrumentos de Percusión en México*, by Arturo Chamorro.[84] This is similarly an

[82] Ibid., p. 34.
[83] See Chapter 4 of this thesis for more detail about Cuéllar's activities. Peabody Museum of Archaeology and Ethnology at Harvard University, 'Reviving the Ancient Sounds of Mesoamerican Ocarinas', 2016, <https://www.peabody.harvard.edu/ancient-sounds>, last accessed 30 April 2020; Mark Howell, 'Possible Prehispanic Music Survivals in the "Rab'inal Achi"', *The World of Music*, 49:2 (2007), 105-138.
[84] Arturo Chamorro, *Los instrumentos de percusión en México* (Zamora: Colegio de Michoacán, 1984).

organological study of the musical instruments of Mexico; the scope is limited to percussion instruments, but extended to several areas of ancient Mexico. There are some similarities in methodology: the discussion of Hornbostel-Sachs as a system of classification, although Chamorro is more critical of the system than Crossley-Holland; and organology is present in the discussions of physical attributes of the instruments, such as measurements and materials. They also cite many of the same authors: for example, Mexican ethnomusicologists Samuel Martí and Daniel Casteñeda, Robert Stevenson (American ethnomusicologist and Crossley-Holland's colleague at UCLA), and, of course, Hornbostel and Sachs. However, Chamorro also cites several other ethnomusicologists – Gerard Béhague, Nazir A. Jairazbhoy, J.H. Kwatema Nketia, among others – to situate his publication in contemporary ethnomusicology. For example, he describes his application of symbols to transcribe percussion rhythms and movement, citing Mantle Hood's work on transcription and Alan Lomax's choreometrics.[85] In a review of Chamorro's work, Steve Loza, who was a student during Crossley-Holland's tenure at UCLA, notes the importance of citing these ethnomusicologists and integrating their theories.[86] Although Crossley-Holland is praised by the reviewer N. Ross Crumrine, for the interdisciplinarity of his work,[87] *Musical Artifacts* cites few authors; the interdisciplinarity is based upon artefact-focussed methods, like interpreting iconography.[88] Chamorro, on the other hand, utilises other works on, for example, syncretism and acculturation to provide a theoretical framework.[89]

There are manifold other differences between the publications. A fundamental one is that Chamorro's language of publication is Spanish, and the book was published in Mexico. Chamorro himself is Mexican, and received his doctorate in Ethnomusicology from the University of Texas, Austin, where he was supervised by Gerard Béhague. He is described in 2016's *Latin American Music Reader* as one of 'a few representative individuals who have decisively shaped the field of music scholarship in their home countries and beyond', and

[85] Ibid., p. 120.
[86] Steve Loza, 'Book Summary and Review: Arturo Chamorro, "Los instrumentos de percusión en México"', *Pacific Review of Ethnomusicology*, 2 (1985), 109-119.
[87] N. Ross Crumrine, 'Review: Musical Artifacts of Pre-Hispanic West Mexico: Towards an Interdisciplinary Approach', *Ethnomusicology*, 27:2 (1983), 375-376.
[88] For example, the discussion of iconography on page 24 of *Musical Artifacts*.
[89] Loza, 'Book Summary and Review', p. 110.

'one of Mexico's most prolific scholars of his generation'.[90] Chamorro's *Los Instrumentos* is a full-length monograph at 275 pages, compared with the mere 45 pages of *Musical Artifacts*.

The differences in the ethnomusicological approaches of the two authors are apparent, even considering the variation in length of the publications. Chamorro provides an overview of percussion instruments in various cultures and regions of Mexico, starting from pre-agricultural cultures,[91] whereas Crossley-Holland focusses only on his collection and the sliver of cultural practice represented within. Chamorro introduces the Indigenous terms for cultures and instruments with much more frequency than Crossley-Holland – he would have had easier access to translations of these ancient languages than Crossley-Holland, as many colonial sources were translations into Spanish. The sources were also easier to access physically for Chamorro, as many were held in Mexican institutions. For example, he discusses the Tlaxcalan Nahuatl word *teponaztli*, which was used to describe a wooden slit drum that was present among many Mesoamerican cultures.[92] A missionary working in Michoacán during the sixteenth century, Maturino de Gilberti, noted that a drum used in that region was like 'the ringing of the teponaztli',[93] using the Nahuatl word to describe the musical instrument in a translation from 'the Tarascan language'.[94] Chamorro contextualised these booming wooden drums by drawing on colonial accounts, including a dictionary that translates the P'urhépecha language into Spanish.

We know that Crossley-Holland only visited Mexico on one occasion for research, and was concerned with artefact-based rather than archival research; besides, Crossley-Holland did not use any such historical sources, and consequently did not attempt to place the instruments in his collection into the context of wider Mesoamerica. Chamorro, on the other hand, sought to 'highlight the importance of the Mexican percussion instruments in the historical-cultural

[90] Helena Simonett and Michael Marcuzzi, 'One Hundred Years of Latin American Music Scholarship: An Overview', in Javier F. León and Helena Simonett (eds.), *A Latin American Music Reader: Views from the South* (Urbana: University of Illinois Press, 2016), pp. 1-68, this citation from p. 22.
[91] Chamorro, Los Instrumentos de percusión, p. 19.
[92] Ibid., p. 24.
[93] Ibid., p .27. Original citation: 'Fray Maturino de Gilberti, traduce *cuirinami*, como "Tañer teponaztli". *Diccionario de la lengua tarasca o de Michoacán.'* 'Brother Maturino de Gilberti translates *cuirinami* [which Chamorro associates with the P'urhépcha word *kwiringua* or *cuiringa*, referring to a wooden slit drum] as "Ringing teponaztli". *Dictionary of the language of the Tarascans or of Michoacán.*' [Translation my own.]
[94] Ibid.

landscape of our country',[95] using more typical ethnomusicological methods of fieldwork and transcription, as well as historical research.

In Chamorro's introduction, moreover, he states the importance of charting the development of percussion through time: 'At present, in the context of traditional popular culture, Mexico keeps active much of that musical-instrumental heritage that our ancestors brought us …'[96] This idea could situate Chamorro's work in the context of the twentieth-century idea of Mexicanness, a pan-Mexican heritage based on a pre-invasion which comprises the ancient and contemporary, Indigenous and mixed cultures which make up the identity of modern Mexico.

There is also a significant difference between the way that the authors have approached their research materials. Chamorro has worked on a research project which began with a question, which I infer to be along the lines of 'what is the importance of percussion instruments in Mexico?' and then gathered data from historical sources, material culture, and fieldwork to investigate that question. Crossley-Holland began by selecting the data, in the way that he gathered together artefacts to create his collection, and the research was developed from that. The artefacts were not considered in order to investigate a particular facet of ancient Mexico, but rather to create a personal collection; this limits the artefacts' usefulness and validity in academic research after the fact.

Crossley-Holland's other works

To put Crossley-Holland's research in context, I will outline some of his publications,[97] and note the ways that he incorporated ethnomusicological methods. By studying Crossley-Holland's academic publications, I consider the characteristics of his modus operandi as a researcher. The methods of inquiry that he employed have broadly similar patterns which are seen throughout his research, and the ways that he came to conclusions also show similarities. These methods did not always adhere to the ethnomusicological norms of

[95] Ibid., p. 14. '… se desea resaltar la importancia que tienen los instrumentos mexicanos de percusión en el marco histórico-cultural de nuestro país.'
[96] Ibid., p. 13. 'En la actualidad, México conserva vigente en el context de la cultura popular tradicional, gran parte de esa herencia músico-instrumental que nos aportaron nuestros antepasados …' [Translation my own.]
[97] A full list of his publications was compiled by Paula Morgan, for the Grove Music entry about Peter Crossley-Holland; another was published in the *Essays in Honor of Peter Crossley-Holland on his Sixty-Fifth Birthday*. Incidentally, the cover image of this latter volume is a Mexican artefact, perhaps showing that although he did not publish much, his collection held some considerable significance in his life.

UCLA, as I described earlier in this chapter, although he was influenced by his colleagues: for example, in his use of transcription machines.

Crossley-Holland labelled himself a musicologist in *Musical Artifacts*: 'looking at these strange pieces as a musicologist, I soon found that many of the questions they pose cannot possibly be answered by a musicologist working alone.'[98] His academic training was in music composition, which would have entailed music theory and analysis. As I have shown, his interest in ethnomusicology was not consolidated by study, but rather in professional experience at the BBC and Berlin Institute researching music cultures.

The list of Crossley-Holland's publications shows the diversity of his interests: historical (and mythical) Welsh music; 'Celtic' music and culture, and the cross-cultural connections between various Celtic peoples; and Tibetan religious music. Crossley-Holland's approach is largely based upon historical sources, and music analysis. These methods are part of the ethnomusicologist's toolkit, although ethnomusicology today also requires fieldwork and ethnography to construe the cultural context of music.

The very different subjects of his publications signify the underlying interests of the author: spiritualism, the esoteric, and the porous border between myth and ancient history. However, the other aspect of his study – using large amounts of systematised data – seems incongruous when considered next to this more interpretative and arcane subject matter.

Crossley-Holland's early associations with Carl Dolmetsch apparently engendered a love of the recorder, an instrument for which Crossley-Holland composed.[99] Carl Dolmetsch's father, Arnold, was a key figure in the early music revival of the early twentieth century; he published an article on the Robert ap Huw manuscript, a source which Crossley-Holland himself later studied.[100] The Robert ap Huw research encapsulates Crossley-Holland's methodology; his research is based on *cerdd dant*, the bardic singing style accompanied by harp that has been performed since at least the fourteenth century. *Cerdd dant*, which the ap Huw manuscript records in tablature, comprises a series of patterns and rules about particular elements of performance which must be followed. The composers represented in the ap Huw

[98] Crossley-Holland, *Musical Artifacts of Pre-Hispanic West Mexico*, p. 3.
[99] John Turner, 'Peter Crossley-Holland', *Musicteachers.co.uk Online Journal*, May 2001, <https://www.musicteachers.co.uk/journal/2001-05_crossley_2.html>, last accessed 4 May 2020.
[100] Arnold Dolmetsch, *Translations from the Penllyn Manuscript of Ancient Harp Music* (Llangefni: Early Welsh Music Society, 1937).

manuscript were considered by Crossley-Holland in a 1998 publication (his final).[101] Crossley-Holland's article determines patterns in the manuscript which imply their source. The information is presented in dense quotations from the manuscript, tablature and diagrams. The collation of a lot of data, in combination with the bardic and pre-historical roots of *cerdd dant*, exemplifies Crossley-Holland's outlook on research which is present throughout his works. The methods of his research were formed before he began to work as an ethnomusicologist at UCLA, and prior to gathering his collection. His approach to studying the west Mexican artefacts points to the same underlying principles shown in his publications, and perhaps he was not concerned with the suitability of these methods for academic study.

3.B. Crossley-Holland's interpretations

3.B.i. Crossley-Holland's 'Apologia'

Crossley-Holland compiled a vast amount of documentation about the artefacts in his collection, which formed the basis of his only publication concerning the collection: *Musical Artifacts of Pre-Hispanic West Mexico: Towards an Interdisciplinary Approach.*[102] This is a very short publication: only 45 pages, including the appendices. It focusses on general approaches to studying artefacts of this sort, and contains photographs of artefacts from the collection, but little specific information about individual objects. Crossley-Holland was intending to publish a larger volume with more detailed information, so he probably would not have wanted to duplicate material in this earlier tome. When *Musical Artifacts* was published in 1980, Crossley-Holland was still collecting items for his collection. This larger volume never materialised in print, and after Crossley-Holland moved from Los Angeles to Wales in 1983, he moved on to other projects, and the monograph remains a draft.

The Crossley-Holland Archive contains this draft monograph, which is in varying stages of completion. Most pages are typewritten with handwritten comments in the margins, indicating that Crossley-Holland was reviewing the draft, but this process was never finished.

[101] Peter Crossley-Holland, *The Composers in the Robert ap Huw Manuscript: The Evidence for Identity, Dating and Locality* (Bangor: Centre for Advanced Welsh Music Studies, 1998).
[102] Peter Crossley-Holland, *Musical Artifacts of Pre-Hispanic West Mexico.*

The chapters that included in the draft indicate that this publication was to be a more detailed version of his published work, *Musical Artifacts*. Some chapters are missing from the sequence, suggesting that the structure had not been finalised.

> Chapter One: Studying the Musical Artifacts: Towards an Interdisciplinary Approach
>
> Some Aspects of Organology (to absorb into chapters 2-3)
>
> Chapter Five: Distribution of the Instrument Types: Time, Place and Association
>
> Chapter Six: Materials and Manufacture
>
> Chapter Seven: Instrument Morphology, Biosimilitude and Playing Position: The Significant Continuum
>
> Chapter Eight: The Sounds: Evidence from Ethnoacoustics, Tonometry and Playing Techniques
>
> Chapter Nine: Musical Occasions at the Time of the Shaft-Tombs.
>
> Chapter Ten: The Musicians
>
> Chapter Eleven: The Musical Resonances, Techniques and Style Elements of the Shaft-Tomb Period
>
> Chapter Twelve: The Creative Springs (Symbolism of Instruments [animals, elements etc.])[103]

In the preface to this unpublished volume, Crossley-Holland outlines his motivations in his 'Apologia'. He explains the dual purpose of the book: to publish the large 'catalogue,' which appears to refer to the 'Documentation', and to explore 'new approaches to some problems of pre-Columbian music (partially with aids of insts. in the Collection).'[104]

The volume that was published, *Musical Artifacts of Pre-Hispanic West Mexico*,[105] is a precis of Crossley-Holland's views on his collection. Within, he outlines his position on the need for an interdisciplinary approach, which here include: materials and manufacture; performance practice and sounds, including tonal systems; and iconography, which focusses on geometric patterns, 'biomorphism' and symbolism. The conclusion emphasises his attitude towards interdisciplinary study, and points out the partial reliability of the information due to the perishable nature of both the instruments and the musical cultures whence they came. Crossley-Holland summarises what he has learned from his study:

---

[103] Peter Crossley-Holland, 'Apologia', BUCHA, Box F59.
[104] Ibid.
[105] Crossley-Holland, *Musical Artifacts of Pre-Hispanic West Mexico.*

> … in the land we now call West Mexico, the inhabitants, … gifted with a knowledge of the principles of sound and with the skills to apply and articulate these, favoured instrumental playing as well as the arts of chant and song, both in their rituals and in their lives. And – who knows? – they may have sought to carry over these delights into the hereafter.[106]

With the word 'now', Crossley-Holland acknowledges that the modern perception of west Mexico is different to its pre-invasion definition. His pronouncement that the people who made and used his artefacts were knowledgeable and skilled is a result of his organological study, which shows how the instruments are carefully crafted to respond to the physics of natural harmonics – although his interpretation of the instruments' pitches occasionally implies that the sounds that can be created were not as accurate as intended.[107] His comment on the 'hereafter' alludes to his personal beliefs about the intercultural nature of world spirituality, which I will discuss in the next section. Using the phrase 'who knows?' suggests that Crossley-Holland was aware that the study is limited, and he is using his personal beliefs to speculate about the behaviour of people in ancient west Mexico.

3.B.ii. Cultural interpretations

Crossley-Holland's view of the world permeates his documentation about the Mexican collection. Obituaries of Crossley-Holland mention a lifelong interest in mythology and spirituality which transcends national borders and cultural boundaries and by exploring these interests, I put into context some of Crossley-Holland's interpretations of his collection. His library, given to Bangor University along with the artefacts and documentation, shows a wide interest in world music, history, and anthropology of many cultures. He also had a large collection of books about Celtic music and culture, some of which are rare and antiquated. There are also many esoteric books, covering New Age subjects such as mind energy and healing, Satanism in rock music, the Seventh-Day Adventists' New World Order, and metaphysics and spiritualism. These examples show how Crossley-Holland cultivated arcane and unconventional interests in addition to his academic study.

Spiritualism, metaphysics, and Crossley-Holland's worldview

James Porter, a colleague in the Folklore Studies department at UCLA, wrote an article dedicated to Crossley-Holland which mentions his use of his pre-Hispanic instrument

[106] Ibid., p. 31.
[107] For example, PCH 73: 'The series aimed at appears to be C6-Eflat6-F6'. Peter Crossley-Holland, 'The Documentation', BUCHA, Box F61, 73.4.

collection in his graduate seminars at UCLA. Porter recognises Crossley-Holland's interest in west Mexican artefacts as one of the three defining areas of scholarship throughout his life (the other two being music of Tibet, and music of Ireland, Wales, Scotland, and Brittany).[108] Porter emphasises that Crossley-Holland felt the cultures of each of these disparate areas were imbued with spirituality, which contributed to both his compositions and his research interests. This is repeated in John Harper's obituary of Crossley-Holland:

> … but no part of his work can be separated from any other, nor indeed from the totality of his persona and life ... he searched out the spiritual and the sacred … he had a questing mind which was hungry for new ideas and new directions …[109]

Harper, while focussed on Crossley-Holland's contributions to Welsh music scholarship, underlines the ethos behind Crossley-Holland's life's work: the ideas closest to his heart were those of 'music and the spiritual, music and wholeness, on the world and the universe as sound.'[110] Turner reinforces the point in his obituary: 'Crossley-Holland's later music, as well as the works composed in the earlier part of his career reflect … the composer's deep preoccupations with metaphysics, the natural world (with its principles of order, growth and renewal), and the human spirit.'[111] These ideas were inextricably linked to his creative principles in his compositions, as well as his attitude towards music in modern society. An early example of his interest is shown in his published introduction to the radio programme *Musical Curiosities: The Aeolian Harp*, which he produced in 1950.

> From remotest antiquity the music of nature has fascinated man, speaking of things beyond his ordinary experience. Priests and bards among the ancients knew the gods of the elements and listened to their voices, even constructing instruments through which they could speak more plainly.[112]

Crossley-Holland may have thought of the Mexican artefacts as such instruments: the quotations I analyse below show that he associates several images, such as costume, with shamanism, gods, ritual, and the natural world.

In his chapter for 1979's *Speaking of My Life*, Crossley-Holland details his synthesis of nature, spirit, myth, and cross-cultural musical influences during his work as a composer: 'to

---

[108] James Porter, 'The Distant Isle: The Scholarship and Music of Peter Crossley-Holland (1916-2001)', *Ethnomusicology*, 46:2 (2002), 323-329, this citation from p. 326.
[109] John Harper, 'Peter Crossley-Holland and Early Welsh Music Studies', *Welsh Music History*, 5 (2002), 1-10, this citation from p. 2.
[110] Ibid., p. 4.
[111] John Turner, 'Peter Crossley-Holland'.
[112] Peter Crossley-Holland, 'Musical Curiosities: The Aeolian Harp', *Radio Times*, 1389 (1950), 37. Available at <https://genome.ch.bbc.co.uk/53fa6a3145384058b656825647f9dfd9>, last accessed 24 June 2020.

go beyond its uttermost bounds, to be one with God, love and nature, and to capture this at-one-ment in sound.'[113] He notes that he cultivated a love for Tibetan and other 'Oriental' musics; his interest in drawing inspiration from world musics, originally for his compositions, led him to a career in ethnomusicology.

Speaking of my Life was based upon a series of lectures which were organised in 1977 as a philosophical discourse on the problems of modernity. The co-convenor of the series and writer of the preface to the volume was John Pentland, the leader of the Gurdjieff Foundation and founder of the Far West Institute in San Francisco (the location of the lecture series). The Gurdjieff Foundation taught the method of its eponymous guru, who developed a way of reaching a higher consciousness using a mix of Buddhism, meditation, and various other Eastern-leaning philosophies. The lecture series followed on from the previous 'Sacred Tradition and Present Need' and 'On the Way to Self-Knowledge: Sacred Tradition and Psychotherapy'. The Gurdjieff Foundation, active throughout the twentieth century, attracted musicians (for example Helen Adie and Keith Jarrett) and other educated, middle- and upper-class bohemians.[114]

In his chapter, Crossley-Holland explains that he sees 'music as an examination into the nature of the self …'[115] and, as a young man, investigated 'the connection of music with Christian symbolism; with freemasonry, alchemy, and astrology … all kinds of theosophical, mystical and magical works.'[116] These interests are reflected in the eclectic materials in his library, and show an affinity with the activities of the Far West Institute, Gurdjieff followers, and the wider New Age movement.

The criticisms Crossley-Holland makes in his chapter echo an earlier paper, 'Preservation and Renewal of Traditional Music.'[117] Both writings decry the onset of modernism and technology, and their adverse effects on the heterogeneity of world musics. Crossley-Holland emphasises the danger of relying upon technology in music composition, recording and broadcasting. He exhibits his strong and impassioned condemnation of technology in

---

[113] Peter Crossley-Holland, untitled chapter in Jacob Needleman (ed.), *Speaking of My Life: The Art of Living in the Cultural Revolution* (San Francisco: Harper & Row, 1979), pp. 70-94, this citation from p. 94.
[114] Gurdjieff Club, 'Gurdjieff's Followers', 2011, http://gurdjieffclub.com/en/p-d-ouspensky, last accessed 10 January 2019.
[115] Crossley-Holland, *Speaking of My Life*, p. 94.
[116] Ibid, p. 88.
[117] Peter Crossley-Holland, 'Preservation and Renewal of Traditional Music', *Journal of the International Council for Traditional Music*, 16 (1964), 15-18.

Speaking of My Life, reacting to what he sees as a 'breakdown in civilisation' due to 'an attempt … to eliminate human emotion and to focus on mechanism in music' and 'the cults of technique and virtuosity stress mechanism at the expense of spirit'.[118]

Crossley-Holland was not averse to technology when applied to his collection. As I explained earlier in this chapter, he used mechanical aids available at UCLA to record acoustic information about some of his Mexican instruments. It is clear from *Speaking of My Life* that Crossley-Holland did not dismiss technology altogether; rather, he criticised the danger of using machines to the detriment of humanity, spirit, and meaning. He admits that he himself attempted to develop a machine which would 'enable us to experiment with pitch and spectral relationships', but one which would 'guard against both arbitrary selection and acoustic compromise'.[119] The music created by electronic means, and the dissemination of mass media through radio, created a philosophical and spiritual emptiness which may only be solved by 'recognizing and attending to a whole'[120] (a key tenet of New Age spirituality, including Gurdjieff's teachings). However, Crossley-Holland acknowledged that at least technological advancements have 'helped to throw light on the aesthetic role of "noise" in music and have afforded us a deeper insight into the spectral ranges of musical instruments'.[121] In the spirit of organological investigation, he allows the use of such mechanical means – but most of his chapter is concerned with technology's dangerous decimation of artistic and spiritual value.

Another point which surfaces in both articles is the need to contextualise music within its culture. Music without its people is meaningless. This idea is antithetical to the way that Crossley-Holland researched his Mexican instruments. His publication *Musical Artifacts of Pre-Hispanic West Mexico* attempted to study these ancient instruments in a way which linked them to wider spiritual and cultural patterns in other cultures and times, but it contains little in the way of documentary, iconographic, and reliable archaeological evidence pertaining to the people of ancient or contemporary western Mexico.

Crossley-Holland's interest in cross-cultural and cross-temporal study is apparent in his contribution to the Centennial Workshop on Ethnomusicology, which is primarily about

[118] Crossley-Holland, *Speaking of My Life*, p. 88, 77 and 80 respectively.
[119] Ibid., p.89.
[120] Ibid., p. 94.
[121] Ibid, p. 85.

Tibetan religious music.[122] As an appendix, Crossley-Holland discusses the likelihood of a connection between Tibetan music and that of the west coast of Canada.[123] Crossley-Holland suggests that research concerning both west coast Canadian music and Tibetan religious music is scant, and so it would be premature to prove or disprove a connection between the two. Nevertheless, he finds that the 'very idea of it constitutes a challenge and suggests a hitherto unexplored perspective.'[124] This idea seems to permeate his discussion of the Mexican artefacts, albeit without the caveats that he offers in his contribution to the Workshop on Ethnomusicology. The subjects that he discusses in the comparison between Tibet and western Canada centre around the similarity of musical instruments (drums, rattles, shell trumpets, and flutes); the link between music and shamanism; and similarities in the iconography of masks, which are associated with 'seasonal rituals'.[125] These themes are also apparent in Crossley-Holland's approach to the Mexican artefacts, particularly the association of certain symbols with rituals, and the connection between drumming and shamanism, whereby in both Tibet and the Northwest Coast of Canada 'we find incantation and the drum used variously in matters of weather control, promotion of fertility, therapy, and possession.'[126] These matters are cited throughout the documentation about the Mexican artefacts. Regarding Tibet and Canada, Crossley-Holland notes that 'an investigation on these comparative lines would need well-documented material.'[127] He makes no such comments in his documentation of the Mexican artefacts, which could be due to its unpublished nature – Crossley-Holland could have been planning to include such evaluative comments in the finished monograph.

Crossley-Holland's worldview applied to the west Mexican collection

In his 1980 article for *The New Grove Dictionary of Music and Musicians*, on the subject of music in Wales, Crossley-Holland stated that 'musical evidence … rests upon fragmentary archaeological finds, philological deductions, gleanings from myth and folklore, and on what may be inferred from comparative studies.'[128] This article was written after *Musical Artifacts*

---

[122] Peter Crossley-Holland, 'The Religious Music of Tibet and its Cultural Background', in Peter Crossley-Holland (ed.), *Proceedings of the Centennial Workshop on Ethnomusicology* (Victoria: Aural History, Provincial Archives of British Columbia, 1975), pp. 79-91.
[123] The Workshop took place at the University of British Columbia, Vancouver, and the theme was 'Native Indian Music of the Canadian West Coast and Its Relationships to the Indigenous Music of Other Cultures.'
[124] Ibid., p.89.
[125] Ibid., p. 90.
[126] Ibid., p. 89.
[127] Ibid.
[128] Peter Crossley-Holland, 'Wales', in Stanley Sadie (ed.), *The New Grove Dictionary of Music and Musicians* (London: Macmillan, 1980), pp. 159-171.

of Pre-Hispanic West Mexico, and similarly invokes the importance of interdisciplinary study. It is interesting that he pinpoints the importance of philology and of myth and folklore. Harper reiterates this in his obituary:

> Peter's world view was non-chronological and trans-cultural: creative techniques and intellectual modes of thinking from any age or location were valid as models; rituals, traditions and spiritualties which were local and distinct could be seen to be related to the ultimate human values and realities. The historical, the creative and the spiritual are inter-linked, and each brings one closer to the encounter with self.[129]

As well as describing his personal viewpoint, this depicts the way that Crossley-Holland discussed the Mexican instruments: particularly in his unpublished documentation. For every item in his collection, Crossley-Holland compiled detailed systematic data on the instruments' physical measurements, materials, musical features (including Hornbostel-Sachs classification), and decoration. For most items, he also created a section entitled 'Extrapolation'. This section deals with the more subjective aspects of his research: the connections he made between other cultures and his interpretation of iconography which similarly drew from various world cultures. For example, Crossley-Holland states that PCH 220, a skeuomorphic conch shell trumpet rendered in clay, has a 'sinistral orientation.'[130] He notes that this left-winding spiral could be 'accidental or a peculiarity of the craftsman who made it.' However, he points out that 'in some parts of the world a natural sinistral conch is venerated for its rarity as a holy object capable of remarkable powers. (See Crossley-Holland, "Musical Instruments in the Legends of Tibet".)'[131]

In certain cases, speculation is at the forefront of the interpretation. Examples include PCH 17: 'Animals represented are bird, dog, coatimundi, turtle, and mythical head. The very plump body suggest[s] plenty or abundance';[132] and PCH 16: 'we must presume some kind of ritualistic use, including the ever present suggestion of human fecundity. (Seeds contained within the "belly" of the rattle reinforce this.)'[133] Fertility and fecundity, along with shamanism and ritual, form the interpretation of many objects in the PCH collection. As Beekman points out, there are many different lenses through which to view these objects –

[129] Harper, 'Peter Crossley-Holland and Early Welsh Music Studies', p. 4.
[130] 'The Documentation', BUCHA, Box F61, 220.2.
[131] This seems to be referring to the research that was published under a slightly different title: Peter Crossley-Holland, *Musical Instruments in Tibetan Legend and Folklore* (Los Angeles: University of California, 1982).
[132] 'The Documentation', BUCHA, Box F61, 17.5.
[133] 'The Documentation', 16.6.

gender, power structures, and exchange, to name a few[134] – and over-reliance on one idea of interpretation is often erroneous. However, Beekman was writing thirty years after Crossley-Holland, and benefitted from further developments in archaeological study.

Crossley-Holland presents a similar approach to interpreting ancient culture in his 1971 article about an oral tradition in northern France, 'A Cante-Fable from Sillé-le-Guillaume (France)'.[135] In this article, he traces the permutation of ancient culture in a contemporary iteration of a particular fable. Amongst other methods, he analyses the lyrics of a range of songs, and in one example, he postulates that an image of 'rotten eggs in a straw hat could only suggest some symbolic meaning (connected, no doubt, with the male *gentalia* [sic]).'[136] Crossley-Holland suggests another word from the same stanza is associated with the vagina, and two other songs with similar subjects in their lyrics 'possess strong overtones of fertility.'[137] Crossley-Holland uses comparative evidence from three songs to suggest that the song-story that is the subject of the article is 'symbolically enshrining remnants of an archaic ritual dealing with fertility.'[138] Later in the same article, he says 'if the tale has essentially a ritualistic background, the song may in some way reflect the music of that ritual.'[139] In a similar voicing to his Mexican documentation, this mention of fertility, ritual and accompanying music is not explained further.

However, a significant difference between this article and the unpublished documentation is that its conclusion suggests further evidence for the associations with fertility and virility, using imagery from fables around the region. In his 'Cante-Fable' study, Crossley-Holland utilises a greater range of evidence, although his conclusions are essentially as vague, in referring to an unspecified 'ritual'. Another difference between the two sources are that in 'Cante-Fable,' Crossley-Holland acknowledges that

> [a]ny attempt at reconstructing the insights of our remote forebears must surely seem hazardous … particularly when we make allowances, as we must, for much that is likely to have become confused, and much almost certainly overlaid, distorted and changed.[140]

---

[134] Christopher S. Beekman, 'Recent Research in Western Mexican Archaeology', *Journal of Archaeological Research*, 18:1 (2010), 41-109.
[135] Peter Crossley-Holland and Nicole Marzac, 'A Cante-Fable from Sillé-le-Guillaume (France)', *Ethnomusicology* 15:1 (1971), 1-37.
[136] Ibid., p. 25.
[137] Ibid., p. 26.
[138] Ibid.
[139] Ibid., p. 27.
[140] Ibid., p. 33.

Crossley-Holland states no such caveat in his documentation about the west Mexican instruments, although he employs similar methods of interpretation when approaching the French song and the ancient Mexican cultures. He justifies his approach in the 'Cante-Fable' article, by suggesting that 'it would seem better to postulate a possible interpretation than to venture none; for perhaps, after all, life's quests and man's needs can hardly have changed in any generic sense in the intervening time.'[141] Crossley-Holland applied this philosophy to the study of the Mexican artefacts, but without extensive comparative study, as such information was not available due to the loss of archaeological information.

Crossley-Holland combined the speculative interpretative approach with as much comparative study as he could glean, attempting to find patterns between many examples of similar instruments. Crossley-Holland often used a combination of these approaches. For example, the documentation concerning PCH 33, 'Quintuple Vessel Rattle: Jaguar supporting Incensario', mentions different examples of censers with hollow appendages containing pellets (i.e. rattles), which he had seen in other collections or as illustrated in books. He presents a table of the 'distribution' of these similar objects, showing their incidence in western Mexico. He uses these artefacts to posit the function of PCH 33:

> The rattle function of such vessels is clearly "planned in", though they were most likely not intended primarily as sound-producing instruments. If, as we believe, the present example is an incensario associated with a jaguar ritual, it could have served both as a censer and as a rattle to attract the attention of the supernatural forces connected with the ritual.[142]

Crossley-Holland's approach to these objects was underwritten by his assumption of the importance of music, even though in the above example he acknowledges it may not be its primary use. My own knowledge of west Mexican cultures was initially based on the Crossley-Holland objects; after further research, I realised that objects from a particular time and culture are more similar to each other than to objects from elsewhere which share the sound-producing quality. I would judge it to be more valid to study a Colima dog ocarina in the context of its placement in a grave within a shaft-tomb, than to study its potential sounds. However, Crossley-Holland felt that the sound-producing qualities were the significant aspect, and so the sound-production becomes the overriding meaning to an object. Crossley-Holland does attempt to place the instrument within other aspects of culture, as he approaches

[141] Ibid.
[142] 'The Documentation', BUCHA, Box F61, 33.7.

his study as an ethnomusicologist (to some extent). The Eurocentricity of his approach is palpable: separating music from other aspects of culture is a characteristic of Western art traditions. In many other cultures, there are no such distinctions.

Crossley-Holland was working with the material that he had: the objects from his collection are decontextualized, so focussing on the aspect of sonic properties and acoustic measurements is something that can be done without cultural context. Problems arise as a result of Crossley-Holland embedding the objects in cultural contexts which are not proven with sound archaeological evidence.

The influence of Peter Furst

While transcribing Crossley-Holland's notes, I was struck by the language which he employed. The overall impression of Crossley-Holland's research is of empiricism and structuralism: the assemblage of data leading to a broad underlying pattern. Then, in the 'extrapolation' sections, subjective language creeps in, and often, subjectivity is made more convincing using qualifiers such as 'clearly', 'undoubtedly' and 'doubtless'. While seeming dichotomous, Crossley-Holland appears to have held his academic research and subjective beliefs synergistically (this is also evident in the obituaries written for him).

An illustration of the sort of interpretation which Crossley-Holland practised is exemplified in his notes to PCH 34, 'Drummer straddling a small horizontal drum' (see Figure 19 below).

> The positions of the players who are straddling the drums or seated upon them recalls Eliade's remarks on shamanism in which he describes the Asian shaman as achieving the state of trance with the aid of the drum … Applying this theme to some West Mexican material, Furst (in Bernal 1973) illustrates it with a piece in a private collection which pictures 2 men riding on a single drum though they are not actually playing it … The figure behind him is standing on the drum: reminiscent in the lore of northern parts of Asia and North America of the motif of the drum as "shaman mount" … Furst has argued in favour of the horn as an insignia of natural power in many cultures (Furst 1965) … we may thus surmise that the horizontal drum is likely to have been among the instruments of the shaman, but this does not preclude the possibility of its having been used in other ways also.[143]

This paragraph illustrates connections across cultures, an ideology that Crossley-Holland advocated. The emphasis is on the mythology and spiritualism of the cultures. There are many examples of Crossley-Holland mentioning 'shamanism' and/or 'ritual' in his

[143] 'The Documentation', BUCHA, Box F61, 34.9.

documentation; both of these terms are useful in their genericity, which allows an interpretation based on Crossley-Holland's interests.

Figure 19: PCH 34, drummer straddling a small horizontal drum. Photograph by Susan Rawcliffe.

In the example above, Crossley-Holland adds the caveat that the drum may have been used in ways other than shamanic ritual, acknowledging that his interpretation is not the only possibility. I must also note that the quote above, of the 'drummer straddling small horizontal drum', is taken from unpublished documentation. Crossley-Holland's in-depth study work on

the Mexican collection never materialised; the documentation to which I have had access might be Crossley-Holland's musings, which he never intended to be made public.

Furst is famous for his experimentation with the hallucinogen peyote, and the shamans who took it, the results of which formed the basis of his ethnography and publications. He completed his doctoral studies at UCLA in 1966, in anthropology. I have no proof that he and Crossley-Holland crossed paths at UCLA, and Crossley-Holland does report conversations with other academics: Clement Meighan and Hasso von Winning.

Beekman attributes the widespread interpretation of shamanism in west Mexican archaeology to Furst, both in a paper presented in 2011 at the Annual Meeting of the Society for American Archaeology, and in a 2020 chapter for an edited volume on Mesoamerican imagery. Beekman describes how until Furst's theories about shamans, the interpretation of sculptures as representations of everyday life was a typical view, as suggested by Hasso von Winning.[144] According to Beekman, Furst contested the idea that west Mexican sculptures show a secular lifestyle, and introduced the idea of shamanism as an alternative reading.[145]

Beekman proffers two challenges to the attribution of shamanism to certain sculptures: firstly, some human effigy figures were 'actively used in public performance and storytelling';[146] and secondly, some figurines that Furst interpreted as shamans are actually representing warriors. The latter point is based upon Furst's interpretations of costume and of animal metamorphoses that Beekman finds to be representations of the relationship between people and nature, as seen elsewhere in Mesoamerican ontologies.

Beekman focusses on Furst's reliance on the presence of 'horns' (projections from the forehead which are part of a warrior's costume) to identify shamans. Furst also made a connection to the figures' facing the left, citing this as 'evidence that the shamans were engaged in battle with sinistral (left-hand) forces,'[147] due to the sinister connections with the

---

[144] Robert Pickering and Cheryl Smallwood-Roberts, 'Old Figures, New Ways of Seeing,' *Gilcrease Journal*, 20:1 (2013), 6-25.
[145] Christopher Beekman, 'Mesoamerican Symbols of Authority in the Shaft Tomb Figures of West Mexico', paper presented at the *76th Annual Meeting of the Society for American Archaeology, Sacramento, 30 March–3 April, 2011.* <https://www.academia.edu/5000228/Mesoamerican_Symbols_of_Authority_in_the_Shaft_Tomb_Figures_of_West_Mexico>, last accessed 18 March 2020; Christopher S. Beekman, 'Unseating the Shaman: Narrative Performance and Co-Essences in the Hollow Figures of Western Mexico', in Brigitte Faugère and Christopher Beekman (eds.), *Anthropological Imagery in the Mesoamerican Highlands: Gods, Ancestors, and Human Beings* (Louisville: University Press of Colorado, 2020), pp. 68-107.
[146] Beekman, 'Unseating the Shaman', p. 69.
[147] Ibid., p. 78.

left hand demonstrated in 'Jungian psychology, Hindu marriage ceremonies, European languages',[148] and other cross-cultural sources.

Crossley-Holland relied upon Furst's interpretation and applied it to several of the figurines in his collection, as in the example of PCH 34 above. Crossley-Holland describes PCH 86, 'Seated Horned Figure Playing Flute', as 'likely to be a shaman. The central horn on his brow suggests this, and our observations in notes above about the eyes does nothing to belittle this view … his eyes give the impression of looking, not at this world, but inwardly.'[149] PCH 87, 'Small Duct Flute with Wide Mouthpiece', is assumed to be an example of the instrument portrayed in effigy in PCH 86. Crossley-Holland uses Furst's identification of the site from which it came as a 'shaman's tomb', thus surmising 'its use was doubtless ritualistic or magical.'[150] Figure PCH 99, which is also a vessel rattle, 'Standing Horned Male Shaman',

Figure 20: PCH 86, seated horned figure playing flute.
Photograph by Susan Rawcliffe.

Figure 21: PCH 87, small duct flute with wide mouthpiece.
Photograph by Susan Rawcliffe.

[148] Ibid.
[149] 'The Documentation', BUCHA, Box F61, 86.2.
[150] 'The Documentation', 87.2.

wears a coati or pisote mask (a mammal native to the southern and central Americas), and this is given in evidence that the figure is a shaman, and thus that the rattle was itself used by a shaman. The interpretation of one element of costume as shamanic is then extrapolated to the function of the instrument itself. PCH 122, PCH 136, and PCH 237 are all identified as shamanic: 'in view of the obvious shamanistic associations of the piece, we may very well be dealing here with a ritualistic instrument'; 'this figure is apparently a shaman performing a ritual'; 'the central horn on the cap suggests a shamanistic context.'[151]

Figure 22: PCH 136, horned sahumador dancing and shaking two ball rattles, actual whistle head. Photograph by Susan Rawcliffe.

[151] 'The Documentation', BUCHA, Box F61, 112.3, 136.2, and 237.2 respectively.

In the example of PCH 180, 'Juvenile Phallic Dancer, Whistle in Head', Crossley-Holland presents a more cautious approach to connecting the horn with shamanism: 'There is a faint possibility that the "forelock" of our specimen may relate to the hypothesis associating a central horn on the forehead with shamanic power (see Furst 1965), though there is no certainty about this.' He goes on to cite the left-facing position of the figure as reinforcing the shamanic association, although 'this could be simply due to a particular dance posture.' These data, combined with the phallic imagery connected with fertility, and the origins of the artefact in a shaft-tomb, 'makes it likely that the whistle itself might have been among the paraphernalia of a shaman or one of his assistants.'[152]

PCH 69 is an ocarina which Crossley-Holland describes as a 'hunchback-crustacean composite.' The ocarina is shaped like a figure with kyphosis, sitting down, and when tipped down and viewed from behind (which is what 'the hearers', as Crossley-Holland imagines, would see), there appears a secondary biomorphic aspect, which is that it looks like a crab. Crossley-Holland cites von Winning[153] who associates the depiction of kyphosis with good luck, and 'even today Mexican vendors of lottery tickets are often hunchbacks and a person buying a ticket can be seen discreetly touching the hump, wishing for luck.'[154] Crossley-Holland acknowledges that the crustacean appearance may be his interpretation, and that '[i]t is, of course, difficult to be certain that the artist intended a dual personality for the piece, though biomorphism is so common that it seems very possible.' If the crab shape was intentional, then there are several interpretations that Crossley-Holland extrapolates:

> If the figure is indeed man-plus-water animal, then he is either a water deity or, more likely, representative of a nahual (alter ego). The association again tends to bring us back to shamanism … The man (shaman) plays for the crabs, or crab dance, summons them up, creates crabs ...[155]

This is indicative of the second of Beekman's points about Furst's conclusions: that any animal associations, particularly through costume or metamorphosis, indicate shamanic practice. [156]

---

[152] 'The Documentation', BUCHA, Box F61, 180.6.
[153] Hasso von Winning, *The Shaft Tomb Figures of West Mexico* (Los Angeles: Southwestern Museum, 1974), 34. Cited in 'The Documentation', 69.4.
[154] 'The Documentation', 69.4.
[155] 'The Documentation', 69.5.
[156] Beekman, 'Unseating the Shaman', p. 77.

Other elements that point to shamanism, according to Crossley-Holland, are the absence of sexual features, and a face which 'appears to be in a state of entrancement'.[157] In his description of PCH 299, 'Vessel Rattle: Clay Pellet-Bell with Bird's Head "Handle"', he acknowledges the headwear with horns, but also describes the placement of bells as part of the figure's costume. He states that bells are 'often part of the apparel of the caps and garments of the shamans of Asia and it seems likely that in Western Mexico too bells inevitably contributed their sound to ritual performances.' I have shown how cross-cultural and spiritual philosophies were influential to Crossley-Holland, and Furst's interpretations would have made sense with this worldview. Each example of headdresses with horns, or other elements associated with shamanism, provides more evidence for the theory through confirmation bias. As Beekman points out, '… the figures … represent a hodgepodge of idiosyncratic and often minor snapshots, such as using a drum, drinking from a cup, and so on, that were then interpreted as shamanic in nature.'[158]

The rain god Tlaloc

Beekman also notes that west Mexican imagery 'does not seem to conform to the themes of gods and earthly rulers that we know from elsewhere in Mesoamerica.'[159] At the time of Crossley-Holland's research, there was a widespread interpretation of the symbolism of the god Tlaloc that was based upon Teotihuacán (central Mexican) influence. Crossley-Holland cites Isabel Kelly, who notes 'the ornamental face consists of a pair of eyes and of excessively large teeth, the latter reminiscent of Tlaloc' when describing a small bell from Jalisco.[160] Crossley-Holland associates with Tlaloc large teeth and eyes with concentric circles in several of the artefacts, for example PCH 317, 'Head of the God Tlaloc on Legs (Ocarina).' The eyes of this face are stamped in concentric circles, and the 'legs' may actually be large teeth. Crossley-Holland goes on to suggest that this ocarina may have been used at a funeral, as Tlaloc 'was associated with the spirits of the night.'[161] There are several instances of Crossley-Holland citing instruments as associated with certain rituals concerning death due to the presence of these Tlaloc-style eyes, and he attributes zigzag patterns

[157] 'The Documentation', BUCHA, Box F61, 242.3.
[158] Beekman, 'Unseating the Shaman', p. 80.
[159] Beekman, 'Mesoamerican Symbols of Authority'.
[160] Isabel Kelly, *The Archaeology of the Autlán-Tuxcacuesco Area of Jalisco, II: The Tuxcacuesco-Zapotitlán Zone* (Los Angeles: University of California Press, 1949). Cited in 'The Documentation', 300.17.
[161] 'The Documentation', 317.4.

(representing water) as also associated with the rain god Tlaloc. This demonstrates that Crossley-Holland extrapolated a large amount (presented as fact) from little information.

Figure 23: PCH 317, head of the god Tlaloc on legs (ocarina). Photograph by Susan Rawcliffe.

In an article from 1974, Esther Pasztory examines the iconography of Tlaloc, focussing on its proliferation in Teotihuacán.[162] She gives detailed examples of several iterations of these Tlaloc signifiers, ultimately showing that the characteristics (for example, of eyes and teeth) are often shown in different contexts for different reasons. She cites the 'frequency of goggle-eyed figures and water symbolism in Teotihuacan art [which] has misled investigators into assuming that all figures with these associations represent Tlaloc.'[163] Crossley-Holland acknowledges that while 'goggle eyes'[164] are associated with Tlaloc, they also appear on a Colima ocarina representing a dog. Crossley-Holland does not explicitly challenge the Tlaloc connection – in fact, the dog could confirm the connection with Tlaloc, as both the god and the dog were associated with death and burial. This exemplifies a point that Andrew Turner makes in his chapter 'Unmasking Tlaloc': that not all goggle eyes represent Tlaloc. In fact,

[162] Esther Pasztory, 'The Iconography of the Teotihuacan Tlaloc', *Studies in Pre-Columbian Art and Archaeology*, 15 (1974), 1-22.
[163] Ibid., p. 15.
[164] 'The Documentation', BUCHA, Box F61, 201.4.

the other characteristics of the influential Teotihuacán Tlaloc imagery are also important signifiers: the fanged mouth and curled upper lip. [165]

Crossley-Holland combines Furst's shamanic reading with this pervasive Tlaloc interpretation in PCH 224: 'This flute is in the series of flutes … which is shaped to represent the rain-god Tláloc [sic], or his mask, or perhaps a Tláloc priest (shaman) wearing such a mask … it would thus have been an instrument for ritual use.'[166] The interpretation here is based upon the premise that the large circular eyes of the figure adorning the flute are depicting Tlaloc; the mask interpretation points towards a costume, rather than a depiction of someone's face; this in turn indicates a shaman; the instrument was to be used by such a shaman for ritual purposes. This is circular reasoning, which relies upon internal assumptions, and not any corroborating evidence. Furthermore, 'ritual use' is not descriptive of anything in particular. Rituals can have spiritual connotations, or they can be actions which are repeated to become a habit; either way, more information is needed to extrapolate any musical or cultural practice.

The quotations that I have given from Crossley-Holland's documentation show that two underlying assumptions – that figures wearing costumes depicting animals and those with horned headdresses are associated with shamans, and that eyes with concentric circles represent Tlaloc – gave rise to a large amount of interpretation that builds on these assumptions and connotations to create a web of coherent meaning. Both assumptions have been criticised, both at the time and in more recent scholarship, and so the PCH collection is a ripe resource for alternative interpretations, which can build upon assumptions which are borne of the wider knowledge about west Mexican archaeology we are privy to today.

An example of Furst's approach compared with other archaeologists' is discussed in a 1996 article by Day, Butterwick and Kettering.[167] The article interprets a set of ceramic figurines from west Mexico, and includes an analysis of ceramic house models, which depict a 'recognizable homelike structure with accompanying attached figurines.'[168] They list several

---

[165] Andrew D. Turner, 'Unmasking Tlaloc: The Iconography, Symbolism, and Ideological Development of the Teotihuacan Rain God', in Brigette Faugère and Christopher S. Beekman (eds.), *Anthropomorphic Imagery in the Mesoamerican Highlands: Gods, Ancestors, and Human Beings* (Louisville: University Press of Colorado, 2020), pp. 205-237, this citation from p. 208.
[166] The Documentation', BUCHA, Box F61, 224.3.
[167] Jane Stevenson Day, Kristi Butterwick, and Robert B. Pickering, 'Archaeological Interpretations of West Mexican Ceramic Art from the Late Preclassic Period: Three Figurine Project', *Ancient Mesoamerica*, 7:1 (1996), 149-161.
[168] Ibid., p. 154.

authors who explain that these models 'contain ethnographic information about the Late Preclassic peoples of western Mexico', and that this view is 'widely accepted'.[169] Von Winning described the house models as 'anecdotal sculptures' and suggested that they are artistic depictions of social stratification;[170] later studies by Weigand show that the models are 'probably representations of actual Late Formative domiciles'[171] Furst, however, proposed a 'symbolic, as opposed to ethnographic or anecdotal, interpretation of the models',[172] which referred to a 'cosmic model that combined the house of the living above with that of the dead below.'[173] This analysis of the house and figurines arises from the author's worldview, and interprets the object as artistic rather than a record of cultural information. The way that Crossley-Holland approaches his interpretations is similar: extrapolating symbolic meanings through the lens of his own worldview rather than recognising the possibly more mundane cultural interpretations that they may yield.

Furst and Crossley-Holland both adhered to the principle that comparison between cultures – regardless of time and place – is a valid approach for the study of ancient cultures. The use of analogy was widespread in archaeology and anthropology at the time of their studies, and has since been criticised: for example, by archaeologist Ian Hodder, who acknowledges that 'it has come to be associated with a troubling set of assumptions and ethical considerations', including the reductive connection between past and present, and 'unwarranted assumptions' based on colonial ontologies.[174] Cross-cultural and cross-temporal analogies have impact on living communities (not least the colonial and imperialist framing of the antiquity of man and primitivism), which need to be evaluated and scrutinised. Crossley-Holland was working before postcolonial and poststructural discourses; my research attempts to unpick Crossley-

[169] Ibid., p. 155.
[170] Hasso von Winning, 'Ceramic House Models and Figurine Groups Mounted on Slabs', in Hasso von Winning and Olga Hammer (eds.), *Anecdotal Sculpture of Ancient West Mexico* (Los Angeles: Ethnic Arts Council of Los Angeles, 1972), pp. 17-30.
[171] Phil C. Weigand, 'Architecture and Settlement Patterns Within the Western Mesoamerican Formative Tradition', in Martha Carmona Macias (ed.), *El preclásico o formativo* (Mexico City: Instituto Nacional de Antropología e Historia, 1989), pp. 39-64, in Stevenson Day et al., 'Archaeological Interpretations of West Mexican Ceramic Art', pp. 155.
[172] Peter T. Furst, *Shaft Tombs, Shell Trumpets and Shamanism: A Culture-Historical Approach to Problems in West Mexican Archaeology* (PhD Dissertation, University of California, Los Angeles, 1966); 'House of Darkness and House of Light', in Elizabeth P. Benson (ed.), *Death and the Afterlife in Pre-Columbian America* (Washington, D.C.: Dumbarton Oaks Research Library and Collection, 1975), pp. 33-68.
[173] Day, Butterwick and Pickering, 'Archaeological Interpretations of West Mexican Ceramic Art', p. 155.
[174] Ian Hodder, *The Present Past: An Introduction to Anthropology for Archaeologists* (Barnsley: Pen and Sword Archaeology, 2012), p. 11.

Holland's assumptions, unfettering the collection from the collector to some extent, to allow it to be situated in a postcolonial world.

3.B.iii. Musical interpretations

My analysis of Crossley-Holland's interpretations has so far focussed on the cultural aspects of the instruments. Crossley-Holland also compiled a lot of information about the sonic, acoustic or musical characteristics; as he collected the artefacts specifically for their musical associations, this was a significant aspect of research for him. He approached the study of the sound of the instruments in three ways: testing the sounds of the instruments by playing them himself, or listening to a student playing them; measuring the acoustic properties of the instrument, most likely using the machinery available at UCLA at the time; and extrapolating from figurines the performance stance and possible cultural context of the performance of these sorts of instruments. The first two of these approaches focus on individual instruments, and collecting data from them to compile for comparative interpretations. The inference of musical performance is a more speculative approach, and sometimes overlaps with the cultural interpretations detailed above.

Hornbostel-Sachs classification as applied to the PCH collection

Crossley-Holland considered the sound-producing properties of each instrument in order to classify them using the Hornbostel-Sachs system of classification. The use of the Hornbostel-Sachs system as a tool for interpretation is limited, but the categorisations provide an idea of the variety of musical instruments in the collection. The major advantage of my digitisation of the PCH catalogues is the ease with which patterns can be discerned, compared with the thousands of pages of paper documentation. Setting aside its limitations, the Hornbostel-Sachs classifications allow general patterns to emerge, which can then be cross-referenced with the zone and style of the artefact.

Crossley-Holland does not organise the artefacts by whether they are a sound-producing object themselves, or a depiction of a sound-producing object. The distinction is that it is possible to test the sound-producing qualities of an artefact, but the classification of the depiction of sound-producing artefacts is unempirical, as it is based on what the instrument looks like it could be, or the performance position of the player (see Appendix 3, which shows the Hornbostel-Sachs categories and modifiers that Crossley-Holland assigned).

The vast majority of objects in the collection, 264 of them, are instruments. 52 of the artefacts are figurines of a person with an instrument and 13 are figurines with an instrument as well as being an instrument itself.

Only three of the 13 objects in the latter category depict the same instrument. Two of these are figures playing whistles, and the hollow head of the figure acts as the resonating chamber for the whistle itself (PCH 127 and PCH 128). The other object (PCH 148) is a composite of a vessel flute and a vessel rattle; again, the head of the figure contains the sound-producing mechanism for the whistle, and the beads of the rattle are in the round, hollow belly. The figure is holding a rattle, another rattle is attached to their back, and the figures holds an object to their mouth, which Crossley-Holland labels as a whistle (although the figure's hand covers the instrument so it cannot be seen).

The usefulness of using Hornbostel-Sachs to classify this collection is variable. Firstly, many of the instruments belong to the same category. For example, 77 instruments are ocarinas, classified as 421.221.42; 70 are labelled 421.221.41 (zoomorphic pottery whistles); and 24 are recorders, 421.221.12. This means that differentiation within these large groups is not addressed. At the opposite end of the spectrum, some artefacts are the only example of a category, for example a stopped flute with internal duct and without fingerholes, 421.221.31. Having a single instrument in its own class does not yield any conclusions.

Crossley-Holland added his own modifiers to many of the categories, having found them not adequate to describe his artefacts. This was necessary as Hornbostel and Sachs devised their system to describe instruments known to them. For example, one of the PCH instruments was classified by Crossley-Holland as 421.221.31: stopped flute with internal duct, with fixed stopped lower end, originally the class of the European signalling whistle. Crossley-Holland added his own suffix to produce the category 421.221.31.1.a.i. The three additions stand for spirally coiled in shape, cylindrical, and with one finger-hole.

Another problem with the application of Hornbostel-Sachs to the PCH collection is that it is not always possible to determine the exact sound-producing mechanisms of the instruments. In some examples, this is due to dirt or damage to the instrument; in others, it is because Crossley-Holland is labelling an effigy, which does not produce a sound at all; in yet others, Crossley-Holland assumes the musical use of a sound-producing object. In this latter category are two shells which have been carved and bored and which look like bracelets (PCH 1 and

2). Crossley-Holland assigned these the Hornbostel-Sachs classification 112.111. There are seven other artefacts also in this category. These instruments are called 'necklaces with rows of shells' in the Hornbostel-Sachs classification, but Crossley-Holland's examples are shell bangles, such as those that Ekholm found upon the arms of skeletons in his excavations near Guasave in Sinaloa.[175] There is no corroborating evidence that the bracelets had a musical purpose, but they were included in the PCH collection because they can make sound. The Hornbostel-Sachs classification validates their sonic or musical properties.

The language that Crossley-Holland uses to describe these objects reinforces the underlying assumption that musical and ritual practices were linked in west Mexican cultures. He notes that a 'necklace would sound with the movements (natural, musical, danced, or ritual) of the wearer';[176] another object is described as sounding 'a substantial clicking and tinkling, which would have mythical elements in a dance.'[177] Crossley-Holland attributes musicality indiscriminately among these shells and stones. Peter Furst employed a similar approach by giving significance to deer antlers or animal horns as evidence of shamanic activity. This encompasses their use in 'Upper Paleolithic cave art … among Neanderthals, Scythians, Vikings, Han Chinese, the Huichol, and Bronze Age kings of the Near East to an increasingly undifferentiated category of shamanism.'[178] The underlying claim is that a certain material's meaning is shamanic. In the PCH collection, shells and bells may have been used for musical purposes, within a dance movement, or as part of a shamanic ritual. The process of reasoning is that figurines are shown with costumes that may include shell bracelets or bells on the shoulders; these figurines depict shamanic rituals; across cultures, rituals often include movement and music; therefore, the shell bracelets are music-making devices used in rituals. Each step confirms the previous supposition. However, alternative interpretations could classify a deer tine as a tool, and a shell bracelet as jewellery. These claims could be researched further, as our knowledge of west Mexican archaeology increases, for there to be reliable information that proves a non-musical use for some of these objects that negates the musical interpretation; or research that provides evidence of a musical use.

[175] Gordon F. Ekholm, *Excavations at Guasave, Sinaloa, Mexico* (New York: American Museum of Natural History, 1942). Cited in 'The Documentation', BUCHA, Box F61, 1.2.
[176] 'The Documentation', 239.2.
[177] 'The Documentation', 250.2.
[178] Beekman, 'Unseating the Shaman', p. 80.

Testing the sounds

Crossley-Holland played the instruments in his collection that were in a usable condition. He enlisted two of his students to play the artefacts too: Daniel Sheehy, who played a ceramic conch-style trumpet;[179] and Dale Olsen, who played an ocarina shaped like testicles.[180] Earlier in this chapter I described the types of equipment used to measure music at UCLA at the time that Crossley-Holland was working – including Seeger's Melograph, and the Stroboconn. Most of the instruments were tested aurally, by Crossley-Holland or his students playing the instruments themselves, and measuring strength, timbre and pitch by ear, sometimes with the help of a tuning fork. 181 instruments' sounds were tested in this way. A significant number of the remainder, 79, were tested in the laboratory. Crossley-Holland describes these tests as using a compressed air supply affixed to the instrument's mouthpiece to produce a consistent and strong air flow; using a microphone which was set up fifteen centimetres behind and eight centimetres below the microphone, in the case of the ocarinas, and one metre behind in the case of duct flutes, to 'simulate a possible distance from the player's ear'.[181] The remainder of the collection was untested, either because the artefacts were too damaged to make a sound, or were effigies rather than actual instruments. For two instruments, the reason that they were not tested in the laboratory was that they were 'acquired too late for [them] to be tested in the laboratory.'[182] Both of these artefacts were acquired in 1977, and there are several artefacts which were acquired after 1977 which had been tested in the laboratory. I have been unable to discover the reasoning behind Crossley-Holland's choice to test aurally or in the laboratory. Perhaps his intention was to test all instruments in the laboratory eventually, but he was unable to access it. The result is that his documentation now contains very different amounts of information for each artefact – some have many pages of acoustic information, and some a very small amount, with only the approximate Western pitches given.

Crossley-Holland garnered information about the strength of each instrument (described on a scale from *pianissimo* to *fortissimo*, or with measurements in phons and decibels), its timbre, and its pitch. The amount of detail for each of these categories varies, as does the way of measuring and describing the sounds. At their most subjective are descriptions of timbre:

---

[179] 'The Documentation', BUCHA, Box F61, 47.3.
[180] 'The Documentation', 266.4.
[181] 'The Documentation', 155.4.
[182] 'The Documentation', 265.3 and 312.2.

AW. What is m.v.t.?

~~69.6~~ ~~160.7~~ 158.7

	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 spectral 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 their respective harmonic peaks)
1204:	78	-14	-18	-18	-18	-19	-15	-30	-30								(fo/2-30, 3fo/2-13, -22(2070), -22(2484), -25 (2803), -27(3340), 13fo/2-15(4074)).
1230:	77	-16	-3	-17	-15	-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 those of other partials)
0200:	81	-3	-14	-21	-29	-17	-35										(subharmonic series fleshed out this pattern)
OBT1-1234: (photo 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.

Figure 24: Notes from the Documentation, showing quality. BUCHA, Box F61, 158.7

C. Pitch

1. systems: NBT, OBT1(all positions), OBT2(all positions) and OBT3(positions 1234 and 0234 only). In the laboratory it was possible to measure all the NBTs, some of the OBT1s(others being too throbby or requirement more pressure than the equipment could supply), and none of the OBT2s or OBT3s. Mark Levy measured all OBT1s, several OBT2s and two OBT3s(see below). As regards practical use, the following would certainly have been easily playable: all NBTs and the OBT1s at 1234, 0234 and 0034; the other OBT1s need more pressure but could have been used. OBT2s and OBT3s were almost certainly not used.

2. ambit:

3. areas: the optimum results are obtained from medium pressures and these are here presented according to the laboratory measurements:

	NBT		OBT1	
1234:	403 ± 4 Hz.	(G4 + 48 cts.)	815 ± 4Hz	(G#5 - 33 cts.)
0234:	420 ± 6	(G#4+19)	845 ± 5	(G#5 + 30)
0034:	442 ± 4	(A4 + 8)	900 ± 5	(A#5 + 39)
0004:	465 ± 4	(A#4-4)		
0000:	500 ± 5	(B4 + 21)		
1034:	435 ± 5	(A4 - 20)		
1204:	453 ± 4	(A4 + 50)	920 ± 7	(A#5 - 23)
1230:	475 ± 4	(A#4 + 32)	969 ± 5	(B5 - 34)
1200:	487 ± 5	(B4 - 24)		
0230:	474 ± 4	(A#4 + 29)	982 ± 4	(B5 - 10)
0204:	458 ± 5	(A#4 -31)	940 ± 5	(A#5 + 14)
1030:	483 ± 5	(B4 - 37)		
1004:	466 ± 6	(A#4 - 1)		
0030:	485 ± 4	(B4 - 31)	992 ± 5	(B5 + 7)
0200:	496 ± 5	(B4 + 7)	1010 ± 6	(B5 + 38)
1000:	492 ± 5	(B4 - 7)		

AW says 0004 (to adjust)

AW 491

Figure 25: Notes from the Documentation, showing pitch. BUCHA, Box F61, 158.9.

‘gentle, slightly cooing’; ‘earthy’; ‘a well-formed “pipe” – bright and clean’.[183] The instruments which were tested in the laboratory were given reams of numerical measurements: loudness (phons), spectrum, and pitch in Hertz (see Figures 24 and 25).

The quantification of sound can also be seen in Mantle Hood’s *The Ethnomusicologist*. Hood presented a series of Hardness Scales as part of his concept for an extended organological system, which presents values for the categories of loudness, pitch, quality, density and materials.[184] Crossley-Holland does not utilise these Hardness Scales, or cite Hood’s work, but his creation of columns of numerical data resembles Hood’s approach.

HARDNESS SCALES

HSL(oudness) (1 db–>120 db)		HSP(itch) (16 cps–16,384 cps)		HSQ(uality) (globular flute–cymbal)		HSD(ensity) (1 ppm–>600 ppm)		HSM(aterials) (gourd–metal)	
1	1–12 db	1	16–32 cps	1	globular flute	1	<1–60 ppm	1	gourd
2	13–24 db	2	33–64 cps	2		2	61–120 ppm	2	earth
3	25–36 db	3	65–128 cps	3	Melograms of	3	121–180 ppm	3	skin
4	37–48 db	4	129–256 cps	4	instruments	4	181–240 ppm	4	plastic
5	49–60 db	5	257–512 cps	5	now under	5	241–300 ppm	5	wood
6	61–72 db	6	513–1024 cps	6	comparative	6	301–360 ppm	6	bamboo
7	73–84 db	7	1025–2048 cps	7	study	7	361–420 ppm	7	bone
8	85–96 db	8	2049–4096 cps	8		8	421–480 ppm	8	glass
9	97–108 db	9	4097–8192 cps	9		9	481–540 ppm	9	stone
10	109–>120 db	10	8193–16,384 cps	10	cymbal	10	541–>600 ppm	10	metal

Figure 26: Hardness Scales, from Mantle Hood, The Ethnomusicologist (New edition; Kent: Kent State University Press, 1982), p. 162.

Crossley-Holland’s documentation characteristically comprises the juxtaposition of his personal impressions, such as the descriptions of timbre, and the accumulation of quantifiable data. This is also seen in the information about pitch, when displayed in Hertz as well as approximate Western note; and in the concurrence of classificatory tables and speculative interpretation, seen in the ‘Extrapolation’ sections.

Crossley-Holland used Western staff notation to illustrate the pitch of the instruments; as a composer, this would have been his natural language. Using Western tempered tuning presents problems. When measured by ear, Crossley-Holland compared pitches using a tuning fork, giving approximations, amending the notes to a Western pitch. Where laboratory measurements were given, he converted Hertz to western pitches, sometimes using cents as modifiers, sometimes drawing arrows to demonstrate the approximate microtone. In some cases, Crossley-Holland assumes that a particular pitch series was the aim, for example, a

[183] ‘The Documentation’, 153.2, 107.2, and 37.2 respectively.
[184] Mantle Hood, *The Ethnomusicologist* (New edition; Kent: Kent State University Press, 1982), 162.

major triad, and any deviation from this was unintentional. The way that air vibrates to produce sound does create certain patterns, due to natural harmonics; however, Crossley-Holland creates patterns by rounding pitches up or down to match Western tuning. For example, PCH 69, a two-holed ocarina, was tested in the laboratory and yielded the pitch series D6 + twenty cents, F sharp 6 and A6. Crossley-Holland notes:

> Of the two possible positions with one hole stopped, only LO was taken at the pressure 215mm.H20 and it yielded, as indicated, F#6. Higher pressures (273, 282) yielded for LO and OR respectively G6-48 and G6+2cts. Since the higher LO reading was more breathy than the lower, there is no need to doubt that the lower reading is nearer the intended sound. In effect, the pitch series is close to that of the major triad.[185]

LO is the shorthand Crossley-Holland used for fingering: the left-hand hole is covered (L) and the right-hand open (O). This quote shows how Crossley-Holland interprets the readings to fit the pattern of a major triad, by disregarding the pitch measurements that do not conform, and explaining them as anomalies due to their 'breathy' timbre. However, the final sentence of the above quote implies that he is aware his interpretation is based on the correlation between the pitches of the ocarina and what he understands as a major triad, and not necessarily the intention of the instrument maker.

Crossley-Holland interprets PCH 73, another two-holed ocarina, in a similar fashion:

> The series aimed at appears to be C6-Eflat6-F6. A slight increase of air pressure on C6, which was a little low, would have raised it so as to make a p4 [perfect fourth] with F6. In practice, the Eflat6 is a few cents flat in just intonation; the interval it makes with C6 approximates rather a Pythagorean m3 [minor third] (294cts[cents]) rather than a m3 in just intonation (316 cts).[186]

This quote offers another example of how Crossley-Holland expects a certain relationship between notes: in this case a perfect fourth, and a minor third. He demonstrates the effect that air pressure can have on pitch, and concludes that the perfect fourth was the intended interval, even though only a particular air pressure produces the C6. The interval between this C and the E flat is similarly only an approximation of the minor third. The mention of the differences between Pythagorean and just tuning suggests that Crossley-Holland is aware that the natural resonances of instruments produce certain harmonics, and are thus utilised in many cultures, and that his interpretation using just intonation is a result of his Western

[185] 'The Documentation', BUCHA, Box F61, 69.4.
[186] 'The Documentation', 73.4.

education. However, the language he uses in this example, and elsewhere in his documentation, suggests that he does feel that certain pitches are more appropriate than others, and he tends to favour pitches and intervals that support a Western tuning system. This is supported again by the fact that many of the instruments that he tested aurally have been compared to a tuning fork in order to determine their pitch.

In *Musical Artifacts of Pre-Hispanic West Mexico,* Crossley-Holland suggests that a useful approach to studying these instruments would be to 'give a pre-Hispanic instrument to a native musician … we can hope that any features he may have "inherited" from ancient traditional styles will come out in his performance.'[187] However, Crossley-Holland admits he was not able to pursue this method of study, although he did hear an ocarina played by a musician of P'urhépecha descent in Morelia.[188]

In the unpublished documentation, there is only one example of Crossley-Holland comparing the sound of an instrument to contemporary music-making, which is regarding PCH 234 ('flute with snake adorno'). PCH 234 is atypical of other Colima styles, he reports, as there are only three finger holes, instead of the usual four. Additionally, the finger holes are so close together that 'only very small fingers could play this flute … they would in fact have to be the fingers of a child.' Crossley-Holland regards this as very unlikely, as a child would 'hardly have played a ritual instrument.'[189] Crossley-Holland suggests that either the finger holes are purely aesthetic, or that they were used 'colouristically' to create 'throbbing or undulating sounds.' This is supported by a report from Dale Olsen that 'the present-day Warao run the forefinger rapidly over the holes of their bone flutes at the end of a piece.'[190] According to Crossley-Holland, the adornment of the snake is also represented by a zigzag pattern, which could also point to waves, or to lightning. The undulating sonic effect could sound like the 'rustling or hissing of a snake', [191] or evoke running water, or lightning, wind and a storm. These latter associations could be confirmed by the ritual manner of the flute, which is suggested by the 'all-seeing', Tlaloc-style, character of the eyes of the snake adornment. Crossley-Holland makes associations between Tlaloc and water and water

[187] Crossley-Holland, *Musical Artifacts of Pre-Hispanic West Mexico*, p. 16.
[188] Ibid., p. 34.
[189] 'The Documentation', BUCHA, Box F61, 234.4.
[190] 'The Documentation'. Olsen has since published a monograph on the music of the Warao: Dale A. Olsen, *Music of the Warao of Venezuela: Song People of the Rain Forest* (Gainesville: University of Florida Press, 1996).
[191] 'The Documentation', 234.2.

creatures throughout his documentation, as discussed earlier in this chapter. Crossley-Holland questions the authenticity of this artefact, as there are some unique characteristics that he had not seen on any other artefact: the number and placement of finger holes, as well as the style of eyes on the snake adornment. He also finds it suspicious that there are no remnants of earth on the artefact, even in the nooks of the snake's irises.

As well as using detailed measurements by machine to suggest intervals and pitches, Crossley-Holland seemed to have felt it important that a human plays the instruments too. This is both useful, as it suggests alternative ways of playing an instrument, and unreliable, as Western musicians would have certain expectations of their instruments: what sorts of sounds should be produced, and how. It is not clear whether Crossley-Holland sought both methods for obtaining pitch information, or whether he felt that one needed to supplement the other, or that he intended to test all artefacts in the laboratory, and the human aurally-gathered data was a preliminary activity which needed to be superseded by laboratory work. In the entry for PCH 266, the testicles played by Dale Olsen, information was gathered by both machinery and by ear. This resulted in a large amount of data, which shows the combination of human and machine-gathered sounds:

> Strength at 15cm behind and 8cm below the microphone. Conventional: (ppp) pp to mf+ (best) to f+ Loudness (phons): NBT pitches at loudest (av): 97.8 Intensity (dB): NBT pitches at loudest (av): 97 Timbre: Quality: round, but with a breathy edge [spectrum] Pitch: systems: UBT, NBT Ambit: p5+29cts Areas: 1234+B5+2cts 0234=C#6+47cts 0034=D#6+23cts 0004=E#6-22cts 0000=F#6+31cts [notation] The series is pentachordal, and its nearest affinity is with the "Lydian" pentachord. Results of breath blowing. The results obtained by Dr Dale Olsen, who blew this instrument by breath and measured the sounds against a standard tuning fork, are as follows: [see Figure 27]:[192]

[192] 'The Documentation', BUCHA, Box F61, 266.3-4.

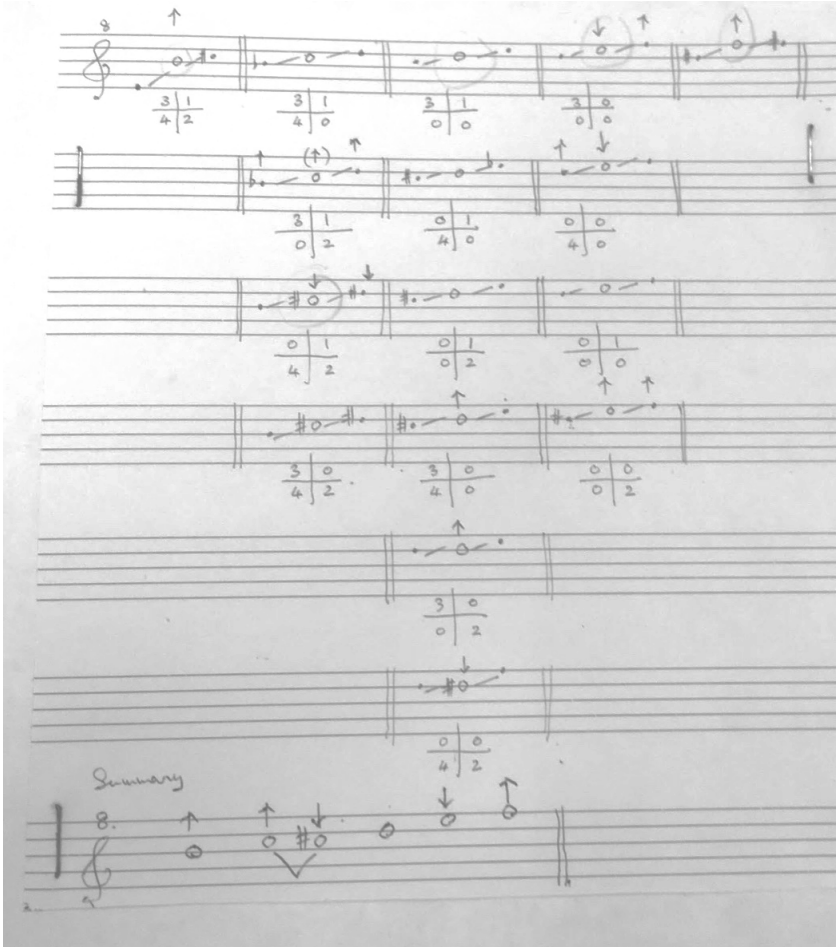


Figure 27: Notes from the Documentation, showing pitch information for PCH 266 (ocarina: testes in scrotum). BUCHA Box F61, 266.4.

As well as providing complicated numerical data, Crossley-Holland sometimes utilised language which requires specialist knowledge, or even a translation: for example, describing pitch series as 'anhemipentatonic' or 'tetratonic'. Although Crossley-Holland employed an interdisciplinary approach to studying these artefacts, it seems that, in fact, the analytical musicological aspects were the most in-depth of the studies, including research into acoustics. Even though the notes were unpublished, examples of unnecessarily erudite language or analysis can be seen in articles of his that were published elsewhere. For example, in 'The Tonal Limits of Welsh Folk Song', Crossley-Holland analyses a series of songs to ascertain their use of modes. The language he uses to describe his analyses is dense and incomprehensible to all but the most stalwart of readers. The appendices to the article contain tables of these patterns: I reproduce one example below, to demonstrate the similarity

with the Documentation, and Crossley-Holland's tendency to compile large amounts of information.[193]

11. Occurrence of the hexa modes

mode	total	diatonic hexachords (M=major, m=minor)	wide interval	mixed (diatonic-anhemitonic)
do-3	2			2
do-4	12	4 M		8
do-6	8	2 m[a]	6	
do-7	42	10 M[b]		32[b]
re(-7)	1	1 M		
sol-3	1			1
la-4	2		2[bc]	
la-6	18	2 M		16[d]
la-7	10	6 m	4	
lah-4	1		1[e]	
lah-6	14	6 m	8[f]	
	111	31[g]	21[h]	59[i]

[a] includes one modified (*id*) mode.
[b] includes one modified (*lm*) mode.
[c] the modified (*lm*) mode here included has a final modulation.
[d] includes 3 modified modes (one is *id*, one *lm* and one *jm*).
[e] is a modified mode (*id*).
[f] the intervals are augmented in this instance (not wide).
[g] includes 2 modified modes.
[h] includes 3 modified modes.
[i] includes 4 modified modes.

Figure 28: Table from the appendix to Peter Crossley-Holland, 'Tonal Limits of Welsh Folk Song', Journal of the Welsh Folk Society, 5:2 (1968), 46-73, this citation from p. 72.

Comments by Crossley-Holland, for example regarding PCH 27, indicate that he realised that laboratory testing is not always ideal:

> When the whistle is blown by the breath at a high pressure, a trilling sound ensues. When the breath is blown with a sudden attack, a bird-call type of sound naturally follows. In the laboratory, however, it was found that neither of these types of sound could be produced with a compressed air source.[194]

Nevertheless, he did produce measurements for the loudness and timbre using compressed air, presumably to create data that could be compared empirically. Several of the artefacts were tested after being cleaned or repaired, although Crossley-Holland does not include details of the components that he changed in these repairs. One instrument, PCH 309, was cleaned thoroughly and submerged constantly in warm water to 'seal a fracture.' This same instrument had been repaired before Crossley-Holland's acquisition, as it had 'been broken into five pieces which have been adequately reassembled.'[195] A white pigment had been

[193] Peter Crossley-Holland, 'The Tonal Limits of Welsh Folk Song', *Journal of the Welsh Folk Song Society*, 5:2 (1968), 46-73.
[194] 'The Documentation', BUCHA, Box F61, 27.3.
[195] 'The Documentation', 309.3.

added after this repair, to fill the gaps left by the breakages. Although the instrument had been damaged, repaired, and still shows signs of erosion around the mouthpiece, Crossley-Holland judges it to be 'acoustically intact,' and takes measurements in the laboratory.[196] This particular artefact is the third in a series of three similar flutes, which he tested and observed that they conform to an anhemipentatonic scale. The reliability of this pattern is questionable when the form of the artefacts has been changed by Crossley-Holland. Other instruments throughout the collection were tested without cleaning, and some after a temporary or full repair.[197] There is a disjunction between Crossley-Holland's attempts at objective measurement of the sounds and the extreme changes in the physical structures of the artefacts since their original form. The sounds that are produced in Crossley-Holland's time could be extremely distorted compared with their original usage.

I have not seen any documentation that suggests Crossley-Holland's intentions regarding his use of Westernised pitch information. It is possible that he simply understood best the language of Western notation, and used it as a way of assimilating the information from the Mexican artefacts. Since ethnomusicological research has developed into using alternative means of transcription, which can provide more descriptive or prescriptive ways of displaying music, Crossley-Holland's approach seems old-fashioned and ethnocentric. If he had intended to use his artefacts in his compositions, it would be useful to convert their pitches into Western notation, and to explore whether they could be played in a way which could be accompanied by Western instruments, but there is no evidence that he intended to do this.

For certain instruments, Crossley-Holland describes their pitches as 'optimal'. For example, PCH 319 (coyote: two-holed vessel duct flute [ocarina]), has the pitch 'areas' of A flat 6, B flat 6, and C7. Crossley-Holland then notes that 'it will also produce pitches about a semitone higher throughout, but the pitches indicated are optimal.'[198] He employs labels for the 'systems' of pitches: UBT, NBT, and OBT. There is no key to decipher these, but from comparing Crossley-Holland's notes about pitches, and what he designates 'optimal', I infer that they stand for under-blowing tone, natural- (or normal-) blowing tone, and over-blowing tone. Often, the optimal pitches are the ones produced at this normal level of air flow; but the

[196] 'The Documentation', BUCHA, Box F61, 309.1.
[197] For example, PCH 307: finger hole repaired; PCH 197 tested after temporary repair; PCH 30 tested without cleaning.
[198] 'The Documentation', 319.2.

inclusion of the other breath techniques shows that Crossley-Holland accepts that there are alternative ways to play the instruments. Without knowing the performance practice, it is difficult to say that what Crossley-Holland finds natural and optimal is the same as the original players.

Crossley-Holland was unable to connect PCH 146 – a whistle shaped as a figure playing a drum – to the compressed air source that he used in the laboratory. He therefore played the instrument himself, but describes this test as measuring 'objectively', using quotation marks himself. This suggests that he realises that the tests cannot be entirely objective. However, the realisation that this test with 'the author's breath'[199] is not objective implies that he did consider the laboratory tests to be objective. He mentions this explicitly in *Musical Artifacts*, wherein he uses the phrase 'so-called objective' to describe the laboratory experiments, and explains this phrase by stating that 'it is as well to remind ourselves that the methods of laboratory experiment and theoretical calculations alike … are all products of our minds and involve to essentially subjective elements of choice, discrimination and interpretation.'[200]

The cultural and musical interpretations show a dichotomy: of the need for objective and comparative study using quantitative data, and the speculation influenced by Crossley-Holland's spiritual views. Scholars who worked in the remit of Levi-Strauss's structural anthropology strived to determine overlying patterns, necessitating this comparative study; poststructuralism opened the field to pluralism and more subjective approaches. Crossley-Holland situated himself between a structuralist and a hermeneutic approach: while he pins down pitches to the nearest cent, he speculates upon the use of instruments for religious purposes. The former approach quantifies, the latter interprets. Crossley-Holland's two approaches are not causally-related. The quantification does not lead to analysis and interpretation; the quantification serves to provide structure, objectivity and academic credence, and the interpretation allows Crossley-Holland to explore his personal connection to the objects and their imagined communities, as predicated by his worldview.

[199] 'The Documentation', BUCHA, Box F61, 146.4.
[200] Crossley-Holland, *Musical Artifacts of Pre-Hispanic West Mexico*, p. 34.

Chapter 4: Dissemination

In the preceding chapter, I explored how the identity of the collection, and its current situation, has been influenced by Crossley-Holland's activities as a collector as well as his academic work. A key component of both of these is the extent to which the collection is musical. It was of paramount importance for Crossley-Holland that the collection comprised musical objects, and this criterion was prioritised over their stylistic similarities, resulting in a collection of objects from different geographic and temporal origins. In this chapter, I will explore the ways in which musical artefacts can be used, displayed and preserved, drawing on practical museum advice for both musical and non-musical objects. I then focus on the ways that information about these artefacts could be disseminated, using several case studies from the disciplines of music archaeology and ethnomusicology. In section 4.C, I turn to the display of ancient Mexican artefacts in museums. This section draws on museum fieldwork visits to the USA, Mexico, around the UK, and in Spain. I use Bouquet's theoretical framework of objectification, modernism and renovation, from her visual anthropology of museums, to analyse museum displays in different contexts. Finally, I discuss more generally the differing values of museums and how these relate to their function.

4.A. To play or not to play

4.A.i. The purpose of conservation

The conservation of the PCH collection can be discussed from several angles. Are the objects musical, and should they be preserved for their musical use? Or are they visual art, preserved to look their best? Is the University's job to safeguard them as items of cultural value, for future generations? Should they be preserved in order for them to be displayed and accessible, or should they be preserved to ensure their continued existence intact? Here, I will outline the various considerations concerning these questions. The technicalities of conservation and restoration are beyond the scope of this thesis, but the current situation is that the PCH collection is currently stored safely in terms of environment, in a temperature-controlled room with humidity monitors. The conditions of the objects have been surveyed by a professional conservator from Wales and their storage and handling is evaluated and monitored by Storiel staff. Simon Knell points out in *Care of Collections* that conservation strategies always operate within the socio-political framework of their institution: in the case

of the PCH collection, these are the museum's mission statement, the University's use of objects for research, and budgetary constraints.[1]

While in the possession of Crossley-Holland, the ownership of the collection was private and personal; Crossley-Holland could make decisions about the conservation of the instruments, based on his own criteria. As a University collection, cared for by a museum, the priorities for conservation have changed. Universities and museums are public institutions and they have responsibility for community engagement, social inclusion, communication and research. Many of the objects have been restored or repaired in the past, although there is no evidence of whether this was done by Crossley-Holland or previous owners or dealers. These repairs increase the fragility of the objects, as the adhesives have deteriorated over time. This affects the current and future use of the collection, as certain objects cannot be moved (even from the store to a display case).

Figure 29: PCH 9, flute in the shape of a coiled serpent. The head and neck have been reattached after a fracture, and there are some holes in the body which Crossley-Holland sealed before testing the flute's sounds. Photograph by Susan Rawcliffe.

[1] Simon Knell, 'Introduction', in Simon Knell (ed.), *Care of Collections* (London: Routledge, 1994), pp. 1-10.

Figure 30: PCH 33, jaguar supporting a censer with rattles in legs. A crack at the top of the leg on the left of the photograph shows where it has been reattached. Photograph by Susan Rawcliffe.

Figure 31: PCH 165, double flute. The photograph shows the underside of the flute. A fracture approximately one third along the flute from the mouthpiece has been repaired, and another repair can be seen at the far end of the flute. Photograph by Susan Rawcliffe.

Figure 32: PCH 307, flute with animal adornment. The area around the fourth finger hole has been repaired, and the tube has fractured and been reattached in several other places. Photograph by Susan Rawcliffe.

In his introduction to *Things Fall Apart*, Child points out that 'conservation ethics, like all cultural attitudes, change and move on.'[2] Destructive sampling, extensive restoration, and impartial removal of corrosion is no longer considered appropriate practice. Instead, 'there are no conservation axioms or recipes that are universally applicable: each object has to be considered for its own needs, to enhance aspects of its interpretation.'[3]

There has been a shift in practice from remedial to preventive conservation, which has implications for playing musical instruments if playing causes deterioration. A widespread consequence of this approach is to limit handling of objects, and to limit handling to trained museum professionals. The balance that needs to be struck is that the collection needs to be safely preserved for future generations, but that 'public access to the collections is vital.'[4] The level of access can be managed creatively by museums of music, as I will detail later.

The International Council for Museums Code of Ethics provides principles agreed by the international museum community. Pertinent to the issue of conservation are the principles which suggest the purpose of museum collections:

I. Museums preserve, interpret and promote the natural and cultural inheritance of humanity.
II. Museums that maintain collections hold them in trust for the benefit of society and its development.
III. Museums hold primary evidence for establishing and furthering knowledge.
IV. Museums provide opportunities for the appreciation, understanding, and management of the natural and cultural heritage.
V. Museums hold resources that provide opportunities for other public services and benefits.
VI. Museums work in close collaboration with the communities from which their collections originate as well as those they serve.[5]

Applying these principles could shift the priority of collections management from conservation alone to community benefit. I will evaluate the purpose of conservation and how conservation could be positioned in a wider social context. As Tristram Besterman points out, 'The museum practitioner certainly has a duty of care to an object, but that

[2] Robert Child, 'Introduction', in Caroline Buttler and Mary Davis (eds.), *Things Fall Apart … Museum Conservation in Practice* (Cardiff: National Museum of Wales Books, 2006), p. xi.
[3] Ibid.
[4] Knell, *Care of Collections*, p. 9.
[5] International Council of Museums, 'ICOM Code of Ethics for Museums', 2017, <https://icom.museum/wp-content/uploads/2018/07/ICOM-code-En-web.pdf>, last accessed 18 June 2020.

responsibility has meaning only within an ethical context of human interaction.[6] Conservation is ultimately for people; hence ethical and conservation issues are intertwined.

4.A.ii. What should be preserved?

The conservation of the PCH instruments serve musical and visual purposes: both aspects rely on the physical integrity of the object. The crux of my argument here is whether it is useful or possible to conserve musical aspects of a musical instrument without ever playing the instrument.

In relation to the PCH artefacts, consideration must be given to both the protection of the objects and the protection of people who might come into contact with them. The purpose of this is to preserve the objects in their current state and to avoid further deterioration. The material of most of the PCH objects, fired clay, is vulnerable to physical damage from handling. From working with the Collections Manager at Storiel, the best way to avoid this is to wear gloves and keep handling to a minimum. There may be health hazards involved with playing the instruments, especially since playing wind instruments involves touching the instrument with the player's lips, and it is impractical to form a barrier between the mouth and the instrument in the same manner in which wearing gloves provides a barrier while handling objects. An archaeologist and a biologist have recommended cleaning the instruments before playing, as environmental pathogens can survive in a dormant state, to be reactivated in optimal heat and humidity conditions.[7] It is very unlikely that these pathogens would have remained from the original archaeological sites; of greater concern is that the storage facilities in more recent history are unknown. The level of cleaning required to erase any pathogens would certainly damage the instruments. It would be very unlucky for anyone to become ill or cause an outbreak of botulism due to playing the ocarinas – indeed, that has been avoided thus far – but the risks are present and should be noted when deciding any future use.

There are some pertinent examples of activities which utilise museum objects: the research of Mesoamerican ocarinas at the Peabody Museum at Harvard University; a series of

[6] Tristram Besterman, 'Museum Ethics', in Sharon Macdonald (ed.), *A Companion to Museum Studies* (Chichester: Wiley-Blackwell, 2011), pp. 431-441, this citation from p. 431.
[7] Prviate email correspondence with Gary Robinson and Dylan Jones, 5 and 8 April 2019.

performances at the Museum of Fine Arts in Boston; and in a somewhat different category, the National Museum of Wales's restoration of a car.

The Peabody Museum has an extensive collection of Mesoamerican ocarinas and flutes. In 2012, musician and ethnologist José Cuellar carried out research on these instruments, and played and recorded many. More than one hundred of the ocarinas were displayed at the Peabody, in the exhibit 'Ocarinas of the Americas: Music Made in Clay.' A series of videos featuring Cuellar were played on a screen within the exhibition space. These videos show Cuellar playing several of the archaeological ocarinas, reflecting on their part in his Mexican heritage, and explaining their musical elements.[8] Notably, Cuellar stated his 'primary objective was to breathe life … to play these instruments and bring them to life.'[9] Part of the decolonisation of museums involves allowing scholars with strong cultural ties to place their values on collections. In this case, Cuellar's stated spiritual connection to the instruments and their past players is positioned as significant, rather than the preservation of the objects. In one of the videos, referring to one ocarina that he is holding, he explains

> … my DNA is in here. These instruments that were played by others still have not only the DNA of others, but their spiritual vibration and physical vibration. I'm leaving this instrument now having vibrated it. That becomes a relationship to each instrument.[10]

The damage to the instruments was minimised: Cuellar wore gloves while handling the ocarinas, and the Peabody has the infrastructure and staff to be able to monitor the condition of the objects throughout the project and in the long term.

The Museum of Fine Arts (MFA) in Boston hosted a series of performances using historic musical instruments: for example, an eighteenth-century English Broadwood piano. The increased interest in authenticity in early music performances, including the use of period instruments, poses challenges to the museums which safeguard these instruments.[11] MFA's

---

[8] Peabody Museum, 'Ocarinas of the Americas: Music Made in Clay', 2017, <https://www.youtube.com/playlist?list=PLj5h_wBtShfFjV3O9G0rkzrpSdG9J2N5v>, last accessed 20 January 2020.
[9] José Cuellar, 'Reviving Ancient Music', *Peabody Museum*, 2015, <https://www.peabody.harvard.edu/node/2608>, last accessed 20 January 2020.
[10] Peabody Museum, 'Breathing Life into an Ancient Instrument', 2017, <https://youtu.be/7PmqSaLLuh8>, last accessed 24 June 2020.
[11] Andrew Lamb, 'To Play or Not to Play: The Ethics of Musical Instrument Conservation', *Victoria and Albert Museum Conservation Journal*, April 1995, <http://www.vam.ac.uk/content/journals/conservation-journal/issue-15/to-play-or-not-to-play-the-ethics-of-musical-instrument-conservation/>, last accessed 7 February 2020.

approach increased accessibility by allowing visitors to hear the instrument and to see it activated by a performer. MFA's musical instruments co-ordinator points out that there is no scientific reason to play historic instruments, but it is a 'spiritual thing – players feel like they need to be expressed.'[12] One of their musicians, pianist Martina Wlodarczyk, confirms this:

> She asked me to picture entering an art gallery with paintings hanging on the wall. "If you imagine that they're covered — and that they're there but you can't look at them — it's terrible," she said. "So if you enter a music room and there are all these instruments but you can't hear them, it's equally terrible."[13]

This example emphasises the difference in stakeholder viewpoints. Musical instrument curators, museum directors, conservators, and performers all have different ideas for best practice in playing or not playing historic instruments.

In certain contexts, the desire to use an object far exceeds the need to leave it inert. In these cases, some level of restorative conservation may be necessary: for example, in the case of the 1900 Benz car at the National Museum of Wales.[14] This car was acquired by the Museum in 1921, and remained in storage until the 1990s. The Museum needed to decide whether to keep the car in its state of deterioration, to deaccession it, to stop further deterioration, or to restore it to its original form. The Museum decided upon restoration, in order to increase accessibility and to provide a sensory experience rather than a solely visual one. An additional benefit was practical research into contemporaneous manufacturing processes. After its restoration, the car could be exhibited as a working model, in context on the roads, and its audience could include people who would not normally visit a museum.

In relation to the PCH artefacts, restoring an instrument could provide several of the same benefits. A restored object could be brought to a wider audience; it allows a detailed sensory experience that is not possible in a museum display; it provides information about manufacture; and it allows an authentic instrument to be played, rather than a replica. There is an argument that a restored object is not authentic, as adding or repairing parts changes its form; however, many of the PCH instruments have been repaired using inauthentic

---

[12] Bobby Giglio, 'To Play Or Not To Play? The MFA Activates Its Rare Instruments', *WBUR*, 29 November 2018, <https://www.wbur.org/artery/2018/11/29/to-play-or-not-to-play-the-mfa-activates-its-rare-instruments>, last accessed 21 January 2020.

[13] Andrea Shea, 'To Play Or Not To Play? The MFA Activates Its Rare Instruments', *WBUR*, 29 November 2018, <https://www.wbur.org/artery/2018/11/29/to-play-or-not-to-play-the-mfa-activates-its-rare-instruments>, last accessed 21 January 2020.

[14] Chris Perry, 'Will It Run? Should It Run? Restoring a Benz Car', in Caroline Buttler and Mary Davis (eds.), *Things Fall Apart … Museum Conservation in Practice* (Cardiff: National Museum of Wales Books, 2006), pp. 147-150.

adhesives, and some have had parts added, so restoration could undo some of these repairs, to be replaced with parts closer to the original materials.

Another example from the National Museum of Wales asks '[i]s half a pot a whole object?'[15] Similar to many of the PCH objects, the pot in question is ceramic, and it was excavated from an archaeological site in south Wales. Its origins are in the Early Bronze Age – equivalent to the pre-classic period of Mesoamerica. At some point during the twentieth century the pot was repaired, and several parts were added to make the original shard into a complete beaker. The authors point out that the materials used in restoration obscured the condition of the original, and in several places were starting to damage the original. The artefact had been excavated as about two-thirds of its original size. Evidence suggests that the pot was deliberately broken before burial, which may have been a symbolic act. The authors decided that 'a more "honest" approach to restoration was required, questioning the need to hide breaks and losses.'[16]

The relevance to the PCH objects is firstly that previous ideas of conservation and restoration may cause more damage to the instruments; secondly, the philosophical notion of what the original form was – the object as it was in use, or as it was buried, with possibly deliberate damage? Would it be unethical to restore an object to a perceived authentic state of play, if it was buried in a broken state for specific reasons? In the case of the PCH collection, there is no detailed archaeological record showing the excavated state. Further research into comparable objects needs to be undertaken, to determine burial practices from reliable sources. Butterwick suggests that shaft tombs did contain broken ceramics, but does not state whether the objects were broken deliberately before their burial.[17] An exhibit at the Museo Nacional de Antropología (National Museum of Anthropology) in Mexico City shows a reconstruction of a shaft tomb, with two skeletons, ornaments, earthenware pots, and ceramic sculptures. In this reconstruction, the objects are intact; it is not clear whether or not they have been restored, or were excavated intact. The extensive looting of archaeological sites in western Mexico limits the reliability of evidence from those sites.

---

[15] Mary Davis and Felicity Woor, 'Is Half a Pot a Whole Object? Restoration of a Bronze Age Beaker', in Caroline Buttler and Mary Davis (eds.), *Things Fall Apart ... Museum Conservation in Practice* (Cardiff: National Museum of Wales Books, 2006), pp. 138-142.
[16] Ibid., p. 140.
[17] Kristi Butterwick, *Heritage of Power: Ancient Sculpture from West Mexico* (New York: Metropolitan Museum of Art, 2004), p. 18.

4.A.iii. The care of musical instruments

The Museums, Libraries and Archives Council (MLA) has published a document which is intended to be used as guidelines for the care of musical instruments in museum collections.[18] An appendix to this document contains curator Mimi Waitzman's criteria for deciding whether an instrument should be kept as an object for study, restored to playing condition, or played in its current condition. I will reproduce Waitzman's list here, commenting on each question's applicability to the PCH collection.

1. Has the instrument been in more or less continuous use since its manufacture or for a significant number of years?

The instruments in the PCH collection were presumably out of use during the centuries after their original owners had ceased to use them, and their subsequent removal from their site. The loss of information about provenance means that this is speculation, but as ancient archaeological objects, it can be assumed that they have been out of use for a significant period of their existence. Since Crossley-Holland's acquisition of the objects, many were in fairly regular use: he, and his students, played many of the instruments to obtain their sonic information. Susan Rawcliffe, now working as a musician, researcher and instrument maker, played and recorded several of the PCH instruments in 2011.

Waitzman points out that to continue playing historic instruments can ensure their conservation, due to more attention and resources. If the instrument is in a working condition, then its use may ensure its continued working condition.

2. How much of the instrument's original action remains and what is its condition?

Several of the PCH instruments' internal mechanisms are damaged, and the instruments do not sound. These instruments can be used for study as visual artefacts; their functionality as musical instruments is nullified. With additional resources, the musicality of these instruments may be restored, if the mechanisms were to be repaired. However, it would need

[18] Patricia Andrew, 'Standards in the Museum Curation of Musical Instruments', *Museums, Libraries and Archives Council*, 2005, <https://326gtd123dbk1xdkdm489u1q-wpengine.netdna-ssl.com/wp-content/uploads/2017/02/Museums-Libraries-Archives-Council-Standards-in-the-Museum-Curation-of-Musical-Instruments-2005.pdf>, last accessed 20 January 2020.

to be justifiable, especially since there are instruments in the collection which are in a playable condition.

3. How rare is the instrument or its condition?

The rarity of the PCH collection depends on its context and its size. It is rare for a such a large collection of west Mexican artefacts to reside in Europe. It is also rare for a collection of specifically musical objects to be gathered together. However, each individual artefact is not particularly rare. There are many examples of western Mexican ocarinas in museum collections and private collections, particularly in Mexico and the United States of America. Even within the PCH collection, there are many examples of ocarinas and flutes in working order.

4. Are there other, better (i.e. more original) examples of this type extant, and if so, where are they and are they being used?

There are no other examples nearby (that is, in the United Kingdom). The recordings of the instruments which have already been produced could serve as unique examples of the instruments' sounds, and none of the instruments need to be played again. It is difficult to define 'more original' in relation to these instruments: the patchy object biographies limit the extent to which the PCH objects may be deemed authentic, and thus whether other objects may be more authentic, older, or better representative of their original cultures. Problems with looting in the region means that much archaeological information for any examples of these objects has been lost.

5. Is it practical to preserve the present action as it is and make a working copy?

With regards to instruments with multiple parts, it may be possible to replace components (for example, the action of a piano). This does not apply to the PCH instruments, as it is impossible to isolate the sound-producing mechanism. Some of the instruments have damaged internal mechanisms; 3D printing could repair these, or in fact produce a working copy of the entire instrument.

6. Is qualified expertise and resources available for regular maintenance, tuning and monitoring?

Not currently.

7. Is the environment safe and stable in terms of temperature and humidity?

The collection is stored in a safe environment, and could be played in the same room. However, a ceramics conservation consultant suggested that playing an instrument would introduce moisture to the interior of the instrument, which may be damaging, and could lead to mould growth. General guidelines for humidity levels for ceramics are between forty and sixty percent; playing the objects would expose them to higher levels. As clay is porous, increased humidity could cause mould growth within the cavity as well as in the actual fabric of the walls. Breath contains bacteria as well as moisture, risking a higher chance of mould developing. It is also possible that the slightly acidic nature of saliva may damage ceramics.

8. Are the financial resources available for the foreseeable future to support the use of the instrument?

Not currently.

9. If the instrument forms part of a bequest, is its playability stipulated?

No playability was stipulated by the Crossley-Hollands.

Weighing these considerations, I suggest that 3D printed replica instruments would best serve the musical future of the PCH collection. However, it would be costly, in terms of material and staffing, and accuracy could only be tested by playing the original instrument, except for the few instruments which have been recorded by Rawcliffe. The instruments can be heard via these recordings, but the exact sound, interaction with the environment, and extra-audial sensations can only be experienced with live performance; similarly, a digital image of an object can provide an idea of it, but seeing it in real life is a much richer experience. The argument over the 'aura' of an object rather than a replica or a digital image could also be applied to live and recorded sound.

As discussed in *Care of Collections*, institutional dynamics affect the significance of conservation in comparison to accessibility, interactivity, and visitability. The nature of public institutions means that priorities and funding change, often in relatively short periods. The past preservation of the items in the PCH collection enables them to be studied and displayed today; the short-term goals of my project, including the increase in handling, could be detrimental and prevent future generations from being able to access the collection. In

Care of Collections, Jonathan Ashley-Smith observes that ethical considerations in conservation necessarily involve many stakeholders (owners, curators, conservators), and that their views of ethics will differ.[19] He also notes that ethics can be subject to fashion, which suggests 'a fluctuation, something cyclic',[20] and that if conservation is allowed to be subject to these fluctuations, the result would be the irreversible 'destruction of information.'[21] The least controversial method for the PCH collection would be to safeguard the collection as it is today, in order to pass it on to the next generation intact. The following section explores possibilities for activation of the artefacts which do not involve much handling. These activities could enable a compromise between using the collection and ensuring its continued intact existence.

4.B. Strategies for dissemination

Aside from museum display and organological study, research on musical instruments can take other forms of method and dissemination. Here, I focus on three approaches to dissemination: acoustics and soundscapes, 3D printing and digital enhancement, and manufacture and performance. These approaches have been applied, by music archaeologists and ethnomusicologists, to musical artefacts from various cultures worldwide. I evaluate the replicability of these approaches to the PCH collection, and describe some experiments that I have carried out.

4.B.i. Archaeoacoustics and soundscapes

Ancient musical artefacts can be used in research into acoustics and ancient soundscapes. Two such projects were carried out in Peru and in western Europe. Both utilised ancient musical instruments to explore the sounds of archaeological spaces.

A team of interdisciplinary researchers based at Stanford have investigated the acoustic properties of several buildings at the Chavín de Huántar archaeological site in northern Peru. Conch shell trumpets have been found at this site, dating from 3000 years ago, and these trumpets (known as *pututus* in modern Peru) are well-preserved enough to play, and produce sounds akin to modern-day equivalents. The Stanford team explored playing the trumpets in the confined spaces of Chavín's architecture, producing resonances and beating effects which

[19] Jonathan Ashley-Smith, 'The Ethics of Conservation', in Simon Knell (ed.), *Care of Collections* (London: Routledge, 1994), pp. 11-20.
[20] Ibid., p. 19.
[21] Ibid., p. 20.

provoke strong listener reactions, particularly among *pututu* performers, who 'reported an experience of having their instruments' tones "guided" or "pulled" into tune with the dominant spatial resonances of particular locations.'[22] This research combined ethnographic analogy (working with Peruvian musicians) with architectural acoustics and the human perception of sound. The link between the sounding artefacts and their architecture appeared to be supernatural, with an almost tangible feeling of awe brought about by sound waves. This effect suggested to the researchers a ritual purpose to the conch trumpets, corroborated by the connection with the Chávin as a cult centre or religious site.[23]

As part of the European Music Archaeology Project (EMAP), Rupert Till developed 'Soundgate', a multimedia exhibition which used video and sound to create an immersive environment featuring ancient instruments being played at archaeological sites: for example, carnyces at the Calanais standing stones in Scotland and bone flutes played in Palaeolithic caves in Spain.[24] There is an accompanying app, which allows the user to 'trigger musical sounds that may have been heard there in the past, and hear how the acoustics of the spaces enhances them, experiencing how the acoustics change as you move around the site.'[25] In the journal *Acoustics*, Till discusses his methodology for exploring the acoustics of the three World Heritage Sites which are presented in the app. He shows how technology and acoustic research can convey the potential exploitation of sites for sound production, and speculates on the ritual and spiritual effects.[26] He used the testing method of an amplified sine wave to measure acoustics, presenting a different approach to the Chavín de Huántar experiments, which utilised musical instruments and incorporated experiential reactions from their musicians.

4.B.ii. 3D printing and digital enhancement

The areas of research detailed below use 3D printing to explore wind instruments in different ways: for educational purposes, to explore manufacturing techniques, and to investigate

[22] Miriam A. Kolar, 'Uncanny Acoustics: Phantom Instrument Guides at Ancient Chavín de Huántar, Peru', <https://ccrma.stanford.edu/groups/chavin/ASA2014.html>, last accessed 10 January 2020.
[23] Ibid.
[24] European Music Archaeology Project, 'Exhibition: Soundgate', <http://www.emaproject.eu/exhibition/soundgate.html>, last accessed 13 January 2020.
[25] European Music Archaeology Project, 'Soundgate App', <http://www.emaproject.eu/content/soundgate-app.html>, last accessed 13 January 2020.
[26] 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.

performance practice. The digital enhancement of sound has been utilised for the purposes of museum display, and as a tool for composition.

Jared Katz has spearheaded the Maya Music Project, which aims to build a database of Mayan musical objects using photogrammetry.[27] He makes models of ceramic flutes and ocarinas originating in Belize and Guatemala, which are often not on display but rather found in collections of museums and universities. The applications of a detailed 3D image of Mayan artefacts include 3D printing, used in education and outreach; accessibility for scholars worldwide through a website; and reconstruction of damaged objects. Katz successfully replicated several objects using 3D printing. He compared the pitch information, using a spectrogram, of one of the original flutes and the 3D printed equivalent. Katz found that the tones were very similar, and has modified his model to try to increase accuracy further. He points out the difficulties of acquiring 3D imaging of the internal components of the artefacts, due to the great expense of hiring an x-ray or CT scanner; projects which utilise that machinery and have applications in medical science are (understandably) prioritised.

Katz's 3D printed ocarinas were used in a project to 'teach middle school students about ancient Maya culture and music'.[28] The ocarinas were used as an interactive way in to learning about archaeology, about Mayan culture, and about modelling and 3D printing. Katz makes the point that replica ocarinas can allow greater engagement with artefacts, without causing depreciation of ancient objects. The musical applications of the project are less well-defined; Katz taught students how to produce sounds on the ocarinas, but the musical attributes (rather than purely the sounds) are not clear. However, the assemblage of data has other uses: for example, cross-referencing examples of iconography for information about music and gender. Katz hopes that 'By creating a dataset that consists of hundreds of musical instruments, this research begins to point out trends of soundmaking that have not yet been identified.' An unexpected outcome was that Katz found a 'nearly perfectly preserved' thumbprint on one of the flutes that he photographed.[29] This was only discovered after close

[27] 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.
[28] Ibid., p. 34.
[29] Jared Katz, 'The Maya Music Project: Analysis and Documentation of Ancient Maya Musical Artifacts', in Ricardo Eichmann, Lars-Christian Koch and Fang Jianjun (eds.), *Sound – Object – Culture – History: Papers from the 9th Symposium of the International Study Group on Music Archaeology at the Ethnological Museum, State Museums Berlin, 09–12 September, 2014* (Rahden: Verlag M. Leidorf, 2016), pp. 257-261, these citations from p. 258 and p. 259 respectively.

study of the digital image, and could lead to identifying whether the same instrument-maker worked on other musical and/or ceramic artefacts.

Jamie Savan and Ricardo Simian discuss the use of CAD (computer-aided design) modelling and 3D printing in musical instrument research, focussing on the Renaissance cornett.[30] They point out that additive manufacturing is a useful tool in experimenting with different methods of manufacture, and small differences in the shape of components. They focussed on producing mouthpieces, as the depreciation of the mouthpieces of ancient cornetts was the most significant factor in the ability to produce sound. Also, of course, playing wind instruments requires the modern player to place an artefact to their mouth, a part of one's anatomy which cannot be protected when handling museum artefacts, and for which the flow of air between person and instrument must not be broken, for example with a barrier method (as wearing gloves protects the hands.) The conservation of the instrument and the musician can be confirmed by using a replica – or at least a replica mouthpiece. Savan and Simian conclude by extolling the use of 3D printing replicas in 'giving new life to instruments of the past',[31] increasing accessibility and circumventing conservation concerns.

In 2014, a project was undertaken to create a 3D printed replica of a Turkish *ney* (end blown flute). The objective of the project was to use electronic sensors to measure 'how a musician interacts with the instrument', through breath, fingering and sound.[32] 3D printing was chosen instead of using an existing ney so that the electronic components could be built into the structure of the instrument, minimising their effects on the internal shape and the sound. The team worked with a *ney* musician (*neyzen*), Kalia Baklitzanaki, and an ethnomusicologist, John O'Connell, as well as a host of hardware and software developers and data visualisers. The interface between technology and ethnomusicology ensured that the project not only quantified the acoustic properties of the instrument, but also ensured that the musician and their instrument were vital and integral parts of the research. One important aspect of playing *ney* is the breath:

> In terms of its mystical significance, the breath of God (nefes) passes through the body of man (the ney) to produce music. In terms of performance practice, the breath

[30] 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.
[31] Ibid., p. 543.
[32] The God Article Team, 'The God Article – Getting Started', *Objects Sandbox Projects 2014,* < http://old.react-hub.org.uk/objects-sandbox/projects/2014/the-god-article/journal/the-god-article-getting-started/>, last accessed 13 January 2020.

> simultaneously results in tone and noise, the 'breathy' quality being a key aesthetic in ney performance.[33]

The built-in sensors allowed the sound and mechanics of the breath to be displayed on a screen as the musician played. This information, O'Connell suggests, could be applied in teaching practice – allowing beginners to understand the breath control needed – as well for expert performers to better understand their relationship with the instrument. The *neyzen* that was involved with the project provided feedback on the feel and performance of the instrument, compared with the real thing. An outcome of the project was a website, which allowed users to 'perform' on the instrument in a virtual context. The implications for museum display are that virtual visitors could engage with the artefact, allowing greater accessibility as well as interactivity.

The *ney* team intended to create an instrument as close to the original as possible; a different approach was taken by a group of researchers from Aalborg University, Copenhagen, who created a digitally-enhanced *tromba marina* (a mediaeval European one-stringed instrument). Their objective was to create a 'more engaging and rewarding museum experience' rather than to create a replica instrument.[34] They also encountered the difficulty of not having an intact artefact to copy, so they used iconography and contemporaneous writing to inform their design. The augmentation consisted of sensors which picked up the internal resonances, which were then modified with software and amplified with an external speaker. The group cite a project at Fenton House, England, whereby a MIDI keyboard was provided for visitors to create replica sounds of the historic keyboards on display.[35] The *tromba* team felt that it was important for visitors to experience the feel of playing the instrument as well – hence their combination of acoustic instrument and digital enhancement of sound. The digital aspect increased accessibility, as it was not necessary for the visitor to know how to play the instrument before making an accurate sound.

---

[33] 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 13 January 2020.

[34] 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.

[35] Kenneth McAlpine, 'Sampling the Past: A Tactile Approach to Interactive Musical Instrument Exhibits in the Heritage Sector', in R. Hepworth-Sawyer, J. Hodgson, R. Toulson, and J. Paterson (eds.), *KES Transactions on Innovation in Music* (Shoreham-by-Sea: Future Technology Press, 2013), pp. 110-125.

There have been other instances of using software to create ancient music, for example the development of Dionysios Politis et al. of a digital 'instrument' that can create sounds based upon ancient Greek melodies. The user can 'experiment with musical forms' and translate ancient Greek notation into modern Western notation. The authors emphasise the software as a tool for imagination, as '[i]t is difficult to remain consistent to the source material and to create a user-friendly and historically accurate AGM [Ancient Greek Music] musical environment, particularly because no one alive has ever heard such ancient music.'[36]

Composer and performer John Curtis Franklin presented a concert-lecture at a symposium of the International Study Group on Music Archaeology, in which he offered 'impressions of ancient music.'[37] He works with digital samples of replica ancient instruments and ethnomusicological recordings, arranging dialogues of ancient and modern melodies. Franklin also created a 'virtual lyre', using software to manipulate samples, allowing the player to modify pitches on a MIDI keyboard to create microtonal scales. In his chapter 'Realizations in Ancient Greek Music' he reiterates the importance of imagination in producing music which, 'when not authentic, is musically effective and has appealing historical dimensions.' This approach to the reproduction of ancient music is akin to historically-informed early Western art music performance: the interpretative and the academically-informed work together to produce something ancient and new. However, Franklin moves away from the pseudo-accuracy afforded from fragments of ancient scores. Instead, he uses 'artistic license' to combine ancient and modern sounds 'cognate with the ancient nucleus.'

4.B.iii. Manufacture and performance

This section presents projects which involved creating replica instruments: the Lyre of Ur and the Deskford Carnyx. One difficulty to overcome is the accuracy of manufacturing processes and materials; another is what to play on the instrument.

---

[36] 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, this citation from p. 48.

[37] 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.

The Golden Lyre of Ur project was undertaken by a group of instrument-makers from 2003. They created a replica instrument of an ancient lyre, of which three examples are today held in museums in Iraq, the United Kingdom, and the United States of America. The lyres were excavated in southern Iraq, in 1929, from the Royal Cemetery of Ur.[38] They date from around 2600 BCE. During the 2003 invasion of Iraq, and shortly before the project commenced, the Iraq Museum in Baghdad was extensively looted, and one of the many artefacts to be vandalised was the lyre of Ur. For the subsequent three years, Andy Lowings spearheaded the project to build a replica lyre, using identical materials to the originals. Lowings recruited experts from around the world: instrument- and jewellery-makers, carpenters, sculptors, musicians, archaeologists.[39] The materials were sourced from as close to the findspot of the lyres as possible. Cedar wood and bitumen (used as adhesive) was sourced from Baghdad, pink limestone from southern Iraq, lapis lazuli from Afghanistan, and gold from Egypt and Turkey. The strings were of sheep gut, which was chosen as a likely source. No original strings survive, but it was possible to discern impressions of strings beneath other archaeological lyres. Depictions of lyres on pottery show between four and twelve strings.

Pitches of the lyre were based on three approaches: notation from cuneiform clay tablets, transcribed by Anne Draffkorn Kilmer;[40] contemporary lyre music, from western Asia to north-eastern Africa; and a double pipe made from silver pipes which were excavated during the same dig at Ur. These pipes were broken when they were buried. The form of the instrument precludes their identity as flutes as they have no organological features – so they must have had reeds, which, as organic materials, did not survive. The reconstruction of the silver pipes of Ur has been discussed by Lawergren, who warns that 'any statement on tuning and scales rests on uncertain grounds', as the 'mouthpieces have perished, and their reconstruction is hypothetical.'[41] Lowings himself investigated possible links between the lyre music of cultures across western Asia, Sinai, and following the Nile to sub-Saharan Africa. He reports that several musicians from across these areas have alluded to the

[38] Museum number 121198,a, 'lyre', British Museum. Catalogue record online at <https://www.britishmuseum.org/collection/object/W_1928-1010-1-a>, last accessed 24 June 2020.
[39] For a list of collaborators, see <http://www.lyre-of-ur.com/supporters.htm>, last accessed 10 January 2020.
[40] 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. A MIDI arrangement can be accessed at http://www.amaranthpublishing.com/hurrian.htm, last accessed 10 January 2020.
[41] Bo Lawergren, 'Extant Silver Pipes from Ur, 2450 BC', in Ellen Hickmann and Ricardo Eichmann (eds.), *Music Archaeology of Early Metal Ages: Papers from the 1st Symposium of the International Study Group on Music Archaeology at Monastery Michaelstein, 18–24 May, 1998* (Rahden: Verlag M. Leidorf, 2000), pp. 121-132, these citations from p. 123 and p. 122 respectively.

connection of the lyre with the seashore, and a lyre player in western Kenya reported that his instrument came 'from the north.' Lowings suggests that the ancient transit routes between Asia and Africa, and natural progression following the Nile, could have also served as a migratory route for the lyre. Certainly, the enthusiasm that Lowings found among musicians of all nationalities when introduced to the ancient lyre of Ur was universal. Lowings acknowledges that

> [t]his instrument will never be a complete perfect copy of the original and our ideas of the original pitch and tuning is inexact. But it can tell a story and, alongside other instrumentalists, it is a memorable thing to listen to.[42]

Several contemporary musicians have composed for and performed with the lyre: notably, The Lyre Ensemble created musical interpretations of Mesopotamian and Babylonian poetry on *The Flood*.[43]

Lowings states his intention for education and advocacy: 'we play it around the world and tell the story of how it was made and of the times of early Iraq…it can tell its own story which connects us all.'[44] In the aftermath of the Iraq War, the need to protect cultural heritage was emphasised by archaeologists such as al Hamdani,[45] Bahrani,[46] and Brodie and Renfrew,[47] which led to discussions about world heritage, and the safeguarding responsibilities towards cultural sites in conflict zones. The replica Lyre of Ur can be used to champion the rich centuries of culture in Iraq. Its status as replica allows it to be free of the constraints of national heritage, and its collaborative manufacture by international artisans quite literally makes it 'world heritage'. The contention over claims of ownership of cultural objects being protected in European museums, (for example, MacGregor's claim for the British Museum[48]) is removed when considering a replica object.

The Deskford Carnyx at the National Museum of Scotland was reproduced by musicologist John Purser and metalworker John Creed. The authenticity of materials and the

---

[42] Andy Lowings, 'Music of the Lyre', *Lyre of Ur*, <http://www.lyre-of-ur.com/music.htm>, last accessed 10 January 2020.
[43] The Lyre Ensemble. *The Flood.* 2014. Compact Disc. Lyre of Ur.
[44] Andy Lowings, 'Introduction', *The Lyre of Ur*, <http://www.lyre-of-ur.com/>, last accessed 10 January 2020.
[45] Abdulamir Al Hamdani, 'Protecting and Recording Our Archaeological Heritage in Southern Iraq', *Near Eastern Archaeology*, 71:4 (2008), 221-30.
[46] Zainab Bahrani, 'Iraq's Cultural Heritage: Monuments, History, and Loss', *Art Journal*, 62:4 (2003), 10-17.
[47] Neil Brodie and Colin Renfrew, 'Looting and the World's Archaeological Heritage: The Inadequate Response', *Annual Review of Anthropology*, 34 (2005), 343-61.
[48] Neil MacGregor, 'The Whole World in our Hands', *The Guardian,* 24 July 2004, <https://www.theguardian.com/artanddesign/2004/jul/24/heritage.art>, last accessed 10 January 2020.

manufacturing process is paramount, in contrast with many of the examples of 3D printed replicas: 'It's important people realise that we're not just 3D printing these things … there's real skill involved'.[49] John Kenny, a trombonist, experimented with the sonic properties and helped to realise the potential of the carnyx as a musical object, as well as the fearsome roar-producing war accessory as it is often depicted. Kenny created an album, *Dragon Voices*,[50] in which he tried to 'evoke ancient mythological or physiological states' that was a 'work of contemporary imagination' rather than an empirical study of ancient music.[51] Porter warns against the exploitation of the carnyx for the purposes of creating a nationalist Celtic identity;[52] the European Music Archaeology Project (EMAP) echoes this with evidence of the carnyces from the Scottish Highlands to Romania. The Deskford carnyx research focusses on its sound and potential uses in music, and its population across Europe. The carnyx is emblematic of prehistoric Europe, but the EMAP team focusses on its individual sonic properties as well.

4.B.iv. Applicability to the PCH collection

The potential applications of these approaches to the PCH collection differ. In terms of acoustics and soundscapes, it would be possible to create an installation using audio samples of the instruments, and videos of the sorts of sites whence the artefacts came. However, much of the provenance of the objects is vague, missing or unreliable; there cannot be the same level of connection between the artefacts and a specific geographic feature or city. My experience of visiting Mexico is of ocarinas sounding throughout archaeological sites, particularly Teotihuacán, as sellers demonstrate their wares. Although not the sacred and mysterious sounds that the Chávin and EMAP researchers produced, ocarinas certainly play an important part in the contemporary experience of those sites. Many of the pottery objects in PCH's collection would have been buried in shaft tombs, and so an interesting tack could be to replicate the architecture of a shaft tomb and carry out similar acoustic measurements. However, presumably the instruments were not played in burial; they were laid to rest.

---

[49] 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 10 January 2020.
[50] John Kenny. *Dragon Voices: The Giant Celtic Horns of Ancient Europe*. 2016. Compact Disc. Delphian. DCD34183.
[51] Turner, 'A Blast from the Past', 2018.
[52] James Porter, 'Introduction: Locating Celtic Music (and Song)', *Western Folklore*, 57:4 (1998), 205-224, this citation from p. 217.

Creating 3D replicas of the PCH instruments would be a valuable tool for education and outreach, for interactive museum display, for organology, and creative practice. However, one problem with replica wind instruments for museum display or education is the hygiene of several people exhaling into the instrument. In the project detailed above in which a *tromba marina* was created for a museum display, the instrument was only played with a bow, rather than placed in the mouth, and so its sanitation was less of a concern. A 3D printed replica ocarina or flute would be robust enough to clean after playing, but it would be impractical to administer the cleaning regime in a museum display. I encountered similar problems to Katz when experimenting with this approach; the time needed, and the inaccessibility of technology, limited the scope of my research.

The God Article project may be emulated by focussing on one particular instrument in the PCH collection. Their project was very specific to the *ney*, so the applicability to the PCH collection would be dependent on finding particular aspects of the instrument's acoustics or playing position which 3D printing and electronic sensors would elucidate. Also, there was direct continuity between the printed instrument and a living musical tradition – the *ney* is still musically and culturally meaningful for contemporary players, and extensive repertoire is available to play on the printed instrument. With further study and funding, an instrument from the PCH collection could be afforded similar 3D printing treatment. In particular, the function of the inner mechanisms of the wind instruments could be explored; sensors which can detect slight differences in finger position and breath flow could yield additional organological and acoustic information.

The Lyre of Ur project had political and educational aims as well as musical ones: it became emblematic of protecting cultural heritage and celebrating the rich history of music in Iraq, amid war and destruction. It was a worldwide effort, with people of many countries contributing materials or their expertise. The music played upon the Lyre is invented; but it is based on historical and archaeological sources of notation and language, notably Kilmer's transcription of cuneiform notation.

Franklin and Kenny both invented music for their respective instruments. Franklin deliberately turned from a historical study of 'authentic' music, to explore the possibilities for the instruments as active contemporary music-makers. Historical data for the carnyx is limited to the archaeological data and iconography; improvisation and experimentation are the only methods available to explore the sound of the instrument.

The question of what to play on ancient instruments is complicated. Treating the instrument as a sound-producing artefact allows for imagination, exploration and improvisation by contemporary musicians. Treating the instruments as products embedded in their cultural practices brings with it a web of meanings which can be appropriated, reimagined, or adopted. The way that each researcher approaches this depends on the amount of information available about the original music and culture, the amount of distance (in time and geographically), and the personal preference of the researchers and musicians involved.

The instruments in the PCH collection have been utilised in recent years for sonic experimentation by Susan Rawcliffe and the contemporary music group The Marmaladies.[53] As the instruments are far removed from their original culture, there is a danger of their exploitation as exotic tools for Western music-making. There is great potential for a project which could emphasise their original cultures and connect with current political and social issues between Mexico, the USA and the UK.

The treatment of these various instruments, using technology, manufacture and performance, show the variety of approaches taken by organologists and music archaeologists. The ultimate use of the PCH collection depends on their definition: are they musical instruments, or are they sound-producing artefacts? Are they removed from their context to such an extent that any musical experimentation is appropriate, or are they a material record of a living culture with its own musical system? The instruments can make sound; but can they make music? In the conclusion to this thesis, I will consider these questions in suggesting recommendations for the collection's future use.

4.B.v. Some experiments with the PCH collection

Another route for dissemination that did not involve museum display consisted of practice-led research. My main motivation for this tack is the tension between current ethnomusicological research, and the hyper-decontextualised musical instruments with which I work. Eliot Bates refers to instrument museums as ' … mausoleums, places for the display of the musically dead, with organologists acting as morticians, preparing dead instrument

[53] Susan Rawcliffe played and recorded the instruments in 2011. The Marmaladies performed using Rawcliffe's recordings incorporated with live performance and digital manipulation in a pop-up performance at the School of Music, Bangor University, 21 September 2016.

bodies for preservation and display'.[54] Similar to a mortician, I am working with subjects that were already dead before I began my study. Unlike a mortician, I have explored possibilities to reanimate them. Graeme Sullivan discusses the 'multiple possibilities' presented by practice-led research, discussing the production that surrounds art objects, and how the dynamics between viewer, maker, and the processes on viewing and making can be investigated through theory and practice.[55]

The value of any creative work with the instruments must be weighed against the ethics of using them in this way; am I appropriating the instruments to make them more interesting for a Western audience? Am I obscuring their original meanings by overlaying them with my own ideas of creative practice?

My own attempts to do ethnomusicology on the PCH artefacts involved their sonic properties, and their manufacture. The study of instrument-making is a significant area of the study of musical instruments: for example, in the work of Kevin Dawe, P. Allen Roda, and Ernest D. Brown.[56] Hood challenged scholars to study through doing, to research through practice, and elevate their objects of study to the perceived standard of Western art music by spending the same amount of effort learning their musical practices.[57] More recently, John Baily developed Hood's work by showing that 'learning to perform' is a valuable tool in ethnomusicological research.[58] Contemporary ethnomusicologists have applied these ideas to the study of musical instruments, for example Dawe, Bates, Veronica Doubleday, and Regula Qureshi.[59] My application of these methods to the PCH collection could not utilise the instruments themselves, for conservation reasons, so I had to seek alternative approaches.

---

[54] Eliot Bates, 'The Social Life of Musical Instruments', *Ethnomusicology*, 56:3 (2012), 363-395, this citation from p. 365.
[55] Graeme Sullivan, 'Making Space: The Purpose and Place of Practice-led Research', in Hazel Smith and Roger T. Dean (eds.), *Practice-led Research, Research-led Practice in the Creative Arts* (Edinburgh: Edinburgh University Press, 2009), pp. 41-65, this citation from p. 47.
[56] Kevin Dawe, 'Guitar Ethnographies: Performance, Technology and Material Culture', *Ethnomusicology Forum*, 22:1 (2013), 1-25; P. Allen Roda, 'Tabla Tuning on the Workshop Stage: Toward a Materialist Musical Ethnography', *Ethnomusicology Forum,* 23:3 (2014), 360-382; Ernest D. Brown, 'Something from Nothing and More from Something: The Making and Playing of Music Instruments in African-American Cultures', in Sue Carole DeVale (ed.), *Issues in Organology* (Los Angeles: University of California Department of Ethnomusicology and Systematic Musicology, 1990), pp. 275-294.
[57] Mantle Hood, 'The Challenge of Bi-Musicality', *Ethnomusicology*, 4:2 (1960), 55-59.
[58] John Baily, 'Learning to Perform as a Research Technique in Ethnomusicology', *British Journal of Ethnomusicology*, 10:2 (2001), 85-98.
[59] Kevin Dawe, 'People, Objects, Meaning: Recent Work on the Study and Collection of Musical Instruments', *The Galpin Society Journal*, 54 (2001), 219-232; Bates, 'The Social Life of Musical Instruments'; Veronica Doubleday, 'The Frame Drum in the Middle East: Women, Musical Instruments and Power', *Ethnomusicology*,

3D printing

Since the advance in 3D printing technology, the possibilities are vast for replicas of museum objects for display, handling and restoration. For musical instruments, replicas may be made to allow them to be played without conservation concerns. 3D printers can mimic the density and other properties of materials, allowing them to sound as well as look like the original.

Replica instruments will open the collection to a great deal of use by a wide range of people: schoolchildren, museum visitors, students at Bangor University, professional woodwind players, Indigenous musicians. Different groups will be able to access a level of engagement with the collection which is appropriate for them, and this can be facilitated through 3D printed replicas.

My experiment with 3D printing involved creating a prototype whistle. I used a pre-existing 3D scan as a template, from an open-source repository for 3D models.[60] I chose a file which was similar to the tubular flutes in Crossley-Holland's collection, in order to test-run the process without having to first create my own 3D image. With the help of the Pontio Innovation team at Bangor University, I printed an instrument which successfully makes a sound. 3D printing works by building a model from a 3D image. Heated vinyl plastic is pushed through a nozzle to create layers of less than a millimetre's thickness. If the object is hollow, support structures are made as part of the process, which the solid material is moulded around. The supports can then be removed afterwards with a file or chisel.

There were several problems that I encountered with the process, which highlighted areas which would need to be addressed in future experiments with 3D printing. There is a direct correlation between the density of the object, and the time the printer takes to create it. The purpose of this 3D printing experiment was to increase accessibility by creating replicas which can be used for workshops and outreach activities, rather than detailed replicas like the ney, so it is important to create replicas cheaply and quickly. The small whistle which I created took four hours to print, with a density of seventy-five percent. The result of this time-saving, and compromise on density, meant that the sound produced by my whistle was very breathy, and the finger holes on the lower part of the instrument did not affect the sound

43:1 (1999), 101-134; Regula Qureshi, 'How Does Music Mean? Embodied Memories and the Politics of Affect in the Indian "sarangi"', *American Ethnologist,* 27:4 (2000), 805-838.

[60] 'Recorder' by user tkarcheski, <https://www.thingiverse.com/thing:580452>, last accessed 20 June 2020.

as too much air was leaking from above. Seventy-five percent density is usually sufficient for 3D printed objects – the printer creates a lattice on which it builds the object – but a musical instrument requires a more solid structure.

For future research, I would recommend deciding upon the purpose of a replica: for workshops and demonstrations, many copies of an instrument which can be made in bulk and sound similar enough to the original would suffice; an organological study into the mechanisms and acoustics of a particular artefact would require more detailed copies which incorporate 3D scans of the internal structure.

Figure 33: Prototype 3D printed flute.

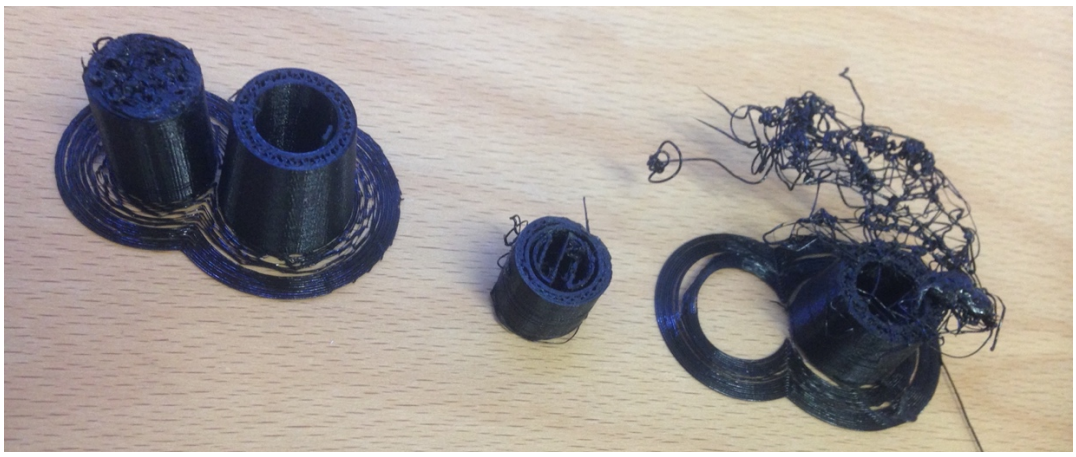


Figure 34: Early experiments with 3D printing, showing different densities and lattice structures.

Immersive performance

In 2012, the Pitt Rivers Museum in Oxford hosted a series of events based around their 'Reel to Real' and 'Sound Galleries' projects. There was already an audioguide for museum visitors, which includes recordings of some of the instruments of display, but the events provided an immersive experience, and also utilised recordings from the Museum's sound archives. The events enabled music to inhabit the museum space in a way that circumvented any problems with conservation of the objects. Ethnomusicologist Noel Lobley worked collaborated with Bayaka musicians, whose musical culture was represented in the museum collection through instruments and archival recordings. Lobley also worked with

contemporary performers and composers to create 'ethnographic soundscapes', adding multi-sensory context to the gallery. One purpose of these events was that 'visitors have been able to hear, for the first time, the sound of many rare African instruments, greatly enhancing their experience of viewing previously mute collected objects.'[61] Lobley also points out the use of sound to increase accessibility in museums, for visitors with visual impairments or for whom display height may inhibit their experience.

With this in mind, I organised a music performance in the space around the museum case for my display 'The Many Faces of Mexican Music.' This was titled 'Deuawdau Distaw: Duets with Dead Instruments' (*Deuawdau distaw* is Welsh for 'silent duets'). I worked with a local contemporary music group, The Marmaladies, who composed and performed an improvisatory piece which utilised some of the recordings of the PCH flutes by Susan Rawcliffe. They also used modern ceramic ocarinas, and invented instruments using natural materials such as animal bone. The performance was 'pop-up' in style, and so it was difficult to gauge interest and impact amongst the audience. It successfully brought music into the space around the exhibit, and created musical performance without needing to handle the artefacts themselves. I could have made it clearer that the 'dead instruments' and the 'silence' referred to the artefacts in the case – I had hoped the physical proximity of the performers and the artefacts in their case would create the connection.

Online dissemination

Museums use websites in various ways: from online catalogues, to National Museums Scotland's 'World Music Composer',[62] to details about a particular project or area of research. As discussed in section 5.A.iii., about my displays of PCH artefacts, this can insert music-making into a museum experience; as detailed in the section about other museum displays, it can be a useful way to show the processes behind curating an exhibition. My website, primarily about my displays, was designed to enhance a visit to any of the displays of the PCH collection, by providing more contextual information, photographs, and sound recordings. [63] I felt that dissemination of the sounds of the instruments, as played by Susan

[61] Noel Lobley, and Marina Jirotka, 'Innovations in Sound Archiving: Field Recordings, Audiences and Digital Inclusion', paper presented at 'Digital Engagement', Newcastle, 15–17 November 2011. Available at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.652.6838&rep=rep1&type=pdf>, last accessed 8 March 2020.
[62] National Museums Scotland, 'World Music Composer', <https://www.nms.ac.uk/explore-our-collections/games/world-music-composer/>, last accessed 5 March 2020.
[63] Christina Homer, 'Mexico Seen and Heard', <mexicoseenandheard.ac.uk>, last accessed 8 March 2020.

Rawcliffe, could be the most useful aspect of this website; the disadvantage to a visitor is that it requires another step, after physically visiting the display. This disadvantage could be ameliorated by using a QR code, which can be scanned with a mobile phone to lead directly to the site.

Collections-based and object-based teaching

The use of object-based teaching and learning has been extolled by many, including Kreps, Kador et al., Duhs, and Schultz.[64] Furthermore, Quave and Meister carried out surveys to assess the impact of object-based and collections-based learning at a university in the United States; they found that this style of learning was well received by students, and that anthropological collections could be used to enhance active learning, as well as 'promoting cross-cultural, international, and interdisciplinary perspectives.'[65] I convened a module for undergraduate students, which was validated and timetabled to run September to December 2017. I had planned to utilise the PCH collection as a basis for teaching, but was unable to do so due to an environmental problem with the room in which it is stored. This meant that the objects were moved to an inaccessible location while the problem was fixed. I delivered the module as scheduled, but with some modifications. Rather than using any artefacts, the collection became the basis for a module about music in Mexico from ancient cultures to contemporary musics, and I included photographs and Susan Rawcliffe's recordings of some of the instruments. I introduced methodologies from the fields of ethnomusicology, organology and music archaeology, and used the PCH collection as a way in to discussing material culture, ownership and appropriation, and Indigenous identity. Using object-based learning would have created a different learning experience, but even without the physical objects, it was possible to disseminate information about the collection to university students and use it as the basis for further research and study.

---

[64] Christina Kreps, 'University Museums as Laboratories for Experiential Learning and Engaged Practice', *Museum Anthropology*, 38:2 (2015), 96-111; Thomas Kador, Helen Chatterjee, and Leonie Hannan, 'The Materials of Life: Making Meaning through Object-based Learning in Twenty-first Century Higher Education', in Brent Carnell and Dilly Fung (eds.), *Developing the Higher Education Curriculum: Research-Based Education in Practice* (London: UCL Press, 2017), pp. 60-74; Rosalind Duhs, 'Learning from University Museums and Collections in Higher Education: University College London (UCL)', *University Museums and Collections*, 3 (2010), 183-186; Lainie Schultz, 'Object-Based Learning, or Learning from Objects in the Anthropology Museum', *Review of Education, Pedagogy, and Cultural Studies*, 40:4 (2018), 282-304.

[65] Kylie E. Quave and Nicolette B. Meister, 'Assessing the Impact of Curricular Collections Use at a Liberal Arts College', *Museum Management and Curatorship*, 32:1 (2017), 2-19, this citation from p. 2.

4.C. Displaying ancient Mexico

In this section, I will analyse museum displays from around the world which display archaeological artefacts from Mexico. I have visited museums in Mexico, the United States of America, Spain, and the United Kingdom, and these museums present varied approaches to displaying ancient Mexican cultures. I compare these approaches and consider their applicability to the PCH collection. I also evaluate my own exhibitions of PCH artefacts, and consider the dialogue between the exhibits I have seen and the exhibits I have made.

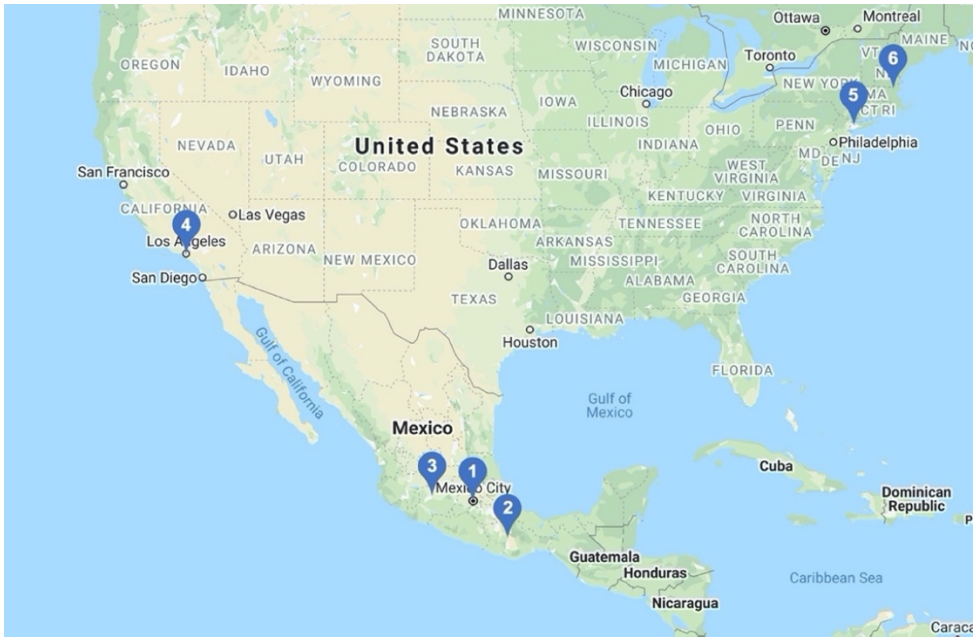


Figure 35: Museum sites in Mexico and the United States (Google Maps, 2020).

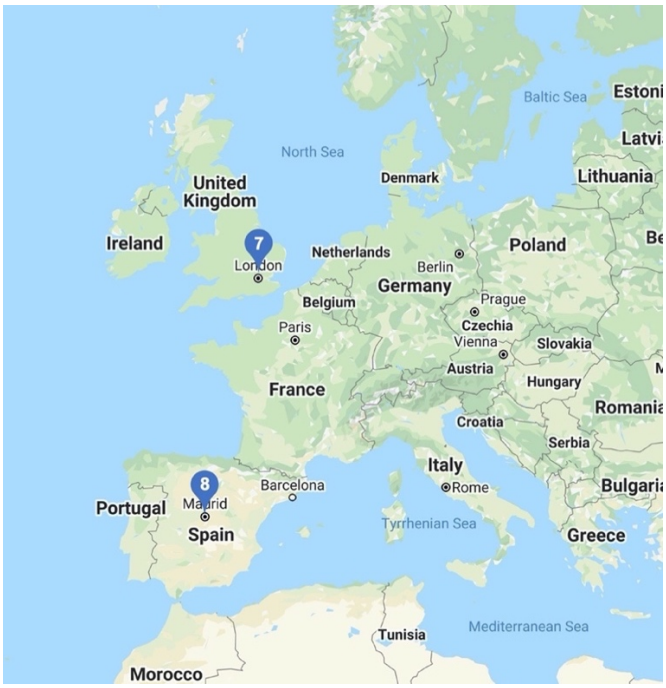


Figure 36: Museum sites in Europe (Google Maps, 2020).

Mexico
1. Mexico City: National Museum of Anthropology; Anahuacalli; Teotihuacán.
2. Oaxaca: Rufino Tamayo Museum of Pre-Hispanic Art of Mexico.
3. Michoacán: Tzintzuntzan.

United States
4. Los Angeles: LA County Museum of Art; Fowler Museum.
5. New York: American Museum of Natural History; Metropolitan Museum of Art.
6. Cambridge: Peabody Museum of Archaeology and Ethnology.

United Kingdom
7. Cambridge: Museum of Archaeology and Anthropology; London: British Museum.

Spain
8. Madrid: Museum of the Americas.

4.C.i. Introduction to the museums

The Museo Nacional de Antropología (MNA; National Museum of Anthropology) in Chapultepic, Mexico City is a spectacular place. *Voladores* ('flying' dancers who leap from a tall pole, connected by ropes, and spiral their way to the ground) perform outside every hour; the *paraguas* (umbrella) in the central courtyard towers majestically, cascading water. There are some blockbuster artefacts, like the Mexica calendar stone and the statue of the god Xochipilli; gardens with miniature versions of archaeological sites; and rooms upon rooms upon rooms of archaeological artefacts. The upper floor of the museum showcases the more modern anthropological collections, but this was closed during my visit.

Diego Rivera's personal collection of Mexican archaeology is exhibited in Anahuacalli, a building designed by Rivera in the form of a pyramid, in Coyoacán, Mexico City. Artefacts representing a range of Indigenous people are displayed in tiny rooms, vast open spaces and long galleries, of which the ceilings are covered with Rivera's murals.

The Rufino Tamayo Museo de Arte Prehispánico de Mexico (Museum of Pre-Hispanic Art of Mexico) also resides in Oaxaca, named after Rufino Tamayo, the artist whose private collection of archaeology is the basis of the museum's collection.

On the shore of Lake Pátzcuaro in Michoacán, western Mexico, is the archaeological site of the centre of the P'urhépecha (Tarascan) Empire: Tzintzuntzan. The name of the city means 'the place of the hummingbirds', although hummingbirds no longer reside there. At the site, adjacent to the distinctive *yácatas* (rounded pyramids) is the Museo de Sitio de las Yácatas (Museum of the Site of the *Yácatas*). The site looks over the contemporary town of Tzintzuntzan to Lake Pátzcuaro, which sits in a large bowl, surrounded by mountains.

At the Los Angeles County Museum of Art (LACMA) in California, USA, a modernist dynamic is apparent in the display of archaeological objects that share a site with contemporary art. The colourful rooms in the archaeological galleries are coded by region – a method also employed by the Museo Rufino Tamayo. LACMA's archaeological objects belie the importance of Mexican heritage in its population, particularly after the Chicano revolution of the 1960s.

Peter Crossley-Holland's former workplace, UCLA, is home to the Fowler Museum. It was previously known as the Museum of Cultural History, and is referred to by Crossley-Holland

in his documentation. The actor Natalie Wood donated her extensive collection of Chupícuaro artefacts to the museum in 1968-9,[66] and the Fowler displays some of these objects, as well as a selection of artefacts from other cultures. The Chicano movement and Latinx[67] populations of the local area influence the museum, particularly through its modern collections.

Crossley-Holland also cites the American Museum of Natural History (AMNH) in New York City. The Hall of Mexico and Central America has been in its current form since 1970;[68] I must have retraced Crossley-Holland's steps during my visit. The Hall has been unchanged partly due to the museum's adherence to the 1970 UNESCO treaty, meaning hardly any objects have been acquired since the Hall's remodelling.[69] At the AMNH, pre-invasion artefacts are displayed by provenance, with many examples of the same object.

In contrast with the AMNH is the way that the Metropolitan Museum of Art, New York City, curates its pre-invasion archaeology. In 2018, a temporary exhibition, 'Golden Kingdoms: Luxury and Legacy in the Ancient Americas' focussed on the 'development of luxury arts from 1200 B.C. to the beginnings of European colonization'.[70] The Met focusses on the high artisanship, the precious metals, and the high status of the objects. The artefacts are treated as objects of art rather than of ethnography, which makes sense in the context of the Met as an art museum.

The Peabody Museum of Archaeology and Ethnology at Harvard University, in Cambridge, Massachusetts, has an online version of an exhibition which I visited in 2016: 'Ocarinas of the Americas: Music Made in Clay'.[71] The physical exhibition comprised shelves of hundreds of ocarinas, along with videos showing José Cuellar, Professor Emeritus of Latino/Latina Studies at San Francisco State University, playing some of the ocarinas and talking about

---

[66] Fowler Museum at UCLA, 'Chupícuaro: The Natalie Wood Gift of Ancient Mexican Ceramics', 2014, <https://www.fowler.ucla.edu/exhibitions/fowler-at-fifty-chupicuaro-ancient-mexican-ceramics/>, last accessed 18 February 2020.
[67] Latinx is the gender-neutral form of Latino or Latina.
[68] Christina M. Elson, 'Mexico & Central America Virtual Hall', <https://anthro.amnh.org/anthropology/databases/projects/mca_index.cfm?action=intro>, last accessed 19 February 2020.
[69] Ibid.
[70] Metropolitan Museum of Art, 'Golden Kingdoms: Luxury and Legacy in the Ancient Americas', <https://www.metmuseum.org/exhibitions/listings/2018/golden-kingdoms/exhibition-galleries>, last accessed 20 February 2020.
[71] Peabody Museum, 'Ocarinas of the Americas: Music Made in Clay', <https://www.peabody.harvard.edu/node/2603>, last accessed 20 February 2020.

their significance in his own culture, alongside contextual information from Dr Davíd Carrasco, a Harvard anthropologist and Mesoamerican specialist.

The Museum of Archaeology and Anthropology (MAA) at the University of Cambridge holds 'one of the finest pre-Columbian collections in Britain',[72] part of which is displayed in visible storage. MAA engages with the representation of south Indian indigeneity through its exhibit 'Another India'. The introductory text emphasises the importance of discussing the origins of ethnological collections, as well as the importance of utilising museum objects to become 'catalysts for contemporary Indigenous responses.'[73]

At the British Museum in London, the west Mexican collections are sufficiently significant to warrant a section in the guide that accompanied the opening of the Mexican gallery in 1990.[74] 'West Mexico' is a label without further differentiation, in comparison to the named cultures of Olmec, Mixtec, and so on. The label 'Tarasacan' appears in the guide, describing the post-classic Purépecha Empire as the dominant influence of the area. In the Mexican gallery at the British Museum, there are several principal artefacts on display: the Mixtec double-headed turquoise serpent; the enormous Olmec basalt head; the Maya lintels depicting a blood-letting ritual; the lifelike Mexica granite rattlesnake. West Mexico occupies the far corner of the gallery, adjacent to the Maya lintels and behind the display of turquoise masks. It features Colima dog sculptures, and figurines of Jalisco warriors and Nayarit drummers.

The Museo de América (Museum of the Americas) in Madrid originally drew its collections from the Museo Arqueológical Nacional (National Archaeology Museum). As could be expected in Spain, the interpretation is framed by the Conquest and Cortés's experiences of *Nuevo España* (New Spain). Notably, the historical timeline of Mexico in the Museum of the Americas contains separate categories for Nayarit, Colima and Michoacán, rather than the catch-all 'West Mexico'. The different west Mexican styles from various sites and periods – El Opeño, Capacha, Chupícuaro, San Sebastián, and so on – are given equal attention compared with the periods that are often prioritised: Mixtec, Olmec, Teotihuacán, Maya, et cetera.

---

[72] Museum of Archaeology and Anthropology, 'Archaeological Collections', <http://maa.cam.ac.uk/archaeological-collections/>, last accessed 20 February 2020.
[73] Panel text, 'Another India: Expressions and Explorations of Indigenous South Asia', exhibition at the Museum of Archaeology and Anthropology, 8 March 2017 to 22 April 2018.
[74] Colin McEwan, *Ancient Mexico in the British Museum* (London: British Museum Press, 1994).

My visits to these museums are summarised in Figure 37.

Country	Location	Museum	Date of visit
Mexico	Mexico City	National Museum of Anthropology	28 June 2018
		Anahuacalli Museum	30 June 2018
	Teotihuacán	(Archaeological site)	27 June 2018
	Oaxaca City	Rufino Tamayo Museum of Prehispanic Art	6 July 2018
	Tzintzuntzan	(Archaeological site)	4 July 2018
USA	Los Angeles	LA County Museum of Art	19 May 2018
		Fowler Museum at UCLA	16 May 2018
	New York City	American Museum of Natural History	13 May 2018
		Metropolitan Museum of Art	12 May 2018
	Cambridge, MA	Peabody Museum of Archaeology and Ethnology	6 November 2016
UK	Cambridge	Museum of Archaeology and Anthropology	2 May 2017
	London	British Museum	2 January 2020
Spain	Madrid	Museum of the Americas	3 January 2019

Figure 37: Dates of my museum visits.

4.C.ii. 'The poetics, politics, and practices of display'[75]

In *Museums: A Visual Anthropology*, Bouquet notes three 'principal dynamics that shape the poetics, politics and practices of display: objectification, modernism and renovation.'[76] I apply Bouquet's theory to the museum exhibits that I discuss, and then show how I position my exhibits in relation to those dynamics.

Objectification occurs in the typological interpretation of display, and can also be seen in a different iteration *in situ* or realist exhibits – for example, mannequins in tableaux or recreations of historical rooms.

Modernism in museum display includes the 'elevation' of ethnographic objects to art: for example, exhibits interspersing Primitivist paintings and the ethnographic objects which inspired them. Modernist principles also allow museums to become experimental in their use

[75] Mary Bouquet, *Museums: A Visual Anthropology* (London: Berg, 2012), p. 121.
[76] Ibid.

of space and ways of displaying; modernism influences the redefinition of the boundaries between art and artefact.[77]

Renovation is the 'renewal of the relationship between the old and the new.'[78] This can be created with temporary exhibits, visible storage (as can be seen in Storiel), and showcasing the behind-the-scenes work of museum employees, either through public talks, or audiovisual displays of the process of setting up an exhibit or restoring a particular object. Finally, renovation can also include the active use of museums as 'contact zones',[79] wherein the museum space, and its collections, can be the site of connections and new relationships; for example, working with source communities in developing displays or creating new art.

Objectification

'Objectification in the museum context involves the appropriation of cultural property and its reconfiguration within a systematic framework of knowledge.'[80] Bouquet begins her discussion of objectification by discussing the use of typology as a way of controlling and manipulating cultural artefacts in the late nineteenth century. She goes on to examine other ways of objectifying culture, from a different perspective: Franz Boas's approach to anthropology, and how that became apparent in museum display. I consider the use of typology in my own exhibits and analyse the development of my displays over time. I then discuss the use of reconstructed rooms and archaeological sites in comparison to Bouquet's 'inhabited rooms'.

Typologies

Bouquet focusses on the Pitt Rivers Museum as an example of the display of early collecting, which was motivated by the need to show the progression of technologies, across the world, culminating at the pinnacle of industrialisation in the Victorian age. The Pitt Rivers Museum organises its displays by 'form and function',[81] which was intended to show a scientific approach to the study of culture. The artefacts are considered on their physical characteristics

[77] Ibid., p. 138.
[78] Ibid., p. 140.
[79] James Clifford, 'Museums as Contact Zones', in *Routes: Travel and Translation in the Late Twentieth Century* (Cambridge: Harvard University Press, 1997), pp. 188-219.
[80] Bouquet, *Museums: A Visual Anthropology*, p. 123.
[81] Ibid.

('internal criteria') rather than categorising objects by contextual factors such as provenance ('external criteria').[82]

In a previous chapter, I have discussed Crossley-Holland's use of the Hornbostel-Sachs system as a way of 'sciencifying' his collecting practices; that is, validating his personal preferences with academic research. My first contact with the PCH collection was through Crossley-Holland's classificatory criteria, as I spent months digitising his catalogues and research. His intentions were to focus on the musical attributes of the artefacts, which, in some ways, emphasises the human processes around the objects. However, the Hornbostel-Sachs system categorises instruments based upon physical (sound-producing) qualities, framing the collection in this typology. Crossley-Holland also organised his collection by dividing his catalogues into geographic areas, showing both internal and external characteristics.

In Chapter 5 below, I will set out in detail the practicalities of displaying the PCH collection. Here, I will merely evaluate the extent to which my exhibits were situated in this typological manner of display, which tended to adhere to Crossley-Holland's conception and organisation of his collection. My first exhibit of the PCH objects was 'The Many Faces of Ancient Mexican Music,' in which I arranged the artefacts based on the type of musical instrument. My priority was to show the variety of musical instruments that are represented by the collection; I was also pitching to an audience of music students and staff, and I felt that the display would be more accessible if based upon themes to which the visitors could relate. The result was that the original cultures of the objects were obscured in favour of my 'reconfiguration within a systematic framework of knowledge.'[83] The displays at the Pitt Rivers Museum are arranged with their typologies intact; its galleries are a display of museum practice, as well as historic cultural artefacts. The Pitt Rivers Museum reflects upon its foundations and encourages visitors to view the exhibits critically, by adding panels that explain the formation of the collections, and the reasons for arranging the galleries thusly. If I had added more information about why I arranged the objects by type in 'Many Faces', I could have encouraged viewers to reflect upon the ethics of classifying and displaying the PCH objects, and the ethnocentricity of the Western art definitions of music.

[82] Ibid.
[83] Ibid.

In my next display, 'Notes from the Past', I wanted to make Crossley-Holland's influence clearer. I had originally felt that by emphasising Crossley-Holland I would be taking away from the original cultural context. However, the Pitt Rivers shows that by displaying the edifice of a collection, it becomes possible to promote a more critical and analytical museum visit. 'Notes from the Past' included a large panel about Crossley-Holland, and the formation of the collection. The main reason for this was not to shed light on the politics of collecting; rather, it was to justify the existence of the display in Storiel (which I discuss further in Chapter 5 below). The result was that my exhibit showed a more critical examination of the collection. I again used Crossley-Holland's Hornbostel-Sachs typology, but added another dimension: the theme of nature. This theme seemed an effective way to connect the objects with their original cultures, as the panels explained how culture and nature interacted, with the musical artefacts as evidence. 'Notes from the Past' was installed in an area which Storiel uses to showcase different University collections. I felt that the exhibit needed to show the most visually appealing objects, which would attract attention. This resulted in a cabinet of curiosities, which did not truly represent the scope of the collection or of the original west Mexican cultures, as it focussed on the objects which were the nicest to look at. However, the contextual information on panels softened the rigidity of the display's objectification.

Between curating 'Notes from the Past' and my next display 'Birdsong', I had visited many more museum exhibits of pre-invasion archaeology; and I had got to know the PCH collection much better. Inspired by an exhibit at Mexico City's Museo Nacional de Antropología, which organised a gallery using the framework of the four world directions, I wanted to use a system which related more to Indigenous ways of knowing than to my academic background. Thus 'Birdsong' was organised by the world tree concept, with different parts of the tree corresponding to the sky, the earth, and the underworld. I also wanted to make sure that I was not conflating west Mexican cultures, so the objects were also grouped by provenance. In my previous displays, I had used what Bouquet terms 'affinity': displaying objects together which looked similar, rather than displaying objects with similar cultural origins. As is seen in many museums and much literature, 'west Mexico' has become an umbrella term for several disparate cultures: Beekman notes two interpretations of the term: one as a 'somewhat romanticized term' to distinguish west Mexican cultures from wider Mesoamerica; and the other as a 'catch-all for everything west of the Toluca Valley [in

central Mexico]'.[84] Both interpretations do a disservice to the area: one focusses on similarities in material culture to the extent that the region is 'atomize[d]'; the other suggests an invented homogeneity of the region, as a 'conceptual foil' to the national hegemony.[85] By conflating several cultures in my display, I unintentionally utilised this invented idea of 'west Mexico'.

Several museums organise their collections by provenance, combined with a thematic interpretation. For example: the MNA explains the generalities of musical behaviour in ancient Mexico, and uses particular instruments and sculptures to show the diversity of material culture. At the Fowler Museum, there is an exhibit titled 'Memorials and Transcendence', which displays objects from across the world on this theme. At LACMA, a temporary exhibit explored 'Ancient Bodies: Transformation, Personhood and Power in Mesoamerica', which utilises artefacts from different cultures to show themes of aging, illness, beauty and modification, and the supernatural, by focussing on the body. Another display trope, seen at LACMA and the Museo Rufino Tamayo, is brightly-coloured panels or cases, denoting separate archaeological zones, which are then sub-categorised by social function. Organising displays in these ways promote the individuality of cultural styles, whilst showing the underlying connections between Mesoamerican cultures, or indeed themes common across humanity: we all have bodies, we all eat, we all die.

Figure 38: Colour-coded rooms at the LA County Museum of Art. Different colours denote different cultures. Photographs my own.

[84] Christopher Beekman, 'Recent Research in Western Mexican Archaeology', *Journal of Archaeological Research*, 18:1 (2010), 41-109, this citation from p. 42.
[85] Ibid., p. 43.

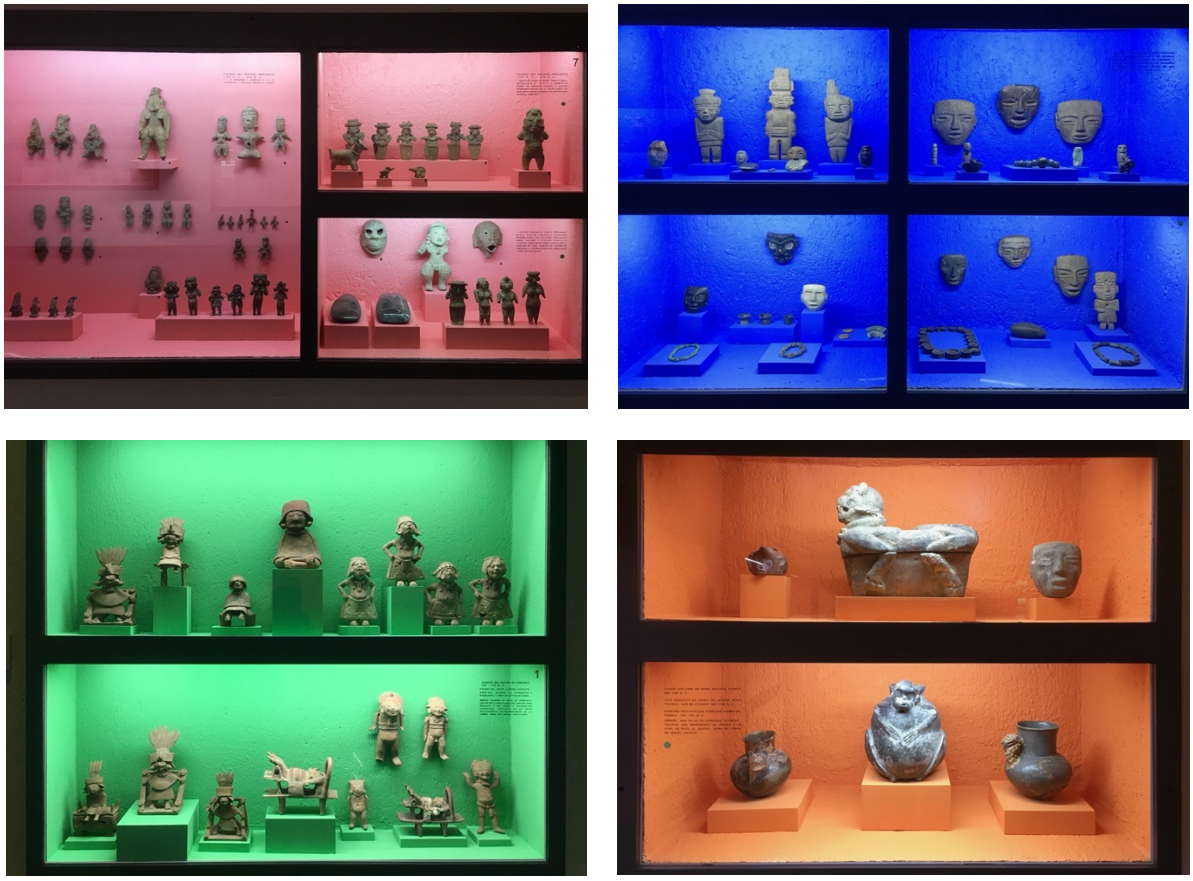


Figure 39: Colour-coded displays at Rufino Tamayo Museum of Pre-Hispanic Art. Different colours denote different time periods. Photographs my own.

Life groups and the inhabited room

Bouquet describes how the anthropologist Franz Boas influenced museum display; significantly, his view that 'museums should try to convey the richness of particular life ways', combined with the popularity of late nineteenth-century expositions, meant a proliferation of 'naturalistic scenes of human cultural activity, involving several human figures together with artefacts'.[86] Although life groups provide some contextual information about the use of artefacts, objectification occurs because the artefacts must adhere to the static snapshot provided. Boas intended for life scenes to draw visitors and increase public consumption of museum display. Once life groups become de rigueur, they lose their efficacy. Bouquet also discusses the use of immersive displays in which a gallery is laid out as a reconstructed example of a lived-in room. The idea of immersive, realistic display can also be seen in open-air museums, which Bouquet identifies as a result of the late nineteenth-century 'glorification of folk culture that was harnessed to the…project of designing national

[86] Bouquet, *Museums: A Visual Anthropology*, p. 127.

identity.'[87] In Wales, this interest in, and nostalgia for, rural life resulted in the open-air Welsh Folk Museum at St Fagans, which has been criticised for its 'rural, folk bias.'[88] It was first named the Museum of Welsh Life, and then the National Museum of History, and along with industry-oriented museums such as the National Slate Museum in Llanberis, the National Waterfront Museum in Swansea, and the Big Pit National Coal Museum in Blaenavon, helped to formulate a national identity of Wales dependent on its history of agriculture, folk culture, and industry.

The nearest equivalents to the inhabited room or the open-air museum that I encountered were at the Museo Nacional de Antropología in Mexico City, and the archaeological sites of Teotihuacán, Templo Mayor, Monte Albán, and Tzintzuntzan. At MNA, there are reconstructions of rooms to mimic those within the ancient city complex of Teotihuacán; a large exhibit comprises portions of the Pirámide del Sol (Pyramid of the Sun, one of the three major pyramids along the central avenue of Teotihuacán). Elsewhere in the museum, fragments of colourful murals or carved mantels are displayed alongside artificially-completed sections, to create a sense of individual rooms. The display of artefacts in glass cases results in only a partial suspension of belief – it is still obvious that it is in a museum, and so it is not a completely immersive experience.

In contrast, part of the west Mexico section provides an alternative way of displaying, in the reconstruction of a shaft-tomb. The atmosphere is enthralling; as a visitor, you must crouch to enter the exhibit through a tunnel, which is situated between two chambers. The shaft which runs to the 'surface' provides lighting, and low levels of artificial light play onto the artefacts. Two skeletons are arranged lying next to each other in the chamber; jewellery made from bone and shell adorn their arms, necks, and waists. Around them, ceramic bowls, sculptures and instruments, and conch shells are arranged in deliberate patterns. The low lighting and restrictive space reduce accessibility (although wheelchair users could enter the exhibit) creating a feeling of intimacy and contact that is not as effective with standard glass case. For me, this exhibit cemented my connection with the PCH collection's origins. Until my visit to Mexico, I could only view the objects through the lens of Crossley-Holland's collecting practices, and his research. The immediacy of this reconstructed tomb suddenly enabled me

[87] Ibid., p. 129.
[88] Rhiannon Mason, 'Representing the Nation', in John Osmond (ed.), *Myths, Memories and Future: The National Library and National Museum in the Story of Wales* (Cardiff: Institute of Welsh Affairs, 2007), pp. 23-37, this citation from p. 32.

to see the artefacts from that area in their original context – as offerings in a tomb, made by living people for their dead – even though it was a reconstruction of this context. Crossley-Holland's emphasis on the musicality of the instruments, reinforced by my own background in music, caused me to objectify the artefacts, rather than see them as things which have had social lives. The loss of archaeological information is the loss of context for the PCH objects, and the exhibit at MNA helped me to refocus on this aspect of their biographies.

Figure 40: Shaft tomb exhibit at MNA. Photo by Maunus λ, from <https://commons.wikimedia.org/wiki/File:ShafttombMNAH.jpg>, CC SA 3.0.

Archaeological sites as museums

Open-air museums, such as the museum at St Fagans, provide an alternative setting for the display of history. Architecture, horticulture, and the organisation of space are on display; people may dress and act as if they are from a particular historical period; machinery can be seen in use; visitors can wander in and out of buildings, even be served a meal. The archaeological site acts as a different sort of open-air museum. The organisation of space is on display, but everyday life must be imagined. Visitors themselves operate an alternative set of social processes: a communally-imagined interpretation of ancient life.

MNA brings archaeological sites into the museum display, in its scaled-down models which are situated outside of the museum galleries, surrounded with local greenery. The

archaeological sites which I have visited – Templo Mayor, in the heart of Mexico City; Teotihuacán, a few kilometres away; Tzintzuntzan, Patzcuaro, and Monte Albán – have museums attached, showing some of the objects from the site which have not been moved to a regional or national museum. A national institute for research oversees the excavations and subsequent handling of archaeological objects: the Insitututo Nacional de Antropología e Historia, a branch of central government which also runs 162 museums across the country.[89] The focus of INAH is academic research with 'high social impact',[90] which includes opening archaeological sites to the public; according to Clifford, this is the fourth stage in the 'trajectory of a ruin…touristification: providing access, developing the "attraction", mass pedagogy.'[91] Clifford wrote his Palenque Log in the early 1990s, and compared his experience with an earlier visit, wryly nostalgic for the quieter, unmodernised version of the site, but grateful for the opportunities to see newly-excavated areas. Clifford's Log reminded me of my own visits to archaeological sites, which I will describe in an emulation of his ethnographic style.

Teotihuacán and Tzintzuntzan: a comparison

Visiting Teotihuacán, I have no prior expectations; and I am expecting hordes of tourists from Mexico and worldwide. I arrive at the site early, but still the sounds of ocarinas greet me as I alight in the car park from the number eight bus. Throughout my visit, I am shown ceramic ocarinas, some of which are demonstrated in front of me: shaped like sharks, jaguars (very fierce and important to the Aztecs, according to the seller), and birds; I buy one shaped like a turtle. The constant piping, twittering, cooing sounds become my soundtrack for the day. Even at the top of the pyramids, I can hear the ocarinas. I walk around the grassy plaza, near to where new excavations are taking place. Another bus must have arrived; the site becomes busier. I walk to the Pyramid of the Sun (saying 'no, gracias … no gracias' along the way to the ocarina-sellers) and climb its steep steps. I think about buying a bigger hat, as the sun becomes stronger. From the top, the three pyramids at the site seem to be a continuation of the mountains that stretch across to the horizon. I can see four men in overalls working at the corner of the site. Suddenly, they cheer; they are listening to the World Cup match on one of their mobile phones. Clifford notes: '[e]verywhere I glance, it seems,

[89] Instituto Nacional de Antropología e Historia, '¿Quiénes somos?', 10 June 2015, <https://www.inah.gob.mx/quienes-somos>, last accessed 27 February 2020.
[90] Ibid.
[91] James Clifford, *Routes: Travel and Translation in the Late Twentieth Century* (Cambridge: Harvard University Press, 1997), p. 233.

someone is pointing a camera. Brief hallucination: the hundreds of photos per hour (per minute?) generated by these stones … like masses of birds taking off, scattering.'[92] Everywhere I glance, someone is pointing a phone at themselves: 'I am here'. I feel like I am part of this community of tourists too; I am taking photos, I am eating tortillas and mole, buying ocarinas. I am imagining the ancient city in its heyday, exploring the buried stones, and climbing the temples and taking a selfie at the top.

> Desire to be alone in (with) the ruin … "Palenque isn't as wonderful as last year … It's jammed with tourists." … Alone with the stones, with nature. This much is required if ancient sites are to transmit wisdom and sublimity ... [93]

Figure 41: Pyramid of the Sun and shops at Teotihuacán. Photograph my own.

The ruins at Tzintzuntzan are very different. I almost have the ruins to myself; I can wander in and out of half-invisible rooms, and around the rounded temples and under the shade of dark green trees, without a soundtrack of ocarinas and chatter. After walking halfway around the temples, I stop to look over to Lake Pátzcuaro. A family walks towards me: a woman and

[92] Ibid., p. 224.
[93] Ibid., p. 233.

her two children. She explains that they are visiting from Texas; her family are originally from Michoacán, so she is returning to show her children. Her husband joins them a minute later. I take a picture of the family on the woman's mobile phone; she takes a photo of me on mine. I carry on around the ruins and visit the small museum at the site's entrance. I am grateful for its air conditioning.

The ruins at Tzintzuntzan are more 'ruined'. Although there is a museum, the site itself has been excavated less obviously than the buildings at Teotihuacán. The *yácatas*, the five temples in a line at the centre of the site, are no less a monument to their ancient empire than the pyramids at Teotihuacán; but they stand only partly uncovered. Visiting Tzintzuntzan seems like getting to know a place, rather than arriving at a cultural destination.

Figure 42: Yacatás at Tzintzuntzan. Photograph my own.

Modernism

Bouquet discusses several iterations of modernism on display. I will apply some of these to the museum displays I have encountered: the transformation of ethnographic object into art object at the Metropolitan Museum of Art and the British Museum; two Mexican artists who collected ancient artefacts and created museums; and innovative display practices at the MNA.

The transition of ethnographic object to art object

Mexican archaeological artefacts are treated variously as art or ethnographic object. Bouquet charts how objects can transform from one to the other, depending on their treatment in museums: but the museums that I visited did not have the same idea of art and ethnography in opposition. For example, LACMA has extensive galleries of Mexican archaeology, as well as extensive galleries of modern art. The collection is labelled 'Art of the Ancient Americas',[94] but is also exhibited in a way which gives contextual information about the original cultures, showing their ethnographic value. The permanent galleries of the Ancient Americas were designed by artist Jorge Pardo,[95] and lead chronologically through to the Latin American galleries, allowing the ancient and contemporary to flow into one another, with the Conquest forming a pervasive barrier.

At the British Museum, the Mexico gallery shows some artefacts as artistic, and others as ethnographic. McEwan provides an overview of the gallery in an accompanying guide, and includes information about selected objects. The reason for highlighting a particular object appears to be based upon either its artistic or cultural value. For example, he focusses on the musical attributes of a sculpture from Jalisco:

> Trumpets, flutes and rattles combined with the rhythm of drums to enliven festivals and other communal celebrations. This musician [British Museum Ethno.HN26, pottery figure of a drummer] boasts a flamboyant headdress, adornments and costume. Drumming was also instrumental in invoking the presence of ancestral spirits.[96]

In common with the other captions on the west Mexico pages, this describes the cultural value of the sculpture, rather than the artistic elements. The only exception is a line drawing demonstrating that '[w]est Mexican potters used the plastic properties of the medium to full effect, to fashion striking and unusual human images' (referring to a Jalisco sculpture of a woman).[97] In comparison, a Cholula pottery plate portrays a 'gracefully-executed glyph of a deer';[98] a Classic Veracruz stone mould, used for making ball-game belts, was

---

[94] LACMA online catalogue, <https://collections.lacma.org/search/site/?front=1&f[0]=bm_field_has_image%3Atrue&f[1]=im_field_curatorial_area%3A33>, last accessed 26 February 2020.
[95] Scott Tennent, 'Jorge Pardo on the Pre-Columbian Galleries', 17 November 2008, <https://unframed.lacma.org/2008/11/17/jorge-pardo-on-the-pre-columbian-galleries>, last accessed 26 February 2020.
[96] Colin McEwan, *Ancient Mexico*, p. 51.
[97] Ibid., p. 49.
[98] Ibid., p. 63.

'magnificently-sculpted';[99] '[t]he Aztec royal court commissioned skilled Mixtec artisans to produce lapidary work of the highest order, notably mosaic masterpieces' (describing the Mixtec turquoise 'ritual' masks).[100] This implies the skill in manufacturing and the aesthetic value of certain artefacts; and the insignificant artistic value of west Mexican objects. This idea is perpetuated by the placement of the west Mexican archaeology in a badly-lit case in the corner, away from the centrepieces. With reference to Martin and Harding,[101] from the point of view of the British Museum, visitability requires showcasing the attractive artistic objects, and the artefacts denoting blood-letting, death, and sacrifice; the small figurines representing west Mexico show another aspect of Mexican archaeology, but are given limited attention. The implication is that Mixtec objects are elevated to art object, as they contain precious metals, or show skilful artisanship; the western Mexican objects are ethnographic objects, because their aesthetic value does not adequately transform them into art.

The Hall of the Americas at the American Museum of Natural History is a display of mid-twentieth century exhibition practices. Bouquet cites AMNH as having an example of modernism on display in its Northwest Coast Indian Gallery. The experimental nature of the exhibition appeared 'at once outmoded, magical and singularly effective … the material seems to exceed the institutional narratives and rites of citizenship allotted to it.'[102] The modernist gallery design moved away from the scientific display of objects, to an exhibit which seemed more creative and allowed for imagination and affect. The Hall of the Americas at AMNH was installed in 1970 and has not been changed since. This is mainly due to managerial and financial policies. Martin and Harding discuss the implications in their article about the cultural halls of the AMNH.[103] These galleries are not a priority for the museum due to the neoliberalism of its administration, which recognises the greater revenue from science exhibits. Martin and Harding also cite limitations of movement due to conservation issues, as well as the expense that comes with moving and re-displaying objects. Ultimately, from the management's perspective, working with living people whose cultures are represented in the museum is far more complicated than working with fossils, dinosaur skeletons or taxidermy.[104] The curators and anthropologists working at AMNH continue to

[99] Ibid., p. 28.
[100] Ibid., p. 69.
[101] Emily Martin and Susan Harding, 'Anthropology Now and Then in the American Museum of Natural History: An Alternative Museum', *Anthropology Now*, 9:2 (2017), 1-13.
[102] Bouquet, *Museums: A Visual Anthropology*, p. 133.
[103] Martin and Harding, 'Anthropology Now and Then'.
[104] Ibid.

research and manage the collection in various ways, for example online virtual galleries, continuing use of the collections in academic research, and events and temporary exhibits. This is how the cultural areas of the museum can be renovated, rather than via display.

Figure 43: Mexico and Central America gallery at the American Museum of Natural History. Photographs my own.

Nationalism

Bouquet demonstrates that museum display was crucial in Brazilian nationalist modernism of the mid-twentieth century: objects used in *candomblé* (a religious practice originating in north-eastern Brazil) inspired avant-garde artists who 'tried to create universal modern art form from a Brazilian point of view.'[105] This allowed a greater acceptance of *candomblé*, which was 'forbidden', and led to candomblé houses creating their own museums.

The Mexican artists Diego Rivera and Rufino Tamayo both amassed collections of Mexican archaeology. Rivera designed a museum to exhibit his collection: Museo Anahuacalli, which takes the form of a 'temple that has been integrated with its natural surroundings'.[106] The building itself is a work of art and Rivera's museum murals adorn the ceilings of the

[105] Ibid., p. 139.
[106] Museo Anahuacalli, 'What is the Anahuacalli Museum?', <http://museoanahuacalli.org.mx/en/museum/what-is/>, last accessed 26 February 2020.

galleries. Rivera originally planned to create a 'city of arts',[107] to include Museo Anahuacalli alongside spaces for music, theatre and dance performances, celebrating folk traditions from around the country. Rivera was associated with anthropologist Manuel Gamio, who has been credited by David A. Brading as the creator of 'official *indigenismo*'.[108] Anahuacalli stands as a monument to *indigenismo* as well as a place to exhibit Rivera's collection. Renato González Mello describes the close relationship between Rivera and Gamio, including their participation in the Rosacrucian society of Mexican and North American politicians and intellectuals named 'Quetzalcóatl' (after the Nahuatl feathered serpent deity).[109] Gamio wanted to 'reinstate Anáhuac as the glorious foundation of Mexican history and culture';[110] Anahuacalli means 'the house of Anahuac' in Nahuatl.[111] Anáhuac was the Nahuatl word for the area around Tenochtitlan, known as the Valley (or Basin) of Mexico and it signifies the conceptual centre of the Aztec empire.

Figure 44: Museo Anahuacalli. Photograph my own.

[107] Museo Anahuacalli, 'What is the City of Arts?', <http://museoanahuacalli.org.mx/en/city-of-arts/what-is/>, last accessed 26 February 2020.
[108] David A. Brading, 'Manuel Gamio and Official Indigenismo in Mexico', *Bulletin of Latin American Research*, 7:1 (1988), 75-89.
[109] Renato González Mello, 'Manuel Gamio, Diego Rivera, and the Politics of Mexican Anthropology', *RES: Anthropology and Aesthetics*, 45 (2004), 161-185, this citation from p. 169.
[110] Brading, 'Manuel Gamio and Official Indigenismo', p. 76.
[111] University of Oregon, 'anahuac' and 'calli', *Nahuatl Dictionary*, <https://nahuatl.uoregon.edu/>, last accessed 9 March 2020.

Rufino Tamayo donated his collection of Mexican antiquities as the foundation of a museum in Oaxaca. Tamayo positioned himself as more concerned with pictorial values rather than political messages in the manner of Rivera and other supporters of *indigenismo*.[112] Tamayo was born of Indigenous Zapotec parents,[113] and incorporated depictions of indigeneity and pre-invasion imagery in his art.[114] He donated his collection of pre-invasion artefacts to the state of Oaxaca, and a museum was opened in 1972 to display it.[115] According to the museum's website, and an article written at the time, it was important for Tamayo that his collection was given to the city of his birth, for people to 'admire, contemplate and study.'[116] As well as having different ideology to Rivera and his ilk, Tamayo also appeared to want to move from a centralised national identity, as a mix of all types of indigeneity, to place importance on the distinct regions of ancient Mexico.

Innovative display

Bouquet describes the influence of modernist principles on exhibition design: focussing on correalism, interactivity, and field of vision.[117] These concepts translate into innovative uses of space, asymmetry, and the idea of flow; the visitors' interactions with the exhibition space inserts them into the web of spatial and conceptual relationships with the objects on display.

An example of an innovative exhibit which incorporates these ideas is the temporary exhibit 'Xochipilli: El Señor de las Flores' ('Xochipilli: Lord of the Flowers'), which was in place from April to August 2018, in the MNA's temporary exhibition space.

> On the body of the Mexica deity, flowers represent the life cycle that, as it is part of the Mexica cosmos, is brought into being by the warmth of the sun, after overcoming death in the dark and dank interiors of the earth.[118]

---

[112] Ian Chilvers, 'Tamayo, Rufino', *The Oxford Dictionary of Art and Artists*, Oxford University Press, 2015, <https://www-oxfordreference-com.ezproxy.bangor.ac.uk/view/10.1093/acref/9780191782763.001.0001/acref-9780191782763-e-2418>, last accessed 8 March 2020.
[113] Ibid.
[114] Julio Amador Bech, 'Figuras y narrativas míticas de lo indígena prehispánico en el mural "Dualidad" de Rufino Tamayo', *Revista Mexicana de Ciencias Políticas y Sociales*, 56:213, (2011) 93-124.
[115] Ramón Xirau, 'Tamayo y el Arte Prehispanico', *Diálogos: Artes, Letras, Ciencias Humanas*, 8:3 (1972), p. 46.
[116] Ibid. '…para admirar, contemplar, estudiar…' [Translation my own.]
[117] Bouquet, *Museums: A Visual Anthropology*, p. 136.
[118] 'Sobre el cuerpo de la deidad mexica las flores son un alarde del ciclo vital que, como parte del cosmos mexica, nace a la vida por acción del calor del sol tras vadear la muerte en los húmedos y oscuros adentros de la tierra.' [Translation my own]. Instituto Nacional de Antropología e Historia, 'Xochipilli, el Señor de las Flores Reina en el Museo Nacional de Antropología', 27 April 2018, <https://www.inah.gob.mx/boletines/7144-xochipilli-el-senor-de-las-flores-reina-en-el-museo-naciona>, last accessed 27 February 2020.

Figure 45: Xochipilli exhibit at the National Museum of Anthropology. Photograph my own.

A large stone sculpture of Xochipilli was the only artefact on display; he sat in the centre of a darkened room, illuminated by spotlight underneath a contemporary sculpture in shape of a sunrise, and a blossoming flower. A ramp spiralled from the entrance around Xochipilli, arriving at his pedestal after several loops, building suspense as well as allowing views of every aspect of the sculpture. A video was projected on one wall, which comprised an abstract animation of the changing seasons and the blossoming of flowers, accompanied by a soundtrack which combined sustained synthesised chords with birdsong and the sound of the breeze. I was being guided to the object by the ramp, manipulated into feeling awe by the music and lighting – and it was a breath-taking experience. In an adjacent room, the experience filled the other senses: botanical specimens were displayed in drawers, from which diffused the aromas of the different flowers within. Stone carvings were displayed with an invitation to touch. One intention of the exhibit was to display the interrelationships between art, nature and cosmology that Xochipilli represents, as interpreted in the *Cantares Mexicanos* (a collection of Nahuatl poetry, transcribed in the sixteenth century, about Nahua history, divination, the calendar and many other aspects of life).[119] This exhibit is an example of how museum design can be artistic, utilising space, sense, and movement as a way for visitors to interact with objects.

Figure 46: In the adjacent room to the exhibit 'Xochipilli', visitors can see and smell flowers. Photographs my own.

Renovation

Bouquet focusses on several ways that museums can show renovation; essentially, by putting the 'behind the scenes' on display. This could take the form of showing conservators at work,

[119] Miguel León-Portilla, 'Introducción General al Volumen Conocido Como *Cantares Mexicanos*', *Universidad Nacional Autónoma de México*, 20 July 2016, <http://www.historicas.unam.mx/publicaciones/publicadigital/libros/cantares/cm01/05_introduccion_general.pdf>, last accessed 27 February 2020.

either in real time or on video; and utilising visible storage, whereby visitors are reminded that the museum is much more than what is exhibited. Web resources are fora for museums to display much more information than can fit into a physical exhibit. The internet is accessible, free, and provides ample opportunities for autonomy, and is therefore an ideal host for museum research. The website for the Museo Arqueológico Nacional (MAN) in Madrid records its recent redesign. By showing the construction of new parts of the building, the website displays the development of the museum itself, and is a reminder that the museum is a 'field of cultural production … something processual.'[120] Josephine Shaya notes that MAN's website provides a 'successful virtual experience for the user,'[121] and that museum websites can offer an enhanced and more accessible experience than the physical exhibits alone. The newer Museo de América's website is less developed, but does allow access to an online catalogue, and videos of curators talking about their favourite artefact.[122]

The Relational Museum Project at the Pitt Rivers Museum showed how the institution is the site of a web of social relationships.[123] The Pitt Rivers exhibits are organised typologically as a way of showing scientific authority,[124] which is embedded in Victorian ideas of primitive and civilised societies. The Pitt Rivers today has its exhibits organised typologically, belying the 'evolutionary view of world cultures' which formed its first collections.[125] Bouquet analyses the Relational Museum Project as '[transforming] the museum's predicament into a resource for producing new forms of knowledge', of making 'invisible social processes visible.'[126] Using the internet as a way of disseminating their research enabled the museum itself to continue as an exhibit of historic display practices, and provided a new lens through which to view the institution. Alison Brown, who reviewed the Relational Museum Project's website for the *Journal of Museum Ethnography*, noted that the website 'presents an intriguing tool to think about the social networks at the heart of which was the museum',[127]

---

[120] Fred Myers, 'The Complicity of Cultural Production: The Contingencies of Performance in Globalizing Museum Practices', in Ivan Karp, Corinne A. Kratz, Lynn Szwaja and Tomas Ybarra-Frausto (eds.), *Museum Frictions: Public Cultures/Global Transformations* (Durham: Duke University Press, 2006), pp. 504-536, this citation from p. 504.
[121] Josephine Shaya, 'Communicating Context: Spain's Newly Renovated Museo Arqueológical Nacional', *American Journal of Archaeology*, 121:2 (2017), 333-341, this citation from p. 339.
[122] Museo de América, 'Mi Pieza Favorita', <http://www.culturaydeporte.gob.es/museodeamerica/coleccion/mi-pieza-favorita.html>, last accessed 29 February 2020.
[123] Frances Larson, Alison Petch and David Zeitlyn, 'Social Networks and the Creation of the Pitt Rivers Museum', *Journal of Material Culture*, 12:3 (2007), 211-239.
[124] Bouquet, *Museums: A Visual Anthropology,* p.124.
[125] Ibid., p.125.
[126] Ibid.
[127] Alison Brown, 'Reviewed Work: The Relational Museum Project, 2002-2006', *Journal of Museum Ethnography,* 20 (2008), 186-189, this citation from p. 187.

which incorporates another element of renovation: making invisible processes visible, which in this case is the invisible web of social relationships surrounding the museum and its collections.

The Pitt Rivers has utilised innovative practices in another project: Reel to Real, which made archival recordings accessible via digitisation and online resources.[128] Another output for this project was a series of multimedia events in the galleries, which allowed the museum to become an intermediary between historic fieldwork and collecting practices, and contemporary Indigenous music-making of the source communities,[129] with a particular focus on the Bayaka of the Central African Republic. As discussed in my 'Dissemination' chapter, the performance 'Duets with Dead Instruments', near the display case of 'The Many Faces of Mexican Music', was my attempt to musically activate the PCH collection. By using existing recordings of the instruments, I could utilise the sounds without having to handle the artefacts. The most significant difference between Reel to Real and my performance was that the Pitt Rivers project utilised ethnographic field recordings, made in the early and mid-twentieth century. These were recognisable by contemporary Bayakan people and could be connected to their musical practices. Conversely, the PCH recordings were created in order to investigate the sonic properties of the instruments and had no relationship with the contemporary source communities. My intention was to use the gallery space to promote the potential use of the instruments in contemporary musical processes.

Making Invisible Processes Visible

Bouquet posits that the new accessibility of previously unseen areas and activities could indicate changes in Bennett's exhibitionary complex.[130] One way to make invisible processes visible is to utilise visible storage. The Museum of Archaeology and Anthropology displays some of its Moche pottery, for example, which is clearly labelled as 'visible storage'. The only contextual information is where the artefacts originated and an approximate date. Yellow and black tape has been used to affix the label to the case, implying a temporary, industrial view, letting the visitor see a usually secret part of museum activity. In one of the

[128] Reel to Real, 'About the Reel to Real Project', *The Pitt Rivers Museum*, <https://web.prm.ox.ac.uk/reel2real/index.php/about.html>, last accessed 29 February 2020.
[129] Christina Homer, *Music in the Museum: An Ethnomusicological Approach to the Display of Musical Culture*, (MusM Dissertation, University of Manchester, 2014).
[130] Bouquet, *Museums: A Visual Anthropology*, p. 141; Tony Bennett, *The Birth of the Museum: History, Theory, Politics* (London: Routledge, 1995).

conventional display cases a caption explores the problem of provenance and authenticity. This is the only example I have seen in any museum of such candidness. The artefact is a jade sculpture of a cross-legged figure. The caption reads:

> Ancient art?
>
> This jade statue comes from Mexico, but we don't know exactly where. Nor can we confirm its attribution to the Olmec civilisation. It may have been looted from an ancient site, or may be a fake. If it is modern, is it less special?
>
> 1500-400BC, Mexico. Donated by Louis Clarke. 1962.6.

The caption acknowledges the problem with unprovenanced items, which is often the case with objects that have entered the art and antiquities trade, and usually private collections (as in the case of the PCH collection). By stating this, MAA challenges the visitor to think about the problems of authenticity, the aura of an object, and the problem with missing archaeological information. The museum accessioned the object in 1962, and it was donated, which absolves it from any legal problems based on the UNESCO agreement of 1970. The museum chose to display some of the problems of owning cultural objects, which brings to light the processes of the institution, and recognises the complications that surround (what is probably) an ancient object in a contemporary museum.

Figure 47: Visible storage (L), and a discursive caption (R) at the Museum of Archaeology and Anthropology. Photographs my own.

The Peabody Museum, part of Harvard University, displayed many pre-invasion ocarinas in their temporary exhibition, 'Ocarinas of the Americas: Music Made from Clay'. The way that the objects were arranged were almost typological: they were laid out in rows, emphasising slight differences in form. However, the gallery incorporated innovative elements. There were a series of videos playing in a viewing area, which featured Dr José Cuellar playing some of the ocarinas and explaining their significance to him as a Mexican-American. These videos showed behind-the-scenes at the museum, as Cuellar played the instruments in a museum storeroom. Cuellar's playing of the ocarinas also activated them as cultural objects that were present in contemporary musical production. His personal reaction to the ocarinas, as embodiments of his ancestral culture, encouraged the perception of ocarinas as visibly connected with human stories in an immediate way, rather than as simply as static objects which are out-of-circulation.

Contact zones

In 'Museums as Contact Zones', Clifford writes that 'communities that are socially distant from the museum world can effectively constrain the display and interpretation of objects representing their cultures.'[131] He goes on to tell of a site of contact at the Portland Museum of Art between curators and culture bearers, whereupon artefacts became the basis for culture production, in the form of storytelling. The museum acted as the contact zone between artefact and cultural process, as well as a site for building relationships between museums workers and members of the Indigenous community whose objects were in the collection. The Peabody became a 'place of hybrid possibility',[132] where a pluralist view was on display: José Cuellar is not socially distant; he is an academic, and worked at the Peabody as a research associate. The delineation between 'Indigenous person' (distant from the museum) and 'museum person' (close to the museum) is blurred. MAA asked 'if [an object] is modern, is it less special?' If a person is socially near to the museum, are they less Indigenous? Is the Peabody acting less like a contact zone, as the contact between Indigenous knowledge and academic knowledge is already closer? Is Clifford's idea of museums as contact zones placing a certain group as the more authentic other?

[131] Clifford, 'Museums as Contact Zones', p. 209.
[132] Ibid., p. 212.

Bouquet asserts that the public display of historical collections is 'never neutral'.[133] She states, referencing Weiner, that cultural objects are the 'inalienable possessions' of their 'original owners'.[134] This is in direct contrast with Cuno's assertion that museums such as the British Museum were established 'for the whole world …'[135] – they are encyclopaedic, and their objects belong to the museum no matter its site, to be preserved for the world's population. Bouquet applies Clifford's idea of contact zones as a way for museums to redress the historical power imbalances inherent in colonial collecting practices, and in the social hierarchies of the museums themselves. The Peabody addressed these hierarchies by putting Cuellar into the museum display, a person who embodies both Indigenous and academic knowledge.

The other aspect of the contact zone, the relationship between artefact and cultural production, can be seen in museum events. MAA hosted an event to commemorate the Day of the Dead in October 2019, in association with the University of Cambridge's Mexican Society. The purpose of the event was to create a new object to be created for display: an altar to immigrant communities in Mexico. The museum hosted the contact between the cultural production of an artefact, with all its social processes, and the resulting artefact as an embodiment of the production. As part of the 2015 initiative, the Year of Mexico in the UK and the UK in Mexico,[136] the British Museum hosted a series of events celebrating the Days of the Dead. A new artwork by Mexican artist Betsabeé Romero was installed in the Great Court, which comprised a 'conceptual altar' dedicated to 'migrants worldwide.'[137] The installation combined ancient Mesoamerican iconography with modern materials: rubber tyres, displayed in a way reminiscent of the calendar stones, and carved with images of adults and children holding hands and running, which were taken from road signs on the Mexico/US border. Laura Osario Sunnocks, in her article discussing the transmission of the Day of the Dead festival, also mentions a series of performances at the museum of dance, music, storytelling, and performance art. She describes the British Museum events as 'living

[133] Bouquet, *Museums: A Visual Anthropology*, p. 146.
[134] Ibid.
[135] James Cuno, *Who Owns Antiquity? Museums and the Battle over our Ancient Heritage* (Princeton: Princeton University Press, 2008), p. xxxiv.
[136] British Embassy Mexico City, '2015: The Year of Mexico in the UK and the UK in Mexico', 20 November 2013, <https://www.gov.uk/government/news/2015-the-year-of-mexico-in-the-uk-and-the-uk-in-mexico>, last accessed 9 March 2020.
[137] Laura Osorio Sunnocks, 'Curating the Mexican Days of the Dead: "Intangible Heritage" at the British Museum', *Anthropology Now*, 8:1 (2016), 25-36, this citation from p. 33.

heritage' and a 'vehicle of cultural contact and exchange.'[138] The British Museum was acting as a contact zone between the ancient artefacts and contemporary visual art, as well as the ancient heritage of the Day of the Day and its contemporary iteration.

The Day of the Dead is a ubiquitous signifier of Mexican culture outside Mexico, as well as being on the UNESCO list of internationally-important Intangible Cultural Heritage; but it is also a meaningful and personal commemoration of the dead for people of Mexican heritage. At the Fowler Museum at UCLA, Mexican artefacts are displayed alongside those from other cultures in a gallery with the theme 'Memorials and Transcendence'. This gallery emphasises the artistic value of relics and memorials. Alongside the ancient artefacts, there is a sculpture by Veronica Castillo Hernández, a contemporary artist from Pueblo, Mexico. The object is based upon the ancient Tree of Life symbol, combined with Day of the Dead imagery, to commemorate the unsolved murders of more than four hundred women since 1993 in the border city of Ciudad Juárez.[139]

Using Storiel or Bangor University to host a Day of the Dead event, with the PCH collection as inspiration, would be cultural appropriation unless it would be possible to invite members of west Mexican communities to teach about, and perform, their interpretations of the Day of the Dead. On Janitzio, an island on Lake Pátzcuaro, Michoacán, the Day of the Dead celebration (which is called Noche de Muertos/Night of the Dead) is the 'biggest tourist event of the year'.[140] There are no links between the artefacts in the PCH collection and this current practice, so any connection would be forced, and would seem to capitalise on the attractiveness of the Day of the Dead in popular culture.

4.D. Museum contexts: What is a museum? Who is it for?

Now that I have analysed different approaches to museum display, I want to provide some context by reviewing how various authors define museums and their functions. The major considerations are whether museums can be universal, and whether universal museums can only be situated in western Europe or northern America; and the development of national and nationalist museums and their effect on national identity. To conclude this chapter, I consider how museums can work with source communities to include Indigenous voices; and how

[138] Ibid., p. 35.
[139] An image of the sculpture may be seen at <https://www.fowler.ucla.edu/product/x2004-20-1-el-arbol-de-la-muerte-maquilando-mujeres-the-tree-of-death-factory-women/>, last accessed 30 June 2020.
[140] Ruth Hellier-Tinoco, *Embodying Mexico: Tourism, Nationalism and Performance* (New York: Oxford University Press, 2011), p. 21.

museums can facilitate research into their colonial origins, and the outcomes of this research can be displayed in order to work towards decolonisation.

In his account of the development of the Musée du Quai Branly,[141] on the banks of the Seine in Paris, James Clifford writes:

> … it is now far too simple to see a struggle between art and anthropology, aesthetics and science, formalism and history. While these tensions remain in contemporary museum practice, there is a growing recognition of the need for a multidiscursive approach.[142]

He also describes the competing agendas of various stakeholders, not least the President and creator of the idea for the museum, Jacques Chirac. But as well as the people in positions of power, there are the competing conceptual issues that Clifford notes. There are, however, several authors who subscribe to one side or another, and view museums as either nationalist or cosmopolitan, art or ethnography. In this section, I outline some approaches to the issue, both from persuasive authors at either end of the spectra, and from those who have a more discursive outlook.

4.D.i. Cosmopolitan and 'encyclopaedic' museums

Peggy Levitt begins her study of several museums in North America, Europe, and Asia, by asserting that 'no museum [she] visited told an entirely national or global story' and that institutions are situated 'along a continuum of cosmopolitan nationalism whose two constantly changing parts mutually inform and transform each other.'[143] Two authors who may disagree are James Cuno and Neil MacGregor, whose exaltation of the British Museum as encyclopaedic and universal demonstrates their belief in the ability of that museum to transcend boundaries, and provide a safe space for our world's heritage, belonging to no single nation.[144] Cuno is currently the CEO and President of the J. Paul Getty Trust, and was previously the director of the Art Institute of Chicago, and MacGregor was the Director of the British Museum before becoming Director of the Humboldt Forum.

---

[141] James Clifford, 'Quai Branly in Process', *October*, 120 (2007), 3-23.
[142] Ibid., p. 9.
[143] Peggy Levitt, *Artifacts and Allegiances: How Museums Put the Nation and the World on Display* (Oakland: University of California Press, 2015), p. 3.
[144] Neil MacGregor, 'To Shape the Citizens of "That Great City, the World"', in James Cuno (ed.), *Whose Culture? The Promise of Museums and the Debate Over Antiquities* (Princeton: Princeton University Press, 2009), pp. 39-54.

The declaration of certain museums to be universal was precipitated by a debate over repatriation and the ownership of cultural property. As detailed in a previous chapter, repatriation requests have increased in the past few decades. In particular, the 'Declaration on the Importance and Value of Universal Museums' cites the worldwide influence of ancient Greek sculpture as a reason to keep these objects in major museums. This is followed by a paragraph about repatriation claims, including the assertion that 'we should acknowledge that museums serve not just the citizens of one nation but the people of every nation',[145] and a warning that 'to narrow the focus of museums whose collections are diverse and multifaceted would…be a disservice to all visitors.' It follows that any museum in Athens that wishes to extend its collection by adding the Parthenon marbles would be doing its visitors a disservice by not requesting their return. Tellingly, this Declaration is signed only by the directors of North American and west European museums, with the addition of St Petersburg. The argument against nationalism and narrowly-focussed museums only became an issue when the same museums began to threaten the hegemony of these Enlightenment-style museums. George Abungu makes the point that the National Museums of Kenya researches and holds vast collections on the origin of the human species, surely a 'universal' subject, yet the National Museums of Kenya were not asked to join MacGregor's group of universal museums. He asks, 'what is the basis of their universal value? Are Universal Museums based solely in Europe and North America?'[146]

Mark O'Neill, Director of Glasgow Museums at the time, lays out specific arguments against MacGregor's points in his article discussing 'Enlightenment Museums'.[147] For example, MacGregor acknowledges that the Benin Bronzes were taken in 'hideous' circumstances, but posits that their placement in the British Museum 'did more than anything to change European perceptions of Africa.'[148] That may have been true of some European visitors, but O'Neill notes that the Bronzes were interpreted with a Darwinist rationale which was 'seen as clear evidence of the superiority of European culture.'[149] O'Neill quotes several scholars from the early twentieth century, whereas MacGregor only cites a mathematician from

[145] International Council of Museums, 'Declaration on the Importance and Value of Universal Museums', *ICOM News*, 2004, <http://archives.icom.museum/pdf/E_news2004/p4_2004-1.pdf>, last accessed 11 March 2020. [N.B. The page on the British Museum website where the Declaration was originally published is no longer active.]
[146] Ibid.
[147] Mark O'Neill, 'Enlightenment Museums: Universal or Merely Global?', *Museum and Society*, 2:3 (2004), 190-202.
[148] MacGregor, 'To Shape the Citizens', p. 51.
[149] O'Neill, 'Enlightenment Museums', p. 194.

Berlin, whose comments about the Bronzes (that they were so sophisticated that they must have been made by Greeks) caused 'a whole set of stereotypes' to collapse, and 'a whole set of hierarchies' to disintegrate.[150]

James Cuno has written about issues of ownership in *Who Owns Antiquity? Museums and the Battle over Our Ancient Heritage*, and he edited *Whose Culture? The Promise of Museums and the Debate over Antiquities*, which also features a chapter by MacGregor. Cuno's stance is that certain museums have the responsibility to safeguard and keep accessible the world's 'treasures', and in particular, that nationalist agendas are dangerous, as they are in opposition to the idea that valuable artefacts should belong to all nations. Cuno argues that the British Museum was founded as a 'national museum … it was not a *nationalist* museum',[151] and that at the time of its inception in 1759, London was as cosmopolitan a city as it was possible to get, and thus accessible to the greatest diversity of visitors.

Many of the criticisms of Cuno's argument centre around its veneration of imperialist and colonial institutions. Cuno counters this by stating that encyclopaedic museums, like the British Museum, may be 'witnesses to empire … they are not *instruments* of empire,'[152] as empires existed before museums, and furthermore, imperialism is more complex than can manifest in a museum.

He also asserts that encyclopaedic museums are not just for the 'financial and political elite' because they are 'public institutions open to all. We invite our visitors in and let them wander as they wish.'[153] Cuno does not address the economic and social differences which mean that certain people might feel disallowed from public institutions (as discussed by Noel Lobley's article about the townships in Johannesburg),[154] or if they are not lucky enough to live in Bloomsbury, be able to afford the bus fare to the centre of London, let alone a flight from another country.

According to Cuno's view, Storiel could be an appropriate place for the PCH collection – and other world artefacts, too. Storiel is accessible to visitors from the Bangor region, both

---

[150] MacGregor, 'To Shape the Citizens', p. 52.
[151] James Cuno, *Museums Matter: In Praise of the Encyclopedic Museum* (Chicago: The University of Chicago Press, 2011), p. 13.
[152] Ibid., p. 89.
[153] Ibid., p. 7.
[154] Noel Lobley, 'Taking Xhosa Music out of the Fridge and into the Townships', *Ethnomusicology Forum*, 21:2 (2012), 181-195.

members of the local community and temporary residents, and allows them access to a cultural heritage other than the regional culture (which, as I explain in the next chapter, could be considered a type of national identity on a local scale).

4.D.ii. National and nationalist museums

The role of museums in nation-building has been discussed from various perspectives. A worldwide survey of museums and nation-building can be seen in Simon Knell et al.'s *National Museums: New Studies from Around the World Nation* by Simon Knell et al. and *Museums, Heritage and International Development*, edited by Paul Basu and Wayne Modest.[155] Both volumes balance concepts of preservation, cultural heritage and national identity with regional studies. Nation-building in Europe is charted from a postcolonial point of view in Peter Aronsson and Gabriella Elgenius's volume *National Museums and Nation-Building in Europe, 1750-2010: Mobilization and Legitimacy, Continuity and Change*; and Dominic Thomas's *Museums in Postcolonial Europe*.[156] *Art Museums of Latin America*, edited by Michele Greet and Gina McDaniel Tarver, offers analysis of modernity in the twentieth-century in countries across the central and southern Americas, as well as considering museums in the United States which display Latin American art.[157]

The National Museum of Anthropology (Museo Nacional de Antropología) in Mexico City is, according to Miruna Achim, 'the direct heir of the nineteenth-century National Museum [of Mexico]'.[158] The National Museum encapsulated the connection between antiquities and national politics that characterised cultural developments under Porfirio. Achim describes the Instituto Nacional de Antropología e Historia (INAH) as the 'institution safeguarding [Mexican antiquities, which] became a platform for the writing and representation of Mexicanness.'[159]

---

[155] Simon J. Knell, Peter Aronsson, Arne Bugge Amundsen, Amy Jane Barnes, Stuart Burch, Jennifer Carter, Viviane Gosselin, Sarah A. Hughes and Alan Kirwan (eds.), *National Museums: New Studies from Around the World* (Abingdon: Routledge, 2011); Paul Basu and Wayne Modest (eds.), *Museums, Heritage and International Development* (New York: Routledge, 2017).
[156] Peter Aronsson and Gabriella Elgenius (eds.), *National Museums and Nation-Building in Europe, 1750-2010: Mobilization and Legitimacy, Continuity and Change* (Abingdon: Routledge, 2015); Dominic Thomas (ed.), *Museums in Postcolonial Europe* (Abingdon: Routledge, 2010).
[157] Michele Greet and Gina McDaniel Tarver, *Art Museums of Latin America: Structuring Representation* (New York: Routledge, 2018).
[158] Miruna Achim, *From Idols to Antiquity: Forging the National Museum of Mexico* (Lincoln: University of Nebraska Press, 2017).
[159] Ibid., p. 252.

This institutional control of Mexicanness is further criticised by Ruth Hellier-Tinoco[160] and Alex Saragoza,[161] who both discuss the relationship between tourism and the state. Hellier-Tinoco outlines the MNA's exhibition of indigenousness and Mexicanness that aimed for a homogenous national identity by utilising 'notions of authenticity, tradition, ritual, and ethnicity'.[162] The gathering-together of living pre-invasion traditions, along with archaeological artefacts, sought to achieve a shared idea of *mestizo* Mexico. She describes the use of performers of the *Danza de los Viejitos* (Dance of the Little Old Men, a P'urhépecha tradition which is performed in the towns and villages around Lake Pátzcuaro, Michoacán) in 1974 at MNA as a 'governmental exhibition of ethnicity … live models as a living diorama in an ethnographic display within a pan-indigenous framework.'[163] The performances, and the museum as a whole, were intended for national and international visitors to receive this assertion of Mexicanness.

Saragoza discusses the relationship between the institutional creation of national identity and the advent of tourism in the early- to mid-twentieth century. He broadens the displays of identity to include buildings and archaeological sites, as well as museums. As a result of the influx of tourists, Saragoza argues, the view of national identity became a 'generalized cultural binary of "them" and "us"' and he notes that local heritage was 'subsumed and selectively deployed' to create an 'inclusive narrative' of Mexicanness.[164] Shelley Garrigan charts this formation of a national identity from the late nineteenth century, when 'displays of collected things' created a strong sense of the nation at a time when Mexico was a newly-independent nation.[165]

Although state-sanctioned nationalism was borne of a need to assert a strong and homogenous identity, whether for political reasons or economic ones, Mexicanness consisted of a mixing of different cultures. There is a network of local museums in Mexico, comprising more than eleven thousand across the country, which are both federal (in that INAH oversees their work) and regionally autonomous. This programme of community museums in Mexico

---

[160] Ruth Hellier-Tinoco, *Embodying Mexico: Tourism, Nationalism and Performance* (New York: Oxford University Press, 2011).
[161] Alex Saragoza, 'The Selling of Mexico: Tourism and the State, 1929-1952', in Gilbert Joseph, Anne Rubenstein, and Eric Zolov (eds.), *Fragments of a Golden Age: The Politics of Culture in Mexico Since 1940* (Durham: Duke University Press, 2001), pp. 91-115.
[162] Hellier-Tinoco, *Embodying Mexico*, p. 149.
[163] Ibid.
[164] Saragoza, 'The Selling of Mexico', p. 109.
[165] Shelley E. Garrigan, *Collecting Mexico: Museums, Monuments, and the Creation of National Identity* (Minneapolis: University of Minnesota Press, 2012), p. 10.

reflects a *mestizo,* diverse national identity. This is represented in the institutional makeup of several National Museums, mainly in Mexico City, and a series of local museums. Erin Barnes notes that a commonality found in the national and local museums is that they display aspects of archaeology, popular culture, and history.[166] She further categorises them into local history museums (based on the model of national museums, showing pre-invasion artefacts, the Revolution, and local traditions), themed museums (focussing on, for example, a local pastime or industry), and 'cabinets of curiosity', which feature little interpretation or contextual information, and a vast assortment of objects.

Barnes outlines several benefits to this community museum model. The regions have choice and control over the display of their heritage; this is implemented on a 'bottom-up' basis, with support and training provided, community members 'actively influenced and participated in the process of creating museums.' Barnes reports that 'community cultural activists frequently speak of "rescuing" local customs'[167] – the formation of a museum highlights, commemorates, or revives particular craftwork, dances, or festivals.

Cuauhtémoc Camarena and Teresa Morales also write about Mexico's community museum programme, focussing on their experiences of working in Oaxaca's community museums. The authors provide a global perspective, placing the activities of the community museums in the wider discourse of globalisation, because '[g]lobalizing processes have confronted local communities with the need to invent new ways to maintain their unity and solidarity.'[168] They point out that the formation of regional community museums helps to reaffirm heterogeneity, in the face of danger of cultural grey-out. The network of community museums has not only enabled people to decide how their practices and artefacts are kept and displayed, but has also given them a community project, with all its accompanying benefits: 'the learning, the orientation, the motivation, the hope, the energy to continue.'[169]

---

[166] Erin Barnes, 'Mexico's National Program of Community Museums: Local Patrimonies in a Multicultural Mexico', *Museum History Journal*, 1:2 (2008), 209-234.
[167] Ibid., p. 217 and p. 220 respectively.
[168] Cuauhtémoc Camarena and Teresa Morales, 'Community Museums and Global Connections: The Union of Community Museums of Oaxaca,' in Ivan Karp, Corinne A. Kratz, Lynn Szwaja, and Tomás Ybarra-Frausto (eds.), *Museum Frictions: Public Cultures/Global Transformations* (Durham: Duke University Press, 2006), pp. 322-344, this citation from p. 341.
[169] Ibid.

4.D.iii. Decolonising and reindigenising the museum

In 'Curating Empire', Sarah Longair and John McAleer go beyond Cuno and MacGregor's treatment of museums as removed from imperial discourses.[170] Longair and McAleer discuss the individual contributions and personal connections that were involved in the formation of the collections that are the basis of our 'universal' museums. The collected objects are potent bearers of their imperial pasts, products of the negotiations between collectors, institutions and source communities. Recognising these relationships is the first step to decolonising museums.

When Clifford labelled Portland Museum a 'contact zone',[171] he described the activation of social relationships and the performance of culture involving museum staff and culture-bearers (elders from the Tlinglit community). This was the beginning of the contribution of Indigenous voices in that museum, and a way of redressing the balance of 'coercion, radical inequality, and intractable conflict' explained in Mary Louise Pratt's definition of the 'contact zone',[172] which Clifford then applied to museums.

In *Liberating Culture,* Christina Kreps advocates for the consideration of Indigenous models of museums, acknowledging that 'certain characteristics of indigenous museums, such as their exclusive or non-public nature, may run counter to the democratic ideals and public orientation of Western museums', but 'this should not disqualify their status as museums.'[173] Kreps goes on to describe the integration of Indigenous values into non-Indigenous museums. This has been achieved at the Museum of New Zealand Te Papa Tongarewa by implementing an 'institutionalization of the concept of biculturalism.'[174] This is both a theoretical change, and a practical one: for example, training Maori people in professional museum roles, and increasing their efforts to recruit Maori to museum roles. The museum also trained non-Maori staff in Indigenous protocols in relation to the collections and museum practice. In this context, the museum is local to both Maori and non-Maori people. In the case of the PCH

[170] Sarah Longair and John McAleer (eds.), *Curating Empire: Museums and the British Imperial Experience* (Manchester: University of Manchester Press, 2012).
[171] James Clifford, 'Museums as Contact Zones', in *Routes: Travel and Translation in the Late Twentieth Century* (Cambridge: Harvard University Press, 1997), pp. 188-219.
[172] Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London: Routledge, 1992), p. 6; quoted in Clifford, 'Museums as Contact Zones', p. 192.
[173] Christina Kreps, Liberating Culture: Cross-cultural Perspectives on Museums, Curation and Heritage Preservation (London: Routledge, 2003), p. 61.
[174] Ibid., p. 69.

collection, which has been far removed from its original culture, the bringing together of museum professionals and Indigenous knowledge is more difficult to administer.

The Museum of Archaeology and Anthropology at the University of Cambridge managed this by instigating a project based on their historical ethnographic south Indian collection. Indigenous artists were invited to respond to the collections, through commissioning new artworks, and hosting a series of workshops. The collaboration between source communities and museum curators enabled a rich connection which allowed for multiple perspectives. In the companion to the MAA exhibition 'Another India', Mark Elliott points out that the Indigenous voice can be difficult to define, damaging to the people it labels, or irrelevant in the context of fluidity and interaction.[175]

In her article about the National Museum of the American Indian, Claire Smith echoes Clifford when she explains one of the ways that the museum employed alternative exhibition practices: 'The usual design of Indigenous exhibits is shaped by an assumed division between "art" and "science", between aesthetic experiences and the study of ethnographic objects',[176] whereas the exhibits at NMAI 'convey the "big picture" whilst admitting the possibility of multivalent interpretations.'[177] Decolonising the museum here involves dismantling the conventional structures of classification in favour of using Indigenous presentations of history.

Daniela Ortiz writes about the 'Culture of Coloniality' in Barcelona and in Spain more generally; she makes the point that museums can cite their 'supposed political neutrality', and the idea that museums are impartial public institutions, as reasons to avoid real discourse on the contemporary effects of colonialism.[178] Ortiz focusses on the way that migrants are treated across Europe, and cites several examples of museum panel texts that enforce stereotypes, and examples of censorship. She declares that 'it [is] impossible to imagine how a process of decolonisation could take place simply through exhibitions, debates and talks

---

[175] Mark Elliott, *Another India: Explorations and Expressions of Indigenous South Asia* (Cambridge: Museum of Archaeology and Anthropology/Adivaani, 2017), p. 14.
[176] Claire Smith, 'Decolonising the Museum: The National Museum of the American Indian in Washington, DC', *Antiquity*, 79:304 (2005), 424-439, this citation from p. 429.
[177] Ibid., p. 430.
[178] Daniela Ortiz, 'The Culture of Coloniality', *Decolonising Museums* (Gothenburg: L'Internationale Books, 2015), pp. 96-103. Available online at <https://www.internationaleonline.org/library/#decolonising_museums>, last accessed 11 March 2020.

that regularly appear in their programmes of activities,' and advocates for cultural institutions to take much more of an activist stance against unfair migratory controls.

Ortiz's article demonstrates the tensions between not only the cosmopolitan, nationalist and Indigenous agendas, but also the institute directors, the contemporary artists who contribute to exhibits, and the organisations or governments who fund new exhibitions. The most ethical way to operate would be to find a balance between these agendas and stakeholders. This balance could be implemented by the institution, such as exhibitions, events, and research; museum workers could take a more political stance against injustices; or the museum could stand as a site in which visitors from different backgrounds curate their own experiences.

This chapter has shown how information about artefacts can be disseminated by various means. Firstly I considered the purpose of conservation, and whether artefacts should be used or not; I then discussed some approaches to dissemination that utilised musical artefacts in different ways, for example to explore the acoustics of place. Following this, I analysed exhibits of ancient Mexican objects in the changing dynamics of museum display practices. The final section of this chapter has provided context for the meanings and functions of museums. In the next chapter, I will focus my attention on the meanings and functions of Storiel, Gwynedd's county museum. I explore the situation of the PCH collection in Bangor, and its relationship to Storiel.

Chapter 5: Situating the collection

In Chapter 4, I discussed various ways that artefactual information can be disseminated. Here, I specifically investigate the use of the PCH collection. 5.A describes and evaluates my museum displays of the PCH objects; 5.B investigates the reception of these displays, and goes on to extrapolate the meaning of the displays and the collection within Bangor.

5.A. Displaying the PCH collection

The sites of my exhibits were a display case in the School of Music at Bangor University and a case in the foyer area of Storiel.

Date	**Title**	**Site**
September 2016–January 2017	The Many Faces of Mexican Music	School of Music
August 2017–April 2018	Notes from the Past	Storiel
January–June 2020	Cainc yr Adar – Birdsong	School of Music

The School of Music building is not a museum.[1] The display case was installed to exhibit various objects held by the School of Music; the PCH Mexican collection and Crossley-Holland's other items; the Welsh Pop Archive and Welsh Traditional Music Archive. These displays rotate on a six-month basis. The main purpose of this display case is to showcase the research activities of the School, through its artefacts. There are educational aims, in the context of the University; promotional aims, to visitors or prospective students; and aesthetic aims. The display case at Storiel is in the foyer to the museum, an area which also contains a smaller case for community projects, a reception desk, and the shop. Its exhibits utilise the University collections; this is often in the form of a theme, which is then displayed using objects from various collections (for example, the display 'Sea Life' contained objects about maritime history, natural history specimens of sea-dwelling creatures, ceramics depicting naval scenes, and paintings of related subjects). The display that preceded 'Notes from the Past' was titled 'Scales and Tails' and comprised reptiles from the natural history collection: skeletons and specimens preserved in jars of fluid. Displaying the PCH collection in this case meant that the objects had permission to be different from the social history and archaeology of the local area – the subject of the permanent exhibits at Storiel.

[1] Interestingly, however, its first use after being converted from a school was a museum, before the University purchased the building.

5.A.i. An ethnomusicological approach to the display of musical culture

My approach to creating these displays has been informed by my Master's thesis, in which I investigated ethnomusicological approaches to museum display of music and musical instruments.[2] I visited four museums around the United Kingdom and the Netherlands, all of which had extensive displays of musical artefacts: the National Museum of Scotland, Edinburgh; the Pitt Rivers Museum, Oxford; the Horniman Museum, London; and the Tropenmuseum, Amsterdam. My main conclusions were that there is common theoretical ground between ethnomusicology and museum display, and that several key concepts in ethnomusicology are exhibited in museum displays of music. Developments in ethnomusicological and museological research dovetailed, and elements of these synergies could be seen on display.

In museums and in ethnomusicological research, the emphasis has shifted from the artefacts alone to the human processes in which they are embedded. For example, musical instruments in the Horniman Museum are grouped by major events in human life - birth, childhood, marriage, death - which are explored through the lens of different cultures. This contrasts with grouping objects by their geographical origins, or their Hornbostel-Sachs classification: a typological approach which has its roots in natural history collections. There has also been a shift in museum display from static and text-based to more participatory and interactive.

In their chapter 'Museums are Good to Think: Heritage on View in India', Arjun Appadurai and Carol Breckenridge discuss various discourses that relate to the display of culture in museums. They focus on the decontextualisation and recontextualisation of objects, from their origins to their display, emphasising the 'tension between the dynamic contexts from which objects were originally derived and the static tendencies inherent to museum environments.'[3] In order to offset some of these static tendencies, the museums which I visited during my Master's research encouraged musical participation alongside their exhibits. At the National Museum of Scotland, there are several musical instruments placed around the gallery, which visitors were invited to play. They were created by an artist and

[2] Christina Homer, *Music in the Museum: An Ethnomusicological Approach to the Display of Musical Culture* (MusM Dissertation, University of Manchester, 2014).
[3] Arjun Appadurai and Carol A. Breckenridge, 'Museums are Good to Think: Heritage on View in India', in Ivan Karp, Christina Mullen Kreamer, and Steven D. Lavine (eds.), *Museums and Communities: The Politics of Public Culture* (Washington, D.C.: Smithsonian Institution Press, 1992), pp. 34-55, this citation from p. 37.

inspired by objects in the gallery, but are invented instruments which were built to purpose.[4] There is also a console with musical samples (from the museum's archives), designated 'world music composer'.[5] Visitors can choose and arrange the short musical clips and create a collage of sounds from around the world. At the Horniman, there is a room dedicated to replica instruments with panels showing instructions and contextual information, where visitors can strike or scrape or pluck those instruments which are displayed in the room next door. At the Tropenmuseum, there are several booths around the edges of the musical instruments gallery. Visitors can enter the booths and watch video tutorials which teach various styles, including Swiss yodelling and Tibetan overtone singing. Another booth encourages visitors to record themselves singing a song, especially one from their childhood or from their cultural background. The participatory music-making (or sound-making) turns the museum gallery into a site of production, and although the instruments on display are themselves not activated, they are passively involved in music-making processes.

5.A.ii. Museum display and partial truths

In the latter part of the twentieth century, scholarship turned towards reflexivity, whereby the politics of collecting, colonialism, and Western hegemony are discussed and put on display. This can presented via text panels in museum exhibits, although there are other approaches (for example, the Pitt Rivers also displays personal objects relating to the lives of collectors). There was a similar turn towards reflexivity in anthropological and ethnomusicological writing. Another parallel between museum display and ethnography is the choices that are made in order to represent culture; the selection of objects for museum display is analogous to the selection process for writing ethnography. Both are subjective processes, resulting in partial truths – what James Clifford calls 'powerful "lies" of exclusion and rhetoric.'[6] In the case of the PCH collection, the ancient cultures which are represented have already been whittled down, by the process of removing them from their 'webs of culture', which is how Clifford Geertz describes the complex entanglements of meaning that 'man … himself has spun.'[7] In ethnomusicological research, the investigation of music in culture, or musical

[4] National Museums Scotland, 'Victor Gama's Instruments', <https://www.nms.ac.uk/explore-our-collections/stories/world-cultures/victor-gamas-instruments>, last accessed 5 March 2020.
[5] National Museums Scotland, 'World Music Composer', <https://www.nms.ac.uk/explore-our-collections/games/world-music-composer/>, last accessed 5 March 2020.
[6] James Clifford, 'Introduction: Partial Truths', in James Clifford and George E. Marcus (eds.), *Writing Culture: The Poetics and Politics of Ethnography* (Berkeley: University of California Press, 1986), pp. 1-26, this citation from p. 7.
[7] Clifford Geertz, *The Interpretation of Cultures* (London: Hutchinson, 1975), p. 5.

culture, can be performed through fieldwork and ethnography. Geertz explains that ethnography is necessarily an interpretative act, and the process of doing ethnography should be examined.[8] It is impossible to carry out field research for cultures which are thousands of years old, and so it is impossible for any of my displays to be truly ethnographic (although ethnographic *analogy* can be used). However, a museum display tells a certain story of a culture, whether contemporary or ancient, through its objects. Clifford makes the point that written ethnography is a sort of fiction, which he explains using the phrase 'ethnographic allegory.' Reflexive museum exhibits can utilise ethnographic allegory, which as Clifford explains, 'prompts us to say of any cultural description not "this represents, or symbolizes that", but "this is a (morally charged) *story* about that."'[9] This story is told through object selection, presentation, exhibition design, and through the writing of museum texts, which has its own structure, form, and rhetorical style different from that of ethnographic writing. The reflexive museum exhibits the process of displaying culture, as well as the material representations.

For the museum exhibits, I presented only a small proportion of the PCH collection. This is akin to writing 'thin description', which Geertz explains by describing a vignette in which three boys are repeatedly twitching one of their eyes. Depending on the interpretation of this act, the situation could be described as someone 'rapidly contracting his right eyelids', or with a 'thick description' based upon greater knowledge of the situation, the actors, the group dynamics, and the nuances of communication: 'practising a burlesque of a friend faking a wink to deceive an innocent into thinking a conspiracy is in motion.'[10] My own exhibits display a development from thinner to thicker displaying practices. I installed the first display before I had spent time 'in the field'; in my case, the field was the archive, and the practice of meeting the objects, learning their relationships to each other, and understanding the meaning of the collection. In retrospect, it is an exhibit of an allegory of west Mexican culture. By the time that I installed the third display, I had a greater comprehension of the collection and its constituents, and I intended for the exhibit to be a representation of the collection and of its origins, which, if not more accurate, was at least more coherent.

---

[8] Ibid.
[9] James Clifford, 'On Ethnographic Allegory', in James Clifford and George E. Marcus (eds.), *Writing Culture: The Poetics and Politics of Ethnography* (Berkeley: University of California Press, 1986), pp. 98-121, this citation from p. 100.
[10] Geertz, *The Interpretation of Cultures*, p. 7.

My Master's research mainly concerned museums with contemporary collections or those from recent history: musical instrument collections in museums are often based upon ethnomusicological fieldwork, or private collections from the last century. It was relatively unproblematic for the museum curators to link the musical instruments with current practice, or historic sound recordings. For example, the Horniman displayed videos of their instruments being played, and the Pitt Rivers had an audio-guide in which music examples were played alongside a verbal explanation of the instruments' cultural context. In the case of the Mexican instruments in Crossley-Holland's collection, they are so far removed from their original culture that it is difficult to include appropriate sonic or musical elements into a display of ancient musical instruments. Any curator of a PCH exhibition must decide on a balance between displaying the musicality of the objects and their cultural origins, and consider this alongside the continuum of thin and thick depiction.

In her chapter 'Museums, Galleries and Heritage: Sites of Meaning-making and Communication', Rhiannon Mason posits that museum, gallery and heritage professionals are 'producers and consumers of meaning'.[11] She notes that 'the ways in which the various components [artefacts, exhibition design, text panels, events] are selected and combined will provide different results in terms of what a site of exhibition will communicate to its visitor.'[12] With this in mind, I describe the three exhibits that I produced, with different aspects of meaning on display in each.

5.A.iii. Exhibiting the PCH collection

Bilingual museum panels

Bangor University and Storiel are both bilingual institutions. Welsh appears first on public notices, followed by English. This means that there is twice as much text on display. As Claire Champ points out in her article suggesting best practice for bilingual museum display, it is important to ensure accessibility by creating clear, legible panels; accessibility in the sense that visitors can 'consistently and easily find their preferred language',[13] as well as being accessible to visitors with visual impairments.

---

[11] Rhiannon Mason, 'Museums, Galleries and Heritage: Sites of Meaning-making and Communication', in Gerard Corsane (ed.), *Heritage, Museums and Galleries: An Introductory Reader* (London: Routledge, 2005), pp. 200-214, this citation from p. 203.
[12] Ibid.
[13] Claire Champ, 'Best Practices in Bilingual Exhibition Text: Lessons from a Bilingual Museum', *Exhibition*, 35:1 (2016), 42-48, this citation from p. 46.

Champ works at the Canadian History Museum in Quebec. French and English are the official languages, with French appearing first as it is the primary language in that province. Both languages are to be displayed equally, and Champ posits that it is best to use the same colour, to avoid disparity. In Storiel, different colours are sometimes used, for example in my display 'Notes from the Past.' At the University, general practice is to use the same font, size and colour for both languages, with Welsh displayed first. Welsh language policy for both institutions states that bilingual signs and notices must be used. Gwynedd Council's policy, implemented by Storiel, is to give priority to the Welsh language; Welsh text will be placed above English text or Welsh on the left and English on the right. This is to reflect the Council's commitment to 'reflect the fact that Welsh is the operational language of the of the Council and the natural language of most of the population.'[14] Council policy states that text should be 'equal in size, form, quality and clarity.'[15] In the case of 'Notes from the Past', there was a relatively large amount of text. Using slightly different colours for Welsh and English text, in that case, helped to counter the effect on the visitor of being faced by too much text, as it was more obvious that they would only have to read half of it, unless they chose otherwise. Storiel suggested a maximum of two hundred words of text per panel (in each language), and approximately fifty words for the title panel. Champ's advice is also for fifty words for introductory text, and seventy-five for artefact labels. I did not use artefact labels; instead, for 'Notes from the Past' and 'Many Faces', I had a separate leaflet which provided extra information about each artefact, and the in-case text panels provided context and interpretation. There were two versions of the leaflet: Welsh and English. For 'Birdsong', I displayed the captions inside the case, as I had designed the exhibit to allow enough space.

Erica Kelly and Amparo Leyman Pino discuss the San Diego Natural History Museum's commitment to bilingual (Spanish and English) exhibitions. The difference in that museum is that there is no official bilingual policy; the museum decided to offer Spanish and English language text because they 'serve a diverse community in an international border region where a significant percentage of the population is more comfortable speaking and reading Spanish than English.'[16] The importance of the bilingual policy is to promote inclusion, with the emphasis on use of two languages. Visitors can choose to read both languages, increasing

[14] Gwynedd Council, 'Gwynedd Council Welsh Language Policy 2016', 2016, <https://www.gwynedd.llyw.cymru/en/Council/Documents---Council/Strategies-and-policies/Language-Standards-and-Policy/Language-Policy-2016.pdf>, last accessed 6 March 2020.
[15] Ibid.
[16] Erica Kelly and Amparo Leyman Pino, 'Beyond Translation: Towards Better Bilingual Exhibitions', *Exhibition*, 35:1 (2016), 49-54, this citation from p. 50.

their understanding by being able to compare translations, or choose to read their more natural language. Kelly and Leyman Pino note that '[p]roviding equal access to both languages in one label facilitates social interaction for groups that may include both Spanish and English speakers at different levels of language proficiency.'[17] This rang true with me as I developed the exhibit; my bilingual friends discussed with me and each other the nuances of language, and cultural differences reflected in English and Welsh, which benefitted me as a Welsh learner, and benefitted them as getting to know their languages in a different way. The interactions took place in the design phase as well as in the museum space, showing an unexpected social outcome for the display.

'The Many Faces of Mexican Music'

Display in Bangor University School of Music, September 2016–January 2017.

Figure 48: Display of PCH artefacts, 'The Many Faces of Ancient Mexican Music'. Photograph my own.

Figure 49: Position of the display case in the School of Music foyer. Photograph my own.

[17] Ibid., p. 51.

Figure 50: Alternative view of 'Many Faces'. Photograph my own.

This was the first display of the PCH collection since it moved to Bangor University in 2003. There was a limit on space; only one case, with adjustable shelves. There was very little funding available, so the signs and numbering system were homemade. Storiel provided mounts for some of the objects, and specialist mounts were made for two of the instruments. The collections manager at Storiel supervised handling and moving the objects from their store, and provided advice for the design of the display, and I also utilised guidelines shared by Glasgow Museums and the Smithsonian Institute.[18]

As this was the first public display of the objects, I wanted to showcase the heterogeneity of the instruments and their cultures of origin. Another concern was to make a visually interesting display, showcasing their great artisanship, especially as its premiere was during a celebration of the opening of the newly-refurbished building. From the the 329 objects in the collection, I needed to select approximately 30 for the exhibit.

[18] Glasgow Museums, 'A Practical Guide for Exhibitions', <https://www.britishcouncil.in/sites/default/files/guidelines_for_museum_display.pdf>, last assessed 7 January 2020; Janice Majewski, 'Smithsonian Guidelines for Accessible Exhibition Design', Smithsonian Institute, https://www.si.edu/Accessibility/SGAED>, last accessed 6 September 2016.

From my work with Crossley-Holland's catalogues, several themes presented themselves which transcended geographical and temporal boundaries. For the purposes of the display, I used three of these themes on three shelves of the case.

- On the highest shelf: 'Performing Identity', which utilised figurines of musicians.
- On the next shelf: 'Expressions of Culture', which consisted of musical artefacts which related strongly to an aspect of their original culture, particularly costumes, or representations of animals.
- On the lowest shelf: 'Sonic Mysteries', objects which are recognisably musical instruments.

My intention with this organisation was to move away from Crossley-Holland's classification of artefacts by geographic zone; a system which I felt was arbitrary, since the modern-day names for the states of western Mexico do not correspond to their ancient cultures. I also decided to omit the Hornbostel-Sachs classification. While some museum displays do show Hornbostel-Sachs categories, I felt that it was unnecessary for this display because they were all very similar.

I included a list of the artefacts which stated their area of origin, their approximate date, the material and manufacture, and a short caption with information about design or iconography. This list was kept outside the case, so visitors could read more information about the origins of the artefacts as well as viewing them without too much accompanying text. In her article 'Decolonising the Museum',[19] Claire Smith describes an exhibit of masks and figurines at the National Museum of the American Indian, which displays the objects in rows, without labels or captions. Smith explains how this shows the 'enduring, though changing, relations between these Indigenous groups…The visual message is of cultural diversity.'[20] I am ambivalent about whether this was effective in the context of my display in the School of Music. On one hand, it has a similar purpose to the exhibit at NMAI: 'By failing to provide easy resolution in the forms of labels and provenance, the mind is directed towards consideration of the links between each object.'[21] On the other hand, the exhibit at NMAI is part of a whole museum of information about Indigenous cultures, and so Indigenous

[19] Claire Smith, 'Decolonising the Museum: The National Museum of the American Indian in Washington, DC', *Antiquity*, 79: 304 (2005), 424-439.
[20] Ibid., p. 429.
[21] Ibid.

knowledge can be transferred via other means. At the School of Music, the display case may have looked intriguing, but without contextual information, the objects have little meaning from the perspective of the largely British visitors.[22]

I wrote a description of the theme for each shelf, and on the uppermost shelf I displayed information about Crossley-Holland and how the collection came to be in Bangor, and a map of Mexico showing the western states. The caption that explained each theme considered the musical knowledge of the majority of the visitors to the display, particularly the text titled 'Sonic Mysteries'.

The presentation of the display was timed to be included in the celebrations around the opening of the newly-refurbished building. As such, the PCH objects were seen by many outside visitors as well as current staff and students. I created an online questionnaire, which was emailed to everyone in the School of Music, asking for feedback on this display. The questionnaire also asked if any of the artefacts stood out. The response to the survey was low, but the consensus was that it was an interesting and different display; that it was surprising that the School of Music owned such a collection; and that one particular object with a pronounced phallus was the most memorable. Another comment was that the objects look quite similar – they are all a similar size, material and colour – so the display could have been improved with more differentiation among the objects.

'Notes from the Past'

Display in Storiel, August 2017–April 2018.

The theme for 'Notes from the Past' was music and nature, so it was based on the objects which showed animal or plant imagery, or those made from shells. I chose 60 objects from the collection for this display. The exhibition case was very large, and many of the objects in the PCH are very small. Storiel's collections manager assessed the condition of my picks, and 44 were ultimately displayed.

[22] There is a sizeable number of international students of music at Bangor, many of whom are from China.

Figure 51: Display of PCH artefacts at Storiel. Photograph my own.

Figure 52: Alternative view. Photograph my own.

During the development of this exhibit, it was a challenge to balance the practicalities of museum display with my academic intentions. The display was for an audience of various ages and backgrounds, so the text needed to be comprehensible, as well as educational and engaging. The panels were bilingual, so I tried to keep the captions brief, aware that there would be twice as much text on display. My main intentions were to emphasise the musicality of the artefacts, and show how music and culture intertwine. I had planned to incorporate an image of the World Tree, and use that as a key part of the display – but in fact, the design of the display changed drastically once the objects were in the case. This was mainly because the specialist mount for the vertical flutes was manufactured incorrectly, with the vertical and horizontal measurements switched, meaning the display needed to incorporate a very tall mount rather than a wide and shallow one!

Following criticism of the 'Many Faces' display, I ensured that the objects on display in 'Notes from the Past' were easy to distinguish, and represented a variety of styles, shapes and sizes. I also ensured there were different materials on display: ceramic and shell.

Figure 53: Close-ups of parts of the display, 'Notes from the Past'. Photographs my own.

The design of the panels utilised an artist's rendering of a pattern from one of the conch shell trumpets.[23] I based the colours on the pottery, and with shades that contrasted brightly. I also included large images of some of the PCH artefacts. One of the panels, displayed outside the case, explained the collection's arrival in Bangor and showed a photograph of Crossley-Holland. The text of the panels inside the case covered the musical and cultural aspects of the artefacts on display: one focussed on the animal and plant imagery, and the other on their use as musical instruments (see Figure 54). I also prepared a leaflet with a map of Mexico, an image of the World Tree artefact, and information about the origin of each object on display.

I interviewed several visitors to Storiel, mainly about their perception of the museum's place in Bangor and its representation of local identity. I will provide details of these interviews later in this chapter, but many of the people I spoke to had feedback about 'Notes from the Past' which I will include here. Some feedback was quite specific to personal tastes: for example, that the display would suit its own room, with lower lighting than the rest of the museum. There was a Welsh language and an English version of the leaflet, which were displayed next to the case with a few copies of each version. The intention was for visitors to read the leaflet while they were there, but people must have been taking them as a souvenir,

[23] The artist was Emma Hobbins, who works at Storiel in exhibition development.

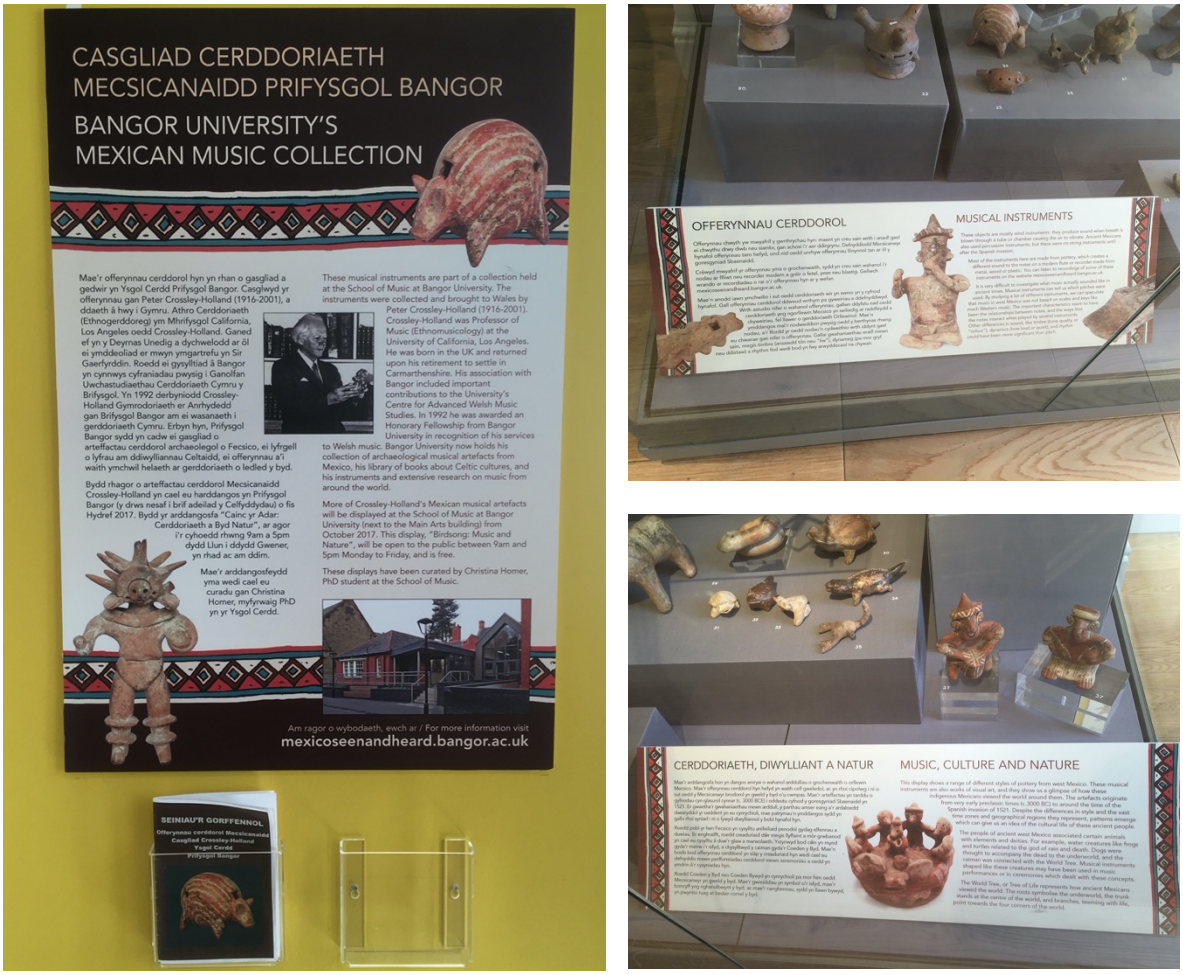


Figure 54: Text panels from 'Notes from the Past'. Photographs my own.

because I was told by several English-speaking visitors that they were unable to read a copy as there were only Welsh versions left. The stand for the leaflets was to the side and slightly behind the display case, which was not ideal, as many visitors missed it. This meant that the numbers inside the case did not make sense unless the visitor happened to spot the stand with leaflets. In particular, it was difficult to show the specific regions and times from which each object originated without the leaflet. For future displays, I would group the objects by their area of origin and time period to which they belong, as well as by theme.

Positive feedback included the fact that the display was very eye-catching, due to the colours, design, and intriguing shapes of the instruments. The information was pitched at the right level: one visitor felt that the text explained well how the instruments could represent music and culture in ancient Mexico. Several visitors wanted to see more, and felt that there could be more space dedicated to the collection, with more accompanying information. Almost all visitors came away with more questions about the objects than could be answered in a short text panel.

'Cainc yr Adar – Birdsong'

Display in Bangor University School of Music, January–June 2020.

Figure 55: 'Birdsong' display. Photograph my own.

This display was originally planned to coincide with the 'Notes from the Past' display in Storiel. Unfortunately, there was a serious problem with room in which the collection is stored, which meant the collection had to be moved and stored elsewhere while restorative work was undertaken. This display comprised objects which complemented the Storiel exhibit, and were intended to mainly be birds (hence the title). As the display in Storiel did not ultimately include the World Tree image, it seemed a good opportunity to utilise that. In fact, the title became more apt: the Welsh title, *Cainc yr Adar,* literally means 'branches of the birds,' but *cainc* can also be used as an archaic term for a song or the root or origin of something. My decision to use different titles in Welsh and English stemmed from the fact that my previous displays had all been based on English titles, which I had to get translated, so the plays on words were not as intrinsically effective. 'Cainc yr Adar' is a term which was explained to me by a native Welsh speaker, and is a phrase that allows Welsh visitors to draw on their own cultural experiences and feel more connected with the display.

This case was arranged, similarly to 'Many Faces', with a different theme on each shelf. These related to the World Tree, so the highest shelf comprised bird-related objects, connected with the branches and sky; the middle shelf, humans and mammals, which occupy the earth; and the lower shelf contained reptiles and water-related artefacts, which are associated with the roots of the tree and the underworld. A large image of the World Tree was also displayed in the case. One text panel from 'Notes from the Past' was reused for this display, explaining the connection between music, nature and culture. Additional panels in the case described the different places cultures and periods which the objects represented.

Figure 56: PCH artefacts in the display case (photograph on the left). Close up on the Colima dogs from the second self of the case (upper right) and turtle and lizards from the bottom shelf (lower right). Photographs my own.

Again, I gathered responses using an anonymous online survey, with more open questions and space for comments than in the previous survey. This engendered more useful feedback. One respondent commented perspicaciously that 'The display felt a but [sic] colonial in its presentation, not enough context, I felt I was looking at stolen objects'; another reported that 'I glanced at it, thought, this is cool, but why isn't it related to Wales somehow? Then I quickly lost interest. I was confused about the Mexican aspect.' The same respondent later commented that 'It [the same display case] used to be about Welsh harpists, which made sense considering the location of the university. I have nothing against the display, it's interesting and informative, but ... it just seemed out of place.' The previous display which

the respondent mentions was also about Crossley-Holland, whose contemporary music collection contains a harp, which I put on display along with books and manuscripts from his library. The harp was actually a clarsach, a reinvented mediaeval Irish-style harp made in England by Arnold Dolmetsch in the 1930s.

To alleviate the problem of the display's 'colonial' presentation, I could have added more information about the politics and ethics of collecting, the ownership of cultural property, the archaeological context, and the issues around looting and the loss of heritage, but space is at a premium, and I felt that it was more important to provide information about the original cultures than to focus on the activities of Crossley-Holland and the debate over whether the collection is in an appropriate place. With more space, and more resources, I would have liked to have created a more interactive and discursive set of displays, which could enable discussion of these crucial issues. Were it not for the Covid-19 pandemic, which caused the cessation of all face-to-face activities, I would have liked to have hosted events in which these issues could have been explored.

Other comments from the survey mentioned that the artefacts were 'interesting', 'fascinating', 'unusual', 'informative and 'different'; the layout of the display was noted as 'beautifully presented', 'well laid out', 'uncluttered' and with 'just the right amount [of accompanying information] to gain an understanding of what they where [sic] without being too long to bother reading properly.' One person thought it was 'great to be able to have access to them and view them every day.'

One of the challenges in creating these displays was to properly convey the circumstances of their collection, their connection to the area through Crossley-Holland, as well as the most significant aspect – their original cultural contexts. One respondent suggested that the audio examples would have improved the display, but of course, this only adds contextual information if the music played is of cultural significance. Playing the sounds alone would be another interesting dimension, but would also require more textual information, in a display where space is already limited.

5.A.iv. Creating a musical display with ancient objects

I began with a description of some museums' ethnomusicological approaches to displaying musical culture. In the last chapter, I explored some of the ways that museums can use artefacts to invoke practice, without necessarily displaying them. My display cases have

included musical information in various ways: by displaying Crossley-Holland's transcriptions of the instrument's pitches, and by using text panels to describe the basis of music archaeology. Activities outside of the displays were more successful ways to utilise ethnomusicological research: the accompanying website, which gave visitors the chance to hear sound recordings of the instruments; a performance at the site of the display case; and 3D printing (as described in Chapter 4 above). In the next section, I focus in greater detail on the situation of 'Notes from the Past' in Storiel.

5.B. The place of the PCH collection

5.B.i. 'Across the world and across the street'[24]

Storiel is a local museum with international connections, in a nation with a strong sense of local identity on a national scale; it is an art gallery, a meeting place, a showcase of Bangor's social history and its ever-changing international community. Storiel incorporates each of these definitions and concepts. Its label as a 'local' museum obscures the multiplicity of the cultures it represents. Another definition needs to be presented which can allow for these multiple allegiances, and recognises their mutability. My solution is to proffer Storiel as a *glocal* museum. Robertson discusses the term 'glocalization' noting its inception as a marketing tactic: the global village allows the comforts or cultures of home to be available worldwide ('with satellite television, you never know you left home').[25] Robertson points out that the apparent dichotomy of locality and globality is actually a complex web, and that choice plays a large part in the meaning of locality; in the case of Storiel, choices made by curators, policy-makers, and museums visitors. This section explores how Storiel represents local identities, how it deals with the cosmopolitan, and whether it could effectively represent both: how it can 'engage with difference across the world and across the street.'[26]

This section also offers contextualisation of the PCH collection, through a particular display, 'Notes from the Past'. I consider the place of the collection in this glocal museum, and consequently, offer an insight into the future use of the PCH collection in its current situation. I conducted a series of interviews to investigate visitors' perceptions of Storiel's role, its

[24] Peggy Levitt, *Artifacts and Allegiances: How Museums Put the Nation and the World on Display* (Oakland: University of California Press, 2015), p. 5.
[25] Roland Robertson, *Globalization: Social Theory and Glocal Culture* (London: SAGE Publications, 1992), p. 174.
[26] Levitt, Artifacts and Allegiances, p. 5.

representation of local, national and global identities, and whether 'Notes from the Past' belonged in Storiel.

The idea of nation-building in Welsh museums has been discussed by Mason;[27] Bennett has investigated the politics of exhibition;[28] Kaplan demonstrates how museums can make and remake national identity;[29] and Levitt explores the ideas of nationalism, localism and cosmopolitanism in museums in Denmark, the United States, Singapore, and Qatar.[30] She describes museums as being on a 'cosmopolitan-nationalism spectrum'.[31] Rather than a spectrum, I suggest that museums are webs of cosmopolitan, nationalist and local significance.

Method

The display 'Notes from the Past' was exhibited in Storiel for approximately six months. I asked volunteers to visit Storiel in their own time, while this display was present. At a convenient time after their visit (either later that day or within two weeks hence), I met the visitor for coffee and a conversation about their visit. I recruited volunteers from the Bangor University community: students, staff, and local people connected with the University. Sixteen people responded to my email, which was circulated to all University departments' staff and students. Four additional volunteers heard about my project by word of mouth and contacted me themselves. Four of the original group did not participate in the project beyond the initial email contact; sixteen volunteers proceeded to the museum visit and subsequent discussion.

The variance in the volunteers' backgrounds was limited; this was largely due to my methods of recruitment. This amplified the proportion of young people and undergraduate students in the group. As all the volunteers were connected with the University, their socio-economic backgrounds may be described as middle-class. The volunteers who were not directly recruited via University email were alumni or retired University workers.

---

[27] Rhiannon Mason, *Museums, Nations, Identities: Wales and its National Museums* (Cardiff: University of Wales Press, 2007).
[28] Tony Bennett, *The Birth of the Museum: History, Theory, Politics* (London: Routledge, 1995).
[29] Flora *Edouwaye* S. Kaplan, 'Making and Remaking National Identities', in Sharon Macdonald (ed.), *A Companion to Museum Studies* (Chichester: Wiley-Blackwell, 2011), pp. 152-169.
[30] Levitt, *Artifacts and Allegiances.*
[31] Ibid., p. 83.

Age	Origin*	Residence	Occupation	Welsh language ability†
<20: 2 20s: 8 30s: 2 50s: 1 60s: 3	Wales: 6 *Bangor: 1* *Gwynedd, excluding Bangor: 1* *North Wales, excluding Gwynedd: 2* *Mid Wales: 2* England: 4 Other countries (EU): 5 Other countries (non-EU): 1	Bangor: 8 *Visiting student: 2* *Long-term resident: 6* Gwynedd, excluding Bangor: 3 North Wales, excluding Gwynedd: 5	Student: 9 *Undergraduate: 6* *Postgraduate: 3* Lecturer: 2 Other University occupation: 1 Non-University occupation: 2 Retired: 2	Native: 5 Fluent: 1 Learner: 5 None: 5

Figure 57: Volunteers' background information.

* I have intentionally not labelled this column "nationality". I do not wish to disclose the countries from which overseas volunteers hail; in a small community such as Bangor, this information could indicate their identity and waive their right to anonymity. Additionally, the question of nationality can be complicated – here, I indicate in which country the volunteer was born and/or spent most of their childhood. I discussed nuances of nationality and national identity within the interviews.

† Categories determined in interview. Native Welsh: born in Wales and brought up speaking Welsh, with Welsh-speaking parents. Fluent Welsh: Welsh learner who uses Welsh at work and in everyday life to a high standard. Welsh learner: beginner or less well-practised speaker. Non-Welsh: no Welsh-language knowledge.

After each volunteer visited the museum, I conducted a largely unstructured, conversational interview with them. I outlaid my aims for the interview at the outset; namely, that I would like them to relate their impressions of Storiel and 'Notes from the Past', their experience of living in or near Bangor, and their personal histories. From that point, I mostly allowed the interlocutor to guide the conversation. This allowed certain issues which the volunteers valued to be brought to the forefront, rather than imposing upon them the issues which I felt to be most significant. The interviews were conducted one-to-one, except for in the case of two volunteers, who were friends and visited Storiel together, and preferred to be interviewed together. The shortest interview lasted approximately 35 minutes; the longest, an hour and 30 minutes. The average was 45-50 minutes. The anonymity of my interlocutors has been protected by pseudonyms, and some minor details have been changed to avoid identification. In these interviews, I was discerning what Storiel is as a museum and what visitors' expectations are of their visit; and how the PCH collection, displayed through one exhibition, 'Notes from the Past', fits in.

Thematic analysis

The interview transcriptions gave rise to nine themes which can be grouped into three categories: 'individual experiences and identity', 'what a museum is' and 'comments specific to one display'. These themes relate to my initial questions, but were generated from the words of the interviewees rather than my own input to the conversation.

Etic and emic knowledge interplays within these themes. Conversation about museum display and the role of museums in society leans towards the etic, and the life stories and identities towards the emic. The creation of Storiel's role, and more broadly what a museum is, is dependent upon the interlacing of individual experiences and institutional structures, of micro details and macro systems.

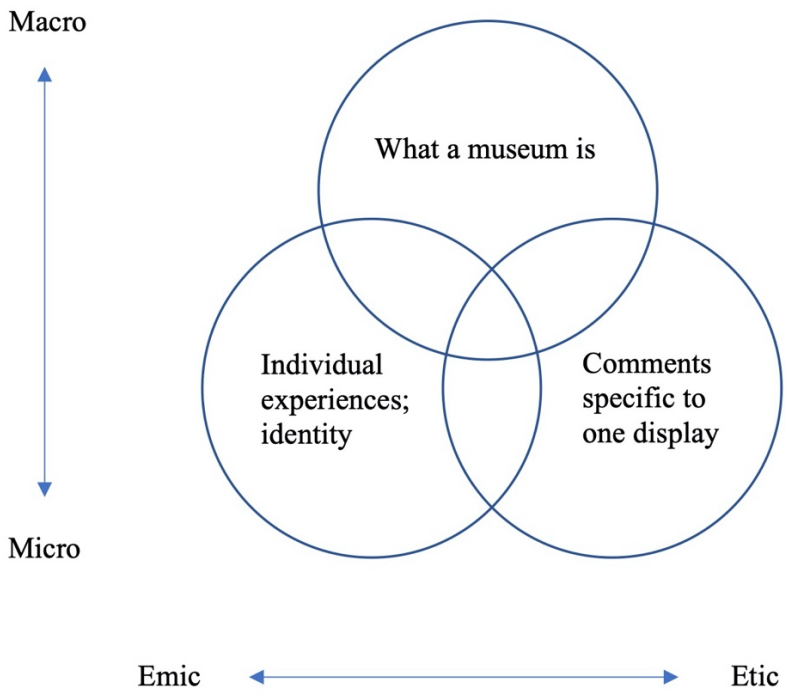


Figure 58: Categories of thematic analysis.

The themes which I analyse within this framework require contextual information, so in sections 5.B.ii and 5.B.iii I present this background before discussing the interviewees' responses.

5.B.ii. Representing the local: Bangor, Gwynedd, and Wales's 'national-local' identity

This section is about Storiel, its roles and allegiances; and about Bangor, the city in which Storiel resides. It discusses the multiple allegiances that co-exist within the cultures that

Storiel represents, and in the communities that it serves. The city of Bangor is one of dualities: cosmopolitanism and local identity, Welsh and English languages, a University city and an EU Objective 1 area of social deprivation. The museum responds to and reflects this dualism through its displays and its community engagement programmes.

Storiel is a local museum, based upon social history collections, as well as colonial University collections from around the world, and archaeological collections showing international contact from Roman times. Significant interpretations in Storiel centre on the city's institutions (the police, the University); its cultural idioms (the eisteddfodau; the king of Enlli's crown); objects from daily life in the nineteenth century (furniture and clothing); industry and technology (the Great Strike, Telford's Menai Bridge); Roman archaeology from Segontium, a fort near Caernarfon, and other local Roman sites. There is a large space dedicated to showing artwork, usually by local artists. There is also a schedule of special temporary exhibitions, for example one based on the Welsh Not, and artist Paul Davies's Welsh Not lovespoon, created for the 1977 National Eisteddfod. Another focussed on the fiftieth anniversary of record company Sain. Two recent exhibitions utilised existing collections, but were re-interpreted: one on Victoriana, and another on how the nineteenth century collections can reflect aspects of LBGTQ+ and gender issues.[32]

Levitt argues that museums build citizens, and museums are shaped by the 'cultural armature' of their cities.[33] My investigations in Bangor suggested that citizens build the museum as well; the citizens and visitors to the museum act in symbiosis with the 'city's social and cultural policies, history and institutions'.[34] Depending on its visitor's perception, Storiel can be a museum very specific to Bangor, and not to a village twenty miles away; a site of national identity and the creation of Welsh identity through Welsh language; and a generic social history of nineteenth century Europe. Mary Douglas argues that 'an institution is only a convention'[35] and that social institutions and individual cognitive processes work in symbiosis. The institution of a museum is understood to be so by the people who use it; the people are taught how to understand a museum by the institution that founded it.

[32] Storiel, 'What's On', <https://www.storiel.cymru/whats-on/>, last accessed 17 February 2020.
[33] Levitt, *Artifacts and Allegiances*, p. 3.
[34] Ibid.
[35] Mary Douglas, *How Institutions Think* (London: Routledge & Kegan Paul Ltd., 1987), p. 46.

Bangor and Gwynedd

As investigated in *The Anthropology of Space and Place*, the impact of place has been overlooked in anthropological research, in favour of discussing voice (of the ethnographer or the subject).[36] Margaret Rodman posits that 'polysemic places bespeak people's practices, their history, their conflicts, their accomplishments.'[37] Polysemy in Bangor can be represented by buildings, objects, performance, the environment, and so on. These meanings can be displayed in Storiel, and the polysemy manifests in different interpretations by curators and museum visitors. The museum itself stands as part of the larger picture of the sense of the place. Visitors to Bangor may discover aspects of social history through the objects and texts in Storiel, but simultaneously build their impression of the culture of the city and the area through experiencing it. As Annika (20s, from an EU country, living in Bangor, undergraduate, non-Welsh-speaker), one of the museum visitors I interviewed, pointed out, visiting Storiel is 'adding to the map in my head.' The building is a palimpsest of its religious, political and institutional past.

Storiel is situated in Bangor, *Dinas Dysg*, the City of Learning, which has a population of nearly 19000; approximately 10000 of whom are students. 50 percent of residents can speak or understand Welsh, compared with 70 percent in the county of Gwynedd as a whole, and 25 percent across Wales nationally.[38] A cultural corridor bisects the city centre, comprising the sixth century cathedral, the newly-refurbished museum, and the arts centre Pontio; these are overlooked by the neo-gothic University building *y Coleg ar y Bryn* (the College on the Hill).[39] The High Street lies perpendicular, the longest in Wales, with one in five of its retail lots empty.[40]

A few miles from Bangor, the Penrhyn slate quarry was the centre of local histories and controversy; notably, the Great Strike from 1900 to 1903, which was a significant event

---

[36] Setha M. Low and Denise Lawrence-Zúñiga, 'Locating Culture', in Setha M. Low and Denise Lawrence-Zúñiga (eds.), *The Anthropology of Space and Place: Locating Culture* (Malden: Blackwell Publishers, 2003), pp. 1-48, this citation from p. 15.
[37] Margaret Rodman, 'Empowering Place: Multilocality and Multivocality', in Setha M. Low and Denise Lawrence-Zúñiga (eds.), *The Anthropology of Space and Place: Locating Culture* (Malden: Blackwell Publishers, 2003), pp. 204-224, this citation from p. 214.
[38] Based on statistics taken from the 2011 national census.
[39] 'Coleg a osodwyd ar fryn ydyw hwn / Ac un na ellir ei guddio. / Breuddwyd ydyw. / Delfryd ydyw.' ('This is a college that is set on a hill / And is one that cannot be hidden. / It is a dream. / It is a vision.') Gwyn Thomas, 'Y Coleg Ar y Bryn' ('The College on the Hill'). Excerpt of a poem which is inscribed on a wall at the Main Library at Bangor University, written to mark the centenary of the Main Arts Building in 2007.
[40] BBC, 'Wales' longest high street gets £2m aid to regenerate', 26 March 2019, <https://www.bbc.co.uk/news/uk-wales-47696952>, last accessed 13 February 2020.

nationally in the development of trade unionism.[41] The Douglas-Pennant family owned both the slate quarry and the obscenely neo-Gothic Penrhyn Castle, now a National Trust property, which was the manor house of the first Baron Penrhyn (Douglas-Pennant's father), and which stands one mile outside the city of Bangor. Lord Penrhyn's sugar plantations in Jamaica funded both the refurbishment of Penrhyn Castle and the slate quarry business,[42] and Penrhyn Quarry's success gave rise to slate quarries elsewhere in Snowdonia.[43]

The Penrhyn quarry still trades but is no longer the major employer of the area, though the popular Zip World attraction on the same site brings both tourists and money to the area. Currently, the major employers are the University and the hospital, Ysbyty Gwynedd. The effects of the strike and the treatment of local quarry workers by the Pennant-Douglas family are still felt: a row of houses in Bethesda, built as an incentive to break the strike, is still colloquially known as 'traitors' row'; there are local people who will not visit Penrhyn Castle today, as it is a symbol of repression.[44]

Several decades before the Great Strike, the slate quarry workers from Penrhyn, along with men from the nearby Dinorwic quarry and local farmers, collected subscriptions to contribute to the formation of the University in Bangor, which opened in 1884. Prosperous donors contributed too, but of the 8000 subscribers, the vast majority gave sums of less than £100. As David Roberts describes, '[this] is all now part of the great romantic story of the establishment of the university college in Bangor … there is no doubt that the idealism and strength of this local show of support helped to sway the arbitrators.'[45] The University's relationship with the local quarrymen during its inception could explain the significance of the display of quarrying history in Storiel: as well as being an important part of the local landscape and social history, it is linked with the very formation of the institutions.

---

[41] Martin Wright, *Wales and Socialism: Political Culture and National Identity Before the Great War* (Cardiff: University of Wales Press, 2016).
[42] Chris Evans, *Slave Wales: The Welsh and Atlantic Slavery, 1660-1850* (Cardiff: University of Wales Press, 2010), p. 48.
[43] Ibid., p. 52.
[44] George Herd, 'Art to help heal Penrhyn Castle's slate strike pain', 15 April 2017, <https://www.bbc.co.uk/news/uk-wales-north-west-wales-39532667>, last accessed 15 February 2020; The National Trust, 'Penrhyn Castle and the Great Penrhyn Quarry Strike, 1900-03', <https://www.nationaltrust.org.uk/penrhyn-castle/features/penrhyn-castle-and-the-great-penrhyn-quarry-strike-1900-03>, last accessed 15 February 2020; Tom Molloy, 'North Wales Castle Visit Was Like "Going to See Hitler's Home"', < https://www.dailypost.co.uk/news/north-wales-news/north-wales-castle-visit-like-14986225>, last accessed 15 February 2020.
[45] David Roberts, *Bangor University, 1884–2009* (Cardiff: University of Wales, 2009), p. 4.

The development of the University initiated the formation of University collections. The first iteration of the museum at the University was based upon these collections, including teaching and research collections of geology and botany. At around the same time (towards the end of the nineteenth century), the city council was bequeathed a collection of curios which had been gathered by a local naval officer on his various voyages.[46] As the University expanded, so did its collections. A number of Welsh antiquities were added. In 1940, the council's museum was moved into a University building, which showed the close relationship between the council and the University.[47] Eventually, the Gwynedd Museum and Art Gallery was formed, in a building in the city centre. The museum's collections manager began to supervise the University collections as well in 2014.[48] After a development grant and its refurbishment, which included moving to the Bishop's Palace building, the museum was named Storiel: a contraction of the words *stori*, meaning story, and *oriel*, meaning gallery. The name reflects Bangor as a bilingual town; it also obscures its purpose.[49] The museum is situated in the centre of the city, which, as Tony Bennett points out, is 'where [museums stand] as embodiments, both material and symbolic, of a power to "show and tell" which … sought rhetorically to incorporate the people in the processes of the state.'[50] This statement of incorporation and power is diminished somewhat if the museum does not announce itself. In the case of Storiel, the obscure name perhaps only attracts people who are not already aware of the museum and its aims.

Perceptions of Bangor and Gwynedd

Perceptions of Bangor and Gwynedd among my respondents belie their origins. The interviewees come from different socio-economic backgrounds; but their commonality is a connection with the University, whether as a support worker, lecturer, student, or graduate. There may be differences in socio-economic background, but they have similar levels of cultural capital. This is apparent in the fact that my visitors had all visited museums before, and had the 'cultural competence' to interpret museum displays, and present their views on

---

[46] Peter Ellis Jones, *Bangor 1883-1983: A Study in Municipal Government* (Cardiff: University of Wales Press, 1986), p. 47.
[47] Ibid., p. 147.
[48] Heritage Fund, '£1.4million Lottery Funding for Gwynedd's Culture and Heritage', 15 October 2013, <https://www.heritagefund.org.uk/news/ps14million-lottery-funding-gwynedds-culture-and-heritage>, last accessed 15 February 2020.
[49] Some visitors whom I interviewed found it difficult to find or had not realised it was a museum, as the title does not contain the word '*amgueddfa'* or 'museum'. *Storiel* is an invented word, and *oriel* refers to an art gallery rather than a museum.
[50] Tony Bennett, 'The Exhibitionary Complex,' *New Formations*, 4 (1988), 73-102, this citation from p. 99.

the role of the museum.[51] The association with the University also implies an affinity with the didactic role of museums in culture.

Opinions about the city of Bangor differ amongst the interviewees. Stan (60s, from England, living in north Wales outside Gwynedd, retired, non-Welsh-speaker) says 'I don't mind the High Street, and over the years the coffee shops have all [arrived] … there's that market on a Saturday, which is very lively.' (The market actually takes place on Fridays.) The significance of the market implies that Bangor is not usually 'very lively'. Many of the shops on the High Street lie empty, and there are two shopping centres with empty lots. The Victorian pastime of visiting Bangor (or elsewhere in north Wales) declined decades ago, and the carriageway between Chester and Holyhead, the A55, means that the old thoroughfare of the A5 from London to Holyhead no longer brings many visitors to Bangor's resting posts. There have recently been some improvements – the chains and independent coffee shops that Stan mentions – but in general, Bangor appears far from the bustling town as it was during the Victorian coaching days. There is also a large difference in population between term time and vacation time.

Sioned (60s, from and living in Gwynedd outside Bangor, undergraduate, native Welsh-speaker) describes residents of Bangor as 'more Anglicised in the language they speak … it seems a joke in a way, you know, [does a comically strong Bangor accent] people speak in this, you know, that they sound really Welsh yeah, but they won't speak Welsh, because they want to speak English … so it's a joke. They have that sort of reputation, don't they.' Hannah (20s, from an EU country, living in Bangor, undergraduate, non-Welsh-speaker) discusses how she does not know anyone from 'the actual Bangor … I don't think I know anyone local ...' which emphasises the disconnect between the Bangor of the University, of Storiel, of the Cathedral, and the Bangor of the Friday market, the bail and homeless hostels, the accent. Amongst my interviewees, there seemed to be a feeling of disconnect between 'town and gown'. Storiel works towards bridging the gap with its community-curated case. According to their website, they are 'keen to ensure that local communities decide on the contents of the satellite museums.'[52] In Bangor, the curators and the collections have determined Storiel's contents. Consequently, Storiel's role as local museum expands into more general

[51] Pierre Bourdieu, *Distinction: A Social Critique of the Judgement of Taste* (London: Routledge, 2010), p. 58.
[52] Storiel, 'Satellites', <https://www.storiel.cymru/satellites/>, last accessed 15 February 2020.

representations of north Wales, or collections specific to the small geographical area of Bangor and Bethesda, and the satellite museums represent their local communties.

Stan felt that Pontio, Bangor University's Arts and Innovation Centre, caters to a certain type of audience that is 'culturally inclined … highbrow cultural, a bit elitist.' He also points out that neither Storiel nor Pontio are obviously part of the University, as there are no signs or text to that effect. Stan feels that the University 'gown' influence is suggested by the programming in Pontio, and the presence of the museum implies an effort towards high culture. Stan mentions that there was a concerted effort by the University and the city council to regenerate a certain area of Bangor, which was to be designated a 'cultural corridor': comprising the University Main Arts building, a proposed new cultural centre (which never came to light, and has since been superseded by Pontio), Storiel, and the Cathedral. I got the impression from Stan that this plan could have been more innovative in its community engagement, and he seemed disappointed that the current iteration of the cultural corridor caters to a certain audience of local people who are already interested in the arts and cultural activities, and does not serve members of the community who would not normally visit. Storiel and Pontio both hold activities and education programmes, which involve diverse members of the community, but these are not always obvious to the people not actively participating – like Stan – as they are participatory events rather than material objects like displays.

The museum shop and café came up in conversation – the café a nice place to meet friends and colleagues (it is a pleasant, colourful and cosy café in a beautiful part of the building) and the shop a showcase for local artists and artisans. It seems targeted at local people rather than tourists, as there is a lack of the usual fridge magnets and red dragon toys that one sees in more tourist-oriented attractions. Lowri (30s, from mid Wales, living in Gwynedd outside Bangor, native Welsh-speaker) pointed out that 'the shop is a nice way in for local people as well, because they sell Welsh [language] cards and they sell local jewellery.' In an era where footfall dictates funding, the shop and café serve as a draw for people outside the usual audience for a museum, as well as ensuring repeat visits.

Storiel's mission to 'bring together social history collections from across north Wales, with particular emphasis on Gwynedd' does not incorporate all aspects of the county. Sarah (20s, from England, living in north Wales outside Gwynedd, in a non-university occupation, fluent Welsh-speaker) points out that when she lived and worked in Barmouth, she 'met lots of

Brummies … we called it Costa del Dole because it catered to a certain type of Brummie as well.' Her perception of Storiel was that it did not cater to parts of the county that 'don't count as proper Gwynedd.' Geographically, Barmouth is part of Gwynedd; it has a reputation of a town of caravan parks and visitors from the Midlands of England. If Storiel were to display these aspects of Gwynedd in the museum, the emotionally-charged recent history involving caravan parks and Welsh nationalists might cause distress in some visitors, or might be too complicated to address in a museum display. Or perhaps, as Sarah says, Barmouth just 'doesn't count.' Storiel serves its visitor demographic, and catering to tourists or immigrants from Birmingham is probably low on its list of priorities.

Sioned found that Storiel did not reflect the southern parts of the county with which she was most familiar. There were some objects which she felt were the same as what one might find in homes in Dolgellau or Blaenau Ffestiniog ('I suppose lots of the heirlooms and the furniture would have been the same') but there was not enough distinctive representation of southern Gwynedd. This is partially due to the founding collections of the museum, having come from Bangor and its immediate locality, or Bangor University; and partly because there is a network of satellite museums across the county, which represent towns such as Tywyn, Llanbedrog, and Llanberis, which are in very different landscapes and have different social histories. One of the difficulties Storiel faces is the diversity of communities in north-west Wales. Robin Mann and Alexandra Plows discuss the identity of some of these communities, which are a 'mixed pattern of urban and fringe areas, small towns, villages and rural areas,'[53] and that the perception of the differences between these areas can be vast, even though geographically the different areas are very close: 'those living in Caernarfon may not see themselves as rural, but may see other places within ten miles (such as villages on the Llyn Peninsula) as being rural.'[54]

Hannah felt that Bangor was more multicultural than she had first expected. Her involvement with the university has meant that she has met many other international students, but not from 'the actual Bangor'. She mentioned that she does not know 'any locals', perhaps showing the

[53] Robin Mann and Alexandra Plows, 'East, West, and the Bit in the Middle: Localities in North Wales', in Martin Jones, Scott Orford, and Victoria Macfarlane (eds.), *People, Places and Policy: Knowing Contemporary Wales through New Localities* (New York: Routledge, 2015), pp. 95-117, this citation from p. 97.
[54] Ibid., p. 98.

gap between the University on its cultural axis, and the residents of Bangor that are not associated with the University.

Traditional Wales

Storiel conceives Welshness using objects which are emblematic of the history and culture. These signifiers are chosen and interpreted by museum workers: individuals who themselves share the experiences of Welsh spaces, culture, language, and history. As the museum's collections were gathered from the nineteenth century, the Romantic version of Welsh history is apparent: Prys Morgan discusses the influence of myth, religion, and tourism in the development of Welsh culture from the late eighteenth century.[55]

The subject of Welshness occurred frequently in my conversations with visitors. Often, this was unprompted, but sprang forth from discussing aspects of the displays in Storiel and whether they adequately represent the local community. Several topics which are broached in Storiel (for example, the historical treatment of the Welsh language in schools) are emotionally charged and politically controversial. As an English outsider, it is possible that the topics were not discussed with me in full depth or complexity, especially since that was not the original intention of my interviews.

Hannah was surprised at how 'traditional Welsh' Bangor still is, and how strong and distinct this Welsh culture is: 'there have been a lot of people influenced by Welsh culture, and also Welsh culture has been influenced by different people.'

This 'traditional' Welsh culture is difficult to define. Dylan (20s, from and living in Bangor, postgraduate, native Welsh-speaker) feels that the identity displayed in Storiel is stereotypical and 'presenting a type of Wales from the past … people might leave thinking all Welsh people, Welsh girls dressed in that thing and all Welsh men were miners'. Gwen (20s, from mid Wales, living in Bangor, in a non-university occupation, native Welsh-speaker) is of the opinion that the traditional Welsh felt hats that are displayed in Storiel were more connected to Lady Llanover's images of Welsh traditional dress than to her conception of her country's heritage. There is a widespread perception that Lady Llanover invented Welsh national costume, but several historians have disputed this, and show that these costumes were worn

[55] Prys Morgan, 'From a Death to a View: The Hunt for the Welsh Past in the Romantic Period', in Eric Hobsbawm and Terence Ranger (eds.), *The Invention of Tradition* (Cambridge: Cambridge University Press, 1983), pp. 43-100.

in nineteenth-century Wales.[56] In contemporary Wales, Gwen feels that the standard traditional costume is now 'whatever you can find in Tesco.'

Dylan seemed to be frustrated at this idea of a 'traditional' Wales. He says, 'I am Welsh, so this is me being Welsh, carrying my body.' He doesn't need to wear a certain costume, or come from a family of miners; he simply is Welsh. This dualism is almost Saussurian: Dylan's synchronic view of his 'true and only reality'[57] contrasts with the diachronic palimpsest of identity which is seen in a display at Storiel. It is impossible to display each individual identity. The idea of multivocality in the gallery is to include more diverse views; but Storiel is based upon, and limited by, its collections. As the artefacts on display are historical, they were used, had social lives, and represent people who lived; their interpretation by Storiel is based upon the evidence of the objects. Dylan's interpretation was that the narratives on display do not effectively tell of the multiplicity and complexity of Welshness. As the museum curators and designers are all themselves Welsh, they presumably do feel that the narratives adequately reflect their identity; or, the point of the museum is to balance the personal lived experiences of Welshness with the narratives that are comprehensible to outsiders. Storiel's mission statement includes the need to make their collections accessible 'for all to enjoy impartially and inclusively.'[58] Catering to all personal interpretations of Welsh identity would necessarily exclude others; the displays must compromise in order to be as inclusive as possible.

Everyone with whom I conversed who identified as Welsh also spoke Welsh as their first language. Peter (under 20, from and living in north Wales outside Gwynedd, undergraduate, Welsh learner) describes himself as 'kind of' Welsh. He was born in England but moved to Wales at a very young age. He speaks only a small amount of Welsh himself, but his mother and brother both speak Welsh. He attends Eisteddfodau, and is a member of a male voice choir, but as he does not speak Welsh fluently, his perception is that he can only be 'kind of' Welsh. Tuuli Lähdesmäki discusses 'perceived' and 'conceived' notions of Europeanness.[59] This relates to the construction of European identity based upon space and on shared

[56] Huw Roberts, *Pais a Becon, Gŵn Stwff a Het Silc: Y Wisg Gymreig ym Môn yn y Bedwaredd Ganrif ar Bymtheg* (Llangefni: Oriel Ynys Môn, 2006); Michael Freeman, 'Lady Llanover and the Welsh Costume Prints', *The National Library of Wales Journal*, 34:2 (2007), 235-252.
[57] Ferdinard de Saussure, *Course in General Linguistics*, trans. Wade Baskin (New York: The Philosophical Library, 1959), p. 90.
[58] Storiel, 'About Us', <https://www.storiel.cymru/about-us/>, last accessed 11 February 2020.
[59] Tuuli Lähdesmäki, 'Discourses of Europeanness in the reception of the European Capital of Culture events: The case of Pécs 2010', *European Urban and Regional Studies*, 21:2 (2014), 191-205.

characteristics and history (the perception), in contrast with the placement of symbols such as European flags and subscription to EU policies, such as the European Capital of Culture programme. These perceptions, felt by insiders, and conceptions, constructed by institutional outsiders, build the invented tradition of Europeanness.[60] Peter's ambivalence stems from his experience of shared spaces and culture of Wales, but his feeling of disconnect from the history of Wales and the shared characteristic of speaking Welsh.

For the people I talked to, Welsh identity and the Welsh language are symbiotic. I am aware that I work and live in an area of Wales for whom national identity and Welsh language are extremely significant aspects of culture compared with other areas. The institutions of the University and Gwynedd Council are strictly bilingual, and this is by no means a token policy. Welsh is widely spoken across Gwynedd: 64.5 percent of people surveyed in the 2011 census said that they spoke Welsh. This compares with 19 percent across Wales and 35.5 in the city of Bangor (which can be attributed to the high proportion of temporary residents).[61] Lowri feels that the Welsh-speaking identity is stronger for her than her place of birth – it is more important for her to identify as a Welsh speaker than a person from her town or county of origin. She mentions that she is from an area where there is not a high proportion of Welsh speakers, and so speaking Welsh was a distinctive minority identity. Both Lowri and Gwen feel that Welshness, when linked to Welsh language, is a national rather than local identity, as it is a characteristic that links people from all over Wales. To be a Welsh speaker is to be a member of a minority; particularly, as Gwen says, from the point of view of an outsider: 'it's not, "I am North Walian," it's "I am Welsh."' She also thinks that 'we can't afford to sub-divide more … we have to be Wales,' and that regional differences are based upon different community activities or centred around towns. Lowri shares this point of view. She says that 'because Wales is such a small country, it's quite difficult to have a strong local identity, so I think the national identity is on quite a local scale.' This explains how Storiel appears to be a local museum with which people from all over Wales could identify, and perhaps why Dylan

[60] Eric Hobsbawm and Terence Ranger (eds.), *The Invention of Tradition* (Cambridge: Cambridge University Press, 1992).
[61] Gwynedd Council, 'Language Area Profiles', <https://www.gwynedd.llyw.cymru/en/Council/Key-statistics-and-data/Language-area-profiles.aspx>, last accessed 13 February 2020; Gwynedd Council Research and Analytics Team, 'Key Statistics for Gwynedd', October 2017, <https://www.gwynedd.llyw.cymru/en/Council/Documents---Council/Key-statistics-and-data/Population.pdf>, last accessed 13 February 2020; Welsh Government/Stats Wales, 'Annual Population Survey - Ability to speak Welsh by local authority and year', <https://statswales.gov.wales/Catalogue/Welsh-Language/Annual-Population-Survey-Welsh-Language/annualpopulationsurveyestimatesofpersonsaged3andover whosaytheycanspeakwelsh-by-localauthority-measure>, last accessed 13 February 2020.

feels it shows a somewhat stereotypical culture: the 'nationalocal', a shared, invented, local, Welsh identity which is applicable across the nation.

5.B.iii. Representing the international

A common theme amongst Welsh interviewees was that Storiel shows how Wales is internationally connected. This is a positive and a reassuring aspect of Welsh identity. Gwen says she always thinks of Wales as 'ready to look out'. She speaks of a particular exhibition about women: 'they were placed in a wider context than just their local area … I think it's looking beyond "this is us."' Lowri talks about feeling proud of her culture in the context of travelling to other countries. Sioned speaks of the international history of the community: 'there are some parts about naval history, so there's an international connection there … the women tend to stay at home, but the men go all over the world … they come back to the same place, bringing all sorts of influences.' Catrin (20s, from and living in north Wales outside Gwynedd, university occupation, native Welsh speaker) likes how Storiel shows 'local history in a global context ... you hear a lot about history in general, but it's good to see how it affected things locally.' She uses the word 'cnewyllyn', meaning nucleus or core, a little cell, a microcosm; a local constituent of our global history.

Generally in Welsh museums, international connections rarely go beyond a history of white Wales, as Marian Gwyn explains in her article about the commemoration of the bicentenary of abolition. One curator whom she spoke to, who worked at a Welsh regional museum, 'confirmed that the choice of material for permanent exhibitions was governed by a policy that stressed "traditional Welsh culture." It explicitly promotes the traditional Welsh way of life as white and rural.'[62] If the Black history of Wales does not fit in with the traditional Welsh museum, does any form of diversity? Gwyn argues that Penrhyn Castle's exhibition, 'Sugar and Slavery: The Penrhyn Connection', was able to portray the Atlantic slave trade as a part of the area's history. This is in contrast to the 'foremost historian of the North Wales quarrymen,'[63] whom Gwyn criticises as offering 'only the most cursory reference to its West Indian plantations, which he treats as an episode from the estate's pre-industrial history.'[64] The National Slate Museum (in Llanberis, a town approximately ten miles from Bangor),

[62] Marian Gwyn, 'Wales and the Memoralisation of Slavery in 2007', *Atlantic Studies,* 9:3 (2012), 299-318, this citation from p. 304.
[63] Ibid., p. 311.
[64] Ibid.

displayed artefacts and documents relating to the importance of the ports of north Wales in slate exports, for the 2018 theme 'Wales's Year of the Sea.' This display seems to strengthen Gwyn's point: the emphasis of the exhibition was on the trade and industry, rather than any social interaction or cultural exchange resulting from the international links.[65]

Kevin Robins discusses a 'new [in 1991] global-local nexus ... new and intricate relations between global space and local space.'[66] Robins saw a focus on regionalism, local economies and community heritage as a reaction to globalisation, and as undermining 'the old and rigid hegemony of national cultures.'[67] The development of local heritage spaces is located in the wider influence of global culture, and in connection with 'the modernizing ambitions of enterprise culture.'[68] Robins understands that the showcasing of local heritage exists in the context of, and as a result of, globalisation. Twenty years later, the world in which Storiel has developed comprises a network of super-fast communication and travel: globalisation plus. The international student body of the University constitutes a significant population; migrants from around the world work at Gwynedd Hospital; the North Wales Chinese Association is based on the High Street. Storiel does not display these international connections. As previously mentioned, the museum is based upon its collections, and then its interpretations as a 'local' (traditional) museum. In the ever-changing world in which we live, the number and origin of international students might be different tomorrow. The nineteenth-century objects will not change.

The role of Storiel

Storiel is a museum and a gallery. It has a shop and a café. It is a tourist destination, and a meeting place for workers on their lunch break. It is a good place to buy birthday cards and quirky jewellery. There is currently a graffito outside the entrance, representing President Trump building a wall on which *Cofiwch Dreweryn* has been daubed, and Boris Johnson throwing a brick labelled 'NHS'. Storiel is both a 'parochial space'[69] where visitors may

---

[65] National Slate Museum, 'Slate to the Sea', <https://museum.wales/slate/whatson/10240/SLATE-TO-THE-SEA-/>, last accessed 15 February 2020.
[66] Kevin Robins, 'Tradition and Translation: National Culture in its Global Context', in John Corner and Sylvia Harvey (eds.), *Enterprise and Heritage: Cross-currents of National Culture* (London: Routledge, 1991), pp. 21-44, this citation from p. 35.
[67] Ibid., p. 36.
[68] Ibid., p. 37.
[69] Lyn H. Lofland, *The Public Realm: Exploring the City's Quintessential Social Territory* (Abingdon: Routledge, 2017), p. 12.

know a curator or volunteer or will at least recognise another visitor, and a 'public space'[70] in which the history and character of Gwynedd are constructed and represented.

Inside Storiel, near the entrance, are two cases: one for the community and the other for the university. There is a gallery which exhibits works by local artists. The permanent displays include furniture and costumes, archaeology from excavations around North Wales, and artefacts connected with local history; many of which are loaded with poignancy and passion amongst local people. For example, the late nineteenth century Welsh Not (used to punish schoolchildren for speaking Welsh), the crown of King Enlli (who declared himself King of Bardsey Island in the early eighteenth century), and the signs displayed in windows of quarry workers during the Great Strike, proclaiming 'nid oes bradwr yn y tŷ hwn' ('there is no traitor in this house'). Across Wales, the Welsh language is associated with Welsh nationalism and anti-English activism throughout the twentieth century. In Gwynedd, a large proportion of residents speak only Welsh, and have done so historically, even as Welsh language declined in the rest of the nation. Storiel displays the history of the area without a particularly overt political stance; but there are subjectivities, as there are in the community.

Storiel has several spaces for temporary displays, and these are often curated with the input of students or staff from the university, or members of the community. For example, the Bangor Football Club project collated oral histories, and encouraged local people to lend their own artefacts – ticket stubs, football gear or newspapers – to tell the history of the football club. This project was devised partly to engage hard-to-reach members of the community. Another display was based on artefacts from the 1960s, which was proposed by a group of local young people, and involved a fancy-dress party with 1960s music as well as activities for younger children.

These activities showcase the museum's ability to reflect local people's views of their own history. As well as increasing visitability, activities such as these enable the museum to develop alternatives to relying on colonial collections. With reference to Mason et al. in *Museums and Communities*, it encourages polyvocality in the gallery, and challenges historical views of ownership and curation.[71]

---

[70] Ibid.
[71] Rhiannon Mason, Chris Whitehead, and Helen Graham, 'One Voice to Many Voices?: Displaying Polyvocality in an Art Gallery', in Viv Golding and Wayne Modest (eds.), *Museums and Communities: Curators, Collections and Collaboration* (London: Bloomsbury, 2013), pp. 163-177.

The advantage of the colonial University collections is that they allow Storiel to be outwards-facing as well as local. Museums can utilise these sorts of collections to challenge old views and explore new ones. And in a globalised world, a local community is formed of local people, visitors and migrants who have visited museums around the world.

The ideas about local identity feed into the visitors' perceptions of the role of Storiel within the community, and consequently, the extent to which the PCH display fits into the museum. This has implications for the future use of the collection: is it appropriate to keep the PCH collection in Bangor? Can it be utilised effectively in this place?

On a superficial level, most of my interlocutors defined Storiel as 'local'. As explored in section 5.B.ii, 'local' does not have an unequivocal or universal definition. Andrea (30s, from an EU country, living in Bangor, postgraduate, non-Welsh-speaker) says that Storiel is 'definitely a local history museum, isn't it'; Gwen pictures it as 'a very Welsh little museum'; Sioned feels that Storiel is somewhere that 'reflects more of the local history … local like Bangor and Bethesda and the slate quarries.' Sarah points out that as the museum is based in Bangor, they would not show very much information about the south of the county, because 'they haven't really done anything exciting with trade unions … nowhere round there was really at the centre of any Welsh language rights rows or anything, so I guess maybe the view is that it's not as interesting?'

Historians have discussed nineteenth- to twentieth-century Welsh history in terms of delineation, between English and Welsh speakers, industrial and rural communities, and political parties. Martin Johnes carries out a survey of Welsh historiography and suggests that there is hegemony among Welsh historians' histories of Wales, which 'justified not just the existence of Wales, but the existence of a certain interpretations of Wales, notably those based on the industrial working class or a cultural and/or political nationalism that had the Welsh language at its heart.'[72] Sarah's comment about trade unions and Welsh language rights encapsulates the typical foci of Welsh history. Robin Mann and Steve Fenton suggest that at the commencement of the twentieth century 'it had become possible to conceive of Wales as something of a pluralistic society with significant divisions along ethnic (Welsh/English), class and geographic lines.'[73] These divisions were emphasised by the

[72] Martin Johnes, 'For Class and Nation: Dominant Trends in the Historiography of Twentieth-Century Wales', *History Compass*, 8:11 (2010), 1257-1274, this citation from p. 1257.
[73] Robin Mann and Steve Fenton, *Nation, Class and Resentment: The Politics of National Identity in England, Scotland and Wales* (London: Palgrave Macmillan, 2017), p. 177.

development of the major political parties of Labour – with support from the mining communities of southern Wales – and Plaid Cymru, for which north-west Wales is still a stronghold, and whose nationalist policies 'were rooted in a desire to protect a Welsh cultural inheritance that centred on language and religion and which was in clear danger by the early 20th century.'[74] Mann and Fenton show that '[t]he nationalist tradition could not have conflicted more with the politics of class;'[75] one of the ways that Storiel displays polysemy is through its representation of these seemingly exclusive histories. Both have roots in north-west Wales: the Labour movement had its inception in the slate quarries of the north, but gained traction in the mining communities of the south; support for Plaid Cymru was based around Welsh language rights and the safeguarding of traditional culture.

The consensus among visitors was that Storiel displays local history that is from the geographically closest areas of Gwynedd. Sarah's point is that a significant and emotive event in recent history, the Great Strike, affected communities in its vicinity, and this holds a greater proportion of display in Storiel compared with the less evocative parts of the county. This emotional connection strengthens the historical precedent for focussing on the Strike.

Peter thought that the museum was generically north Walian, rather than focussed on Bangor, but he found it difficult to relate to personally because 'you've got to use quite a lot of imagination … it felt like people who *were* Welsh, rather than now.' Peter was presumably referring to the past beyond his experience, since museums must necessarily always display the 'were' not the 'now'. This could suggest that the PCH collection fits in with the other collections – they *were* Mexican, but are not now. Whether from the Victorian era or the shaft tombs, the collections both come from a country called The Past. Storiel does sometimes display more modern history: for example, the exhibit curated by local teenagers focussing on the 1960s, and the oral history of Bangor Football Club. To Peter, as an eighteen-year-old, this might seem as distant. The PCH collection appears more recently in Bangor's history than even the 1960s, as it arrived in 2003. Although the objects are ancient, the collection itself is young, and its contact with Bangor makes it one of the most recent contributions to the culture of the city.

Hannah felt that visiting Storiel made her look differently at Bangor: 'I always thought it was quite isolated here, in northern Wales … but actually a lot of things happened and people

[74] Johnes, 'For Class and Nation', p. 1260.
[75] Mann and Fenton, *Nation, Class and Resentment*, p. 177.

were affected by so many different things and there was so much interaction and exchange.' Annika, similarly, felt that Storiel enabled her to get to know her temporary home, but more due to the building and its existence rather than any didactic aspects of its displays. She felt that her visit was 'like discovering the city … adding something to the map of Bangor in my head.'

Andrea commented that visiting a local museum is a typical experience when visiting somewhere new: 'my family were visiting, we went to the museum'. Lowri made the point that she visits local museums as a matter of course if she goes on holiday to another country, but needed a reason to visit Storiel, as she felt 'there's an element of oh I already know this, so I don't need to spend lots of time here.' However, once she did visit, she felt that it was important for local people to experience seeing 'your own culture in the way that other people would see you.'

The place of 'Notes from the Past'

Visitors' reactions to the PCH display, 'Notes from the Past', tended to be divided based upon their origins. People from overseas felt that Storiel was a local museum, and the local connection was too tenuous to justify a display of Mexican artefacts. Local people mentioned the benefits of the display: creating interest, encouraging repeat visits, and adding to the picture of Welshness that is international and outwards-looking, rather than isolated and parochial. In general, the feedback was positive, because the subject is so interesting and unusual.

Annika felt that there might be a better venue for this kind of display: 'when you have [the connection to Bangor] in mind, it's still random. Because a single man was interested. It's not like there's a broader connection between Bangor and Mexican music. You now have these instruments so I think it's definitely good to do something to show them, but maybe in another surrounding.'

Hannah was 'pleasantly surprised' by the display: 'when I walked in, it's the first thing that you see and I was like, "what could this possibly have to do with Wales?" But obviously there's a connection there … it's not a very obvious connection.' She also describes the display as 'eye-catching' and 'so out of the ordinary that [it] was something that really grabbed my attention.'

Michael (under 20, from England, living in Bangor, undergraduate, Welsh learner) was interested in the subject, and asked several questions during our conversation to elicit more information about the instruments and their origins. He says 'the mix of your subject [music] with history as well … it gives Storiel an interesting detail.'

Alice (60s, from England, living in north Wales outside Gwynedd, retired, Welsh learner) thought that the display worked within the context of the rest of the museum because it was a special exhibition: 'it doesn't have to take over the whole museum, but it was a nice area.'

Sioned commented that the display was 'a little bit unexpected,' but she felt it was good to see it there because it was 'interesting to see about other cultures,' and she 'didn't think it was at all out of place or anything.'

Gwen thought it was beneficial to have the display there, as it was something different, and she 'always like[s] being in Wales but looking outwards.'

Catrin emphasised this point: 'obviously that's not local history…it's nice to have something fresh as well' (meaning a temporary, changing exhibit), and she felt that 'if people come from afar, they would like to see the local stuff … but it's a nice kind of global connection as well.'

However, if Marian Gwyn's comments on 'traditional Wales'[76] are applicable to Storiel, then there is not a place for Welsh multiculturalism in the museum, much less global culture. The PCH collection is incongruous in Storiel because it does not relate to its community – but perhaps this a safer display of multiculturalism than engaging with the complex and ambiguous issue of Welsh multiculturalism, which is at odds with the traditional, industrial, working class or rural history agreed by most historians.

5.B.iv. A glocal museum?

I have described and analysed some of the ways that Storiel displays locality, and explored how the display 'Notes from the Past' could fit in with the rest of the museum. The definition of Storiel as a 'glocal' museum in Robins's 'global-local nexus'[77] reflects how a local museum can be cosmopolitan. Sociologists and cultural historians have discussed the way

[76] Gwyn, 'Wales and the Memoralisation of Slavery in 2007', p. 304.
[77] Robins, 'Tradition and Translation', p. 35.

that local heritage is positioned within global flows, aware of the dangers of cultural greyout as a result of globalisation. As a local museum, Storiel can safeguard local material culture, but this can disengage it from the internationally connected and multicultural communities which make up Bangor today. The PCH collection allows Storiel to display cosmopolitanism; a future use of the collection could be to allow Storiel to engage with the international cultures it displays.

The invention of Welsh tradition, as displayed in Storiel, was a subject which all Welsh visitors (and those who reside in Wales) wanted to discuss. Some visitors responded to particular objects which made them feel nostalgic; others were annoyed by the imposition of a particular Welshness, and criticised the lack of diversity on display. Jonathan Friedman offers several examples of how different local cultures engage with modernity and globalisation.[78] He discusses several international cultures, including from Japan and Hawaii, but his points are pertinent here: in the case of the Ainu, an 'oppressed minority,' processes such as festivals and material signifiers such as costume show the touristification of their culture as a way of safeguarding their production of tradition.[79] They 'control the production of their culture-for-others … their aim is to present their identity as they conceive it, in order to have it recognized by the larger world.'[80] Hawaiian identity is purposefully created in opposition to the Western commodification and objectification of Hawaiian otherness. In these cases, '"traditional" culture is experienced as external, as a past which has been lost and must be regained. They are both integrated into a larger modern society that is not their own.'[81] The construction of Welsh identity in Storiel implies an oppressed minority – the Welsh language was certainly suppressed – and so the production of an identity as 'other' to UK culture or a globalised culture is an assertion for local people. A by-product is that it encapsulates a distinct culture and history which may be consumed by tourists and international visitors to Bangor.

Mark Rectanus explores the influence of globalisation on museums, positing a new model of museums which utilise digital technologies and are hybrids of different museum functions. He suggests that 'by involving communities more intimately in the process of exhibition planning and programming, museums may be able to seize upon opportunities for creating

[78] Jonathan Friedman, 'Being in the World: Globalization and Localization', *Theory, Culture and Society*, 7:2-3 (1990), 311-328.
[79] Ibid., p. 324.
[80] Ibid., p. 323.
[81] Ibid., p. 325.

new forms of locality which communicate *and* display the dissonances between the local and the global.'[82] A strategy for the future (ever-dependent on funding, policy and staffing), would be for Storiel to engage in these dissonances, as applied to its unique collections.

[82] Mark W. Rectanus, 'Globalization: Incorporating the Museum', in Sharon Macdonald (ed.), *A Companion to Museum Studies* (Chichester: Wiley-Blackwell, 2011), pp. 381-397, this citation from p. 395.

Chapter 6: Strategies for the future

In this chapter, I refer to the ongoing and long-lasting care and use of the PCH collection. Sustainability has different connotations, and I will outline these before applying some of the concepts to the PCH collection. Firstly, I show how the United Nations has developed an agenda on sustainable development, and how the Welsh Government has taken these into a national context. I then move on to other definitions of sustainability, and their applications in museum practice and academic research. I outline ways that sustainability can be promoted through community-centred approaches to heritage management, then discuss sustainability with regard to the PCH collection. The future of the collection depends on the required outcomes as judged by different stakeholders. In the second part of this chapter I suggest a process by which decisions could be made over the collection's future use. Finally, I comment on the future research that would be required to achieve the various outcomes.

6.A. Sustainability

6.A.i. What is sustainability?

Using the international context of the United Nations and the local context of the Welsh Government, I will outline some definitions of sustainability from which I will extrapolate pertinent points to apply to the PCH collection.

The United Nations Agenda for Sustainable Development sets out goals for environmental protection and social well-being. The overall aims are to 'free the human race from the tyranny of poverty' as well as 'protect the planet from degradation',[1] incorporating environmental concerns with social and economic improvements. The UN Agenda comprises seventeen goals, which include striving to end hunger, recycling, and reducing inequality.

The Welsh Government has based their sustainable development programme upon five ways of working, and seven well-being goals.[2] These goals were enacted in legislation in the Well-being of Future Generations (Wales) Act of 2015.[3] The Welsh Government's approach reflects the UN's Agenda, which focusses on the symbiosis of economic, social and environmental development. The seven well-being goals are measured using 46 indicators, which allow quantifiable outcomes. These include statistics such as the percentage of the

[1] United Nations, 'Transforming our World: The 2030 Agenda for Sustainable Development', 2015, <https://sustainabledevelopment.un.org/post2015/transformingourworld/publication>, last accessed 6 June 2020.
[2] Welsh Government, 'Well-being of Future Generations (Wales) Act 2015: The Essentials', 2015, <https://futuregenerations.wales/wp-content/uploads/2017/02/150623-guide-to-the-fg-act-en.pdf>, last accessed 6 June 2020.
[3] Ibid.

population in employment, percentage who speak Welsh daily, gender pay gap, and emissions of greenhouse gases.[4]

One of the well-being goals is 'A Wales of vibrant culture and thriving Welsh language.' These are part of the same goal due to the inextricable link between Welsh culture, heritage and language: for example, the National Eisteddfod is a celebration of the arts and of Welsh language, and it is impossible to fully experience one without the other. The two indicators out of 46 relating to culture are 'Percentage of people attending or participating in arts, culture or heritage activities at least three times a year' and 'Percentage of museums and archives holding archival/heritage collections meeting UK accreditation standards.'[5] The PCH collection could contribute to well-being in Wales as measured with these indicators. However, the collection's usefulness as a piece of culture for consumption or education needs to be considered against the ethics of utilising it in this way.

In the fields of archaeology, museums, and ethnomusicology, sustainability has been addressed in myriad ways. Some of these map onto the UN Agenda, but with goals and ethical considerations that fit within their specific approach.

6.A.ii. Museums and sustainable development

Sustainability in museums can be addressed in relation to environment, heritage management, and the protection of culture. As is common for many organisations, sustainability policies and procedures in museums tend to focus on reducing energy consumption and greenhouse gas emissions, increasing recycling facilities, and using materials from sustainable sources.

Environmental sustainability and conservation: a brief review

Museums are generally large public buildings, and as such, must adhere to government policy on environmental welfare. Museums can consume large amounts of energy; green practices can provide environmental as well as economic sustainability.[6] In 'Sustainability and Public Museum Buildings', Brian Hayton advocates for a collaborative approach in which design can benefit conservation, environmental, and corporate interests. He points out, for example,

[4] Welsh Government, 'How to Measure a Nation's Progress: National Indicators for Wales', 2016, <https://gov.wales/sites/default/files/publications/2019-06/national-indicators-for-wales.pdf>, last accessed 6 June 2020.
[5] Ibid.
[6] Brian Hayton, 'Sustainability and Public Museum Buildings: The UK Legislative Perspective', *Studies in Conservation*, 55:3 (2010), 150-154.

that conservation and energy consumption can work in tandem: sealing and insulating a building effectively can 'virtually eliminate temperature and relative humidity fluctuations and so contribute to good collections management without the need for expensive and [environmentally] problematic air conditioning.'[7]

Other tactics for environmentally friendly conservation have been suggested in an article by Dervilla O'Dwyer in *Studies in Conservation*:[8] for example, using LED (light-emitting diode) lighting, and conservation treatments that are environmentally friendly. De Silva and Henderson also focus on conservation and storage in their article 'Sustainability in Conservation Practice', suggesting the use of recycled and recyclable versions of packing materials.[9] They also mention strategies that are not specific to the museum sector: encouraging walking, cycling and public transport for staff and visitors; having the facilities for recycling; sustainable procurement.

Karl Abeyasekera and Geoff Matthews produced a set of guidelines for sustainable temporary exhibitions, which emphasises environmental concerns from the first stages of design.[10] The guidelines also offer practical advice, for example, using text fonts and colours which are accessible as well as space-saving, meaning smaller amounts of printed materials. The authors also advocate for education in sustainable practices for schoolchildren as well as in universities, which can allow students to 'develop a perspective on how design processes fit into broader social, economic and political context.'[11] The guidelines emphasise how innovative thinking and collaborative working are both essential components of sustainable development.

Bangor University's sustainable development policy enacts many of these strategies: sustainable procurement and financial investment;[12] several campaigns to increase recycling

---

[7] Ibid., p. 152.
[8] Dervilla O'Dwyer, 'The Contribution of Conservators to Sustainability at the National Maritime Museum, UK', *Studies in Conservation*, 55:3 (2010), 155-158.
[9] Megan de Silva and Jane Henderson, 'Sustainability in Conservation Practice', *Journal of the Institute of Conservation*, 34:1 (2011), 5-15.
[10] Karl Abeyasekera and Geoff Matthews, *Sustainable Exhibit Design: Guidelines for Designers of Small Scale Interactive and Travelling Exhibits* (Lincoln: University of Lincoln, 2007).
[11] Ibid., p. 29.
[12] Bangor University, 'Finance and Procurement', <https://www.bangor.ac.uk/sustainability/finance-and-procurement.php.en>, last accessed 6 June 2020.

across all areas of campus;[13] switching to entirely renewable sources for electricity;[14] committing to reducing carbon dioxide emissions.[15] These policies also apply to the management of the PCH collection. More specifically, the renovation of the School of Music building in 2016 included updating the environmental controls throughout, and there are now monitors for temperature and humidity in every room.

Collections management and the protection of culture

Good collections management and conservation practices contribute to sustainability in museums; but the sustainability of museums also relies upon them being able to use their finite resources efficiently by acquiring and disposing of artefacts responsibly. Therefore, museums need to balance the care of historic collections with the acquisition of new materials.[16] This leads to questions of what things should be preserved, how long for, and how deterioration is defined and managed (as Helen Wilkinson asks in a report for *Museums Journal*).[17] These questions lead to further issues of ethics, as explored by Nick Merriman in an article for *Cultural Trends*: should museums dispose of certain objects if their purpose is to 'hold material forms of collective memories which provide an objective record of particular communities'?[18] Should existing collections be utilised to their full potential before museums acquire new ones?

Merriman in particular criticises the idea that museums need to preserve collections in their entirety. He points out that museum collections are embedded in colonial and modernist epistemologies, in which 'knowledge is based on material evidence, organized systematically to legitimate the social system which gave rise to it.'[19] Preserving an entire collection that was created in this way is sustaining the hegemony of holding and displaying culture. A more sustainable and inclusive model would be to apply responsible collections management, in

---

[13] Bangor University, 'Campaigns, Schemes, Initiatives and Awards', <https://www.bangor.ac.uk/environment/wastecampaigns.php.en>, last accessed 6 June 2020.
[14] Bangor University, 'Bangor University Goes 100% Renewable', 31 October 2019, <https://www.bangor.ac.uk/sustainability/news/bangor-university-goes-100-renewable-42169>, last accessed 6 June 2020.
[15] Bangor University, 'Environmental Performance Data 2017/18', <https://www.bangor.ac.uk/environment/documents/2017_18%20Environmental%20Data.pdf>, last accessed 6 June 2020; 'Helping to meet Wales' ambitious targets to cut carbon emissions by 80% by 2050', <https://www.bangor.ac.uk/environment/documents/CarbonManagement-InvesttoSavenarrative_000.pdf>, last accessed 6 June 2020.
[16] Nick Merriman, 'Museums and Sustainability', *Cultural Trends*, 17:1 (2008), 3-21.
[17] Helen Wilkinson, 'A Long Way to Go', *Museums Journal*, 109:6 (2009), 9.
[18] Merriman, 'Museums and Sustainability', p. 11.
[19] Ibid., p. 12.

recognition that heritage is not wholly represented by historical objects. Instead, museums could also position themselves within a fluctuating network of ideas and discussions. [20]

Simon Knell's volume on *Museums and the Future of Collecting* suggests ways that museums could change their collecting activities, by defining the value of their artefacts and collections in a way that could lead to deaccessioning some and acquiring others.[21] In his introduction to that volume, Knell discusses the tensions in museums between object-based research and interpretation for an audience; between the objective gathering of knowledge and the postmodern 'complex, interconnected jumble of media, methods and philosophies which [contribute] to individual ways of knowing.'[22] As well as offering practical demonstrations of evolving collections management, the volume questions the value of museums as repositories, and suggests that museums must change in order to remain relevant, visitable, and viable.

The consideration of the PCH collection as an entity which must be treated in its entirety is based upon these values of knowledge-gathering via artefact-gathering; whereas in this multivalent twenty-first century world, the individual artefacts and their particular 'itineraries'[23] could hold more value. As such, the management of this collection can be evaluated with regard to the sustainable development of Storiel and Bangor University, the holding institutions, as well as the artefacts' value in promoting sustainable development elsewhere.

However, another view is that museums around the world have collective responsibility to keep and preserve cultural artefacts, regardless of their country of origin, for future generations and for our shared world heritage. Applying this to the PCH collection would mean keeping the collection where it is, as it is relatively undamaged and in a secure position. The loss of cultural artefacts can lead to the detriment of the wider 'ecology of culture', in which the loss of heritage in the world's concatenation of cultural practices is analogous to the extinction of a species. As well as the loss of diversity, there can be unexpected consequences which affect other parts of the system.

---

[20] Ibid., p. 14.
[21] Simon Knell, 'Altered Values: Searching for a New Collecting', in Simon Knell (ed.), *Museums and the Future of Collecting* (2nd edition; Farnham: Ashgate Publishing, 2004), pp. 1-46.
[22] Ibid., p. 2.
[23] Alexander A. Bauer, 'Itinerant Objects', *Annual Review of Anthropology*, 48 (2019), 335-352.

In an article about 'Proactive Collaborative Conservation', Perzolla, Carr, and Westland suggest that this loss of heritage can be countered with collaboration between museums and private companies, to ensure the financial viability of conservation.[24] Their view is that conservation is a 'responsibility [that] lies with the current stakeholders and keepers to preserve art and assets both for people living today in other parts of the world and for subsequent generations.'[25]

Keeping the PCH collection in this 'other part of the world' could be a way of ensuring its upkeep for the next generation, and it is currently not at risk of being lost. However, in the next section of this chapter, I will argue that cultural sustainability relies on cultural heritage, and the artefacts could be better utilised in their country of origin, rather than conserved intact but unused. Also, the idea of preservation for preservation's sake views cultural heritage as static and contained in artefacts; the sustainability of culture necessitates its development, for which artefacts can be active components.

6.A.iii. Cultural sustainability

Culture is a valuable asset for sustainable development and has been cited as the 'fourth pillar of sustainability'[26] alongside those identified by the UN: environmental, economic, and social. Museologists and ethnomusicologists have investigated the ways that culture can be an integral part of development, including material culture. I hereby offer some case studies of the creative ways in which culture and development can co-exist for their mutual benefit.

Culture must be at the heart of any discussion about economic, social or environmental development, because culture is the means by which we identify what is important about our identity, and it is how we communicate these meanings. By extension, cultural property is at the heart of the discussion too. Fernando Brugman evaluated the UNESCO Conventions on cultural property and their use in sustainable development, linking the need for cultural sustainability with the need to stop illicit trade in cultural objects. He makes the point that the loss of these resources through illicit trade 'does not only lead to economic loss but also violates the collective right to gain access to knowledge, hurts feelings of identity,

[24] Valentina Perzolla, Chris M. Carr and Stephen Westland, 'Proactive Collaborative Conservation: Museums and Companies Working Towards Sustainability', *Journal of Cultural Heritage Management and Sustainable Development*, 8:3 (2018), 321-341.
[25] Ibid., p. 327.
[26] Jon Hawkes, *The Fourth Pillar of Sustainability: Culture's Essential Role in Public Planning* (Melbourne: Common Ground Publishing, 2001).

undermines our collective development capacity, and impairs our quality of life.'[27] These wide-ranging ramifications show the importance of cultural artefacts in cultural processes. An important consideration for the future of the PCH collection is that it may have a use in the development of Bangor through its museum, but it holds more cultural capital in its individual artefacts, whose value could be better utilised in the sustainable development of their source communities.

Culture, environment and ecology

Here, I outline the ways that scholars approach the study of cultural and environmental development. In examining these, I show how cultural and environmental sustainability can be symbiotic, and how there is great potential for cultural artefacts to be used in this process. There are three main approaches to discussing culture and sustainability: how the framework used to discuss ecological systems can be applied to a cultural tradition; the way that a cultural practice utilises natural resources; and how cultural practice can contribute to environmental conservation.

The first approach has been applied to the world of music by Jeff Todd Titon, who suggested 'ecomusicology' as a paradigm for cultural sustainability. Titon writes that cultural sustainability is often viewed as the rescue of an endangered tradition, and that the solution is an economic intervention such as the building of a museum or theatre. This type of development then leads to the marketable elements of a musical practice to be presented, displayed, or performed for an audience, which in turn creates revenue and propagates the idea that a good tradition to save is one that can be profitable. Instead, Todd's ecological model views the practice as embedded in its current system, and its development focusses on 'diversity, limits to growth, connectedness, and stewardship'.[28]

Titon criticises the 'top-down' approach of UNESCO's designation of Intangible Cultural Heritage, or arts council awards to individual artists.[29] He proposes taking a collaborative approach, which ensures sustainability by encouraging 'local, grass-roots, participatory … often amateur music-making directly inside musical communities.'[30] Regarding the

---

[27] Fernando Brugman, 'The UNESCO Conventions and their Contribution to Sustainable Development', *Culture and Development*, 10 (2013), 5-6, this citation from p. 6.
[28] Jeff Todd Titon, 'Music and Sustainability: An Ecological Viewpoint', *The World of Music*, 51:1 (2009), 119-137, this citation from p. 119.
[29] Ibid., p. 121.
[30] Ibid., p. 122.

management and sustainability of the PCH collection, the current approach is along the lines of what Titon calls a 'proclamation': the cultural heritage which the collection represents has been declared a 'masterpiece … a monument requiring special treatment', as designated by an 'institution carrying high cultural authority'.[31] In Chapter 2 of this thesis I discussed how Crossley-Holland validated his collecting activities by academicising them: using his cultural authority as a Professor at UCLA to research his artefacts, designating them as worthy of study. This validation, the proclamation of a masterpiece, has been carried with the collection into its current University, and has been perpetuated by my award of funding and the further study represented by my thesis.

There are differences between Titon's discussion of conservation, and the sustainability of the PCH collection, of which the most fundamental is that Titon's research examines intangible culture (musical practice), and the PCH collection is material. However, cultural artefacts are always embedded in cultural practices, and there is some relevance to discussing the management of the PCH collection as part of a wider view of sustainability, which links to the communities of people whose heritage is represented by the collection and whose musical cultures are worthy of preservation.

Titon's research has been built upon his concept of 'worlds of music': musical practices operating in an ecosphere.[32] Catherine Grant has expounded upon the analogy between musical and biological diversity in her 2012 article for the *Journal of Cultural Heritage Management and Sustainable Development*.[33] Grant offers the analogy in a conceptual sense and as well as offering more concrete links between the two. For example, she describes the similarities in language which can be applied to either – preservation, endangerment, activism – but goes on to provide the 'inextricable links'[34] between biological diversity and cultural diversity which show a more holistic approach to studying both.

This latter point involves invoking the way that environment and culture are symbiotic: for example, how natural resources are used in instrument-making, or how knowledge of the natural world can be expressed and communicated through music. One example of a study of

[31] Ibid., p. 121.
[32] Jeff Todd Titon (ed.), *Worlds of Music: An Introduction to the Music of the World's Peoples* (1st edition; New York: Schirmer Books, 1984).
[33] Catherine Grant, 'Analogies and Links between Cultural and Biological Diversity', *Journal of Cultural Heritage Management and Sustainable Development*, 2:2 (2012),153-163.
[34] Ibid., p. 155.

this nature is Helena Simonett's article about a Yoreme music/dance practice in north-west Mexico.[35] Simonett explains that Yoreme oral history concerning the conception of music is vital, particularly because their pre-invasion roots have not been the subject of much archaeological study, and so artefactual history is absent. Yoreme conceptions of music and dance are framed by their relationship to animals and the landscape of mountains. This is a type of study considering a holistic approach to music history, which would be applicable to future research on the PCH collection. Although I have shown that Crossley-Holland's description of provenience may be erroneous, some of the artefacts are from areas of western Mexico in which Wixáritari people now reside. An ethnographic study similar to Simonett's could explore the relationship between musical instruments, religion and ecology in a contemporary society which has links to a pre-invasion past, and whose heritage may be enriched by the PCH artefacts.

Resilience

Sustainability is often discussed in tandem with resilience: the idea that a system can cope with loss and change. Cornelius Holtorf, writing in *World Archaeology*, describes this not as 'bouncing back', which implies the return to a previous state, but 'bouncing forward', which involves 'absorption [of stress or disturbance], learning, adaptation and transformation.'[36] In terms of cultural heritage, this relates to the ability of a cultural process or identity to withstand change, such as that wrought by natural disaster, political unrest, or conflict, to survive and develop in the long term.

This notion of resilience is used as another analogy between ecologies of the natural world and of cultural heritage, for example in Elizabeth Longworth's chapter in *Climate Change as a Threat to Peace: Impacts on Cultural Heritage and Cultural Diversity*.[37] The volume explores a multifarious approach to development, encapsulating environmental, social, and economic concerns, and noting the role that cultural sustainability plays in this development as well as how it benefits from it. Longworth's chapter focusses on the value of cultural heritage, and the risks that both intangible and tangible patrimony face due to both natural

[35] Helena Simonett, 'Envisioned, Ensounded, Enacted: Sacred Ecology and Indigenous Musical Experience in Yoreme Ceremonies of Northwest Mexico', *Ethnomusicology*, 58:1 (2014), 110-132.
[36] Cornelius Holtorf, 'Embracing Change: How Cultural Resilience is increased through Cultural Heritage', *World Archaeology*, 50:4 (2018), 639-650, this citation from p. 629.
[37] Elizabeth Longworth, 'The Culture of Prevention: Heritage and Resilience', in Sabine von Schorlemer and Sylvia Maus (eds.), *Climate Change as a Threat to Peace: Impacts on Cultural Heritage and Cultural Diversity* (Frankfurt am Main: Peter Lang, 2014), pp. 119-126.

and manmade disasters. Longworth describes the importance of cultural heritage in 'supporting sustainable development', as well as its intrinsic benefits for communities.[38] The list of benefits ranges from 'promoting a sense of belonging for individuals and communities' to 'promoting values and social cohesion', 'serving as a repository and rich source of traditional knowledge', 'rebuilding a sense of community after disasters', and 'providing socio-economic benefits to the community, e.g. through tourism.'[39] Longworth cites earthquakes, landslides, floods, conflict, urbanisation and unsustainable tourism as hazardous to cultural heritage; crime and violence, and the current global pandemic of Covid-19 also contribute to the risk. In the next section, I will discuss how community-based cultural heritage management can contribute to sustainable cultural development, and put into practice this cultural resilience that is so important.

6.A.iv. Heritage and development: community-centred approaches

The UNESCO designation of certain practices or artefacts as Cultural Heritage has garnered criticism. Here, I will focus on the way that it provides a monolithic, legislative and top-down approach to heritage management. Barbara Kirschenblatt-Gimblett wrote of the overemphasis of the UNESCO lists on 'endangered masterpieces',[40] which leads to the valorisation of heritage; in terms of this hierarchical judgement, and of economic return through tourism (as Titon suggested in relation to music practices).

Laurajane Smith has written extensively on the 'authorised heritage discourse' (AHD)[41] of the UNESCO lists, building on Kirschenblatt-Gimblett's criticisms. Smith defines AHD as defining heritage as 'aesthetically pleasing material objects, sites, places and/or landscapes that are non-renewable. Their fragility requires that current generations must care for, protect and venerate these things so that they may be inherited by the future.'[42] She writes that the type of discourse based on UNESCO definitions disallows multifaceted forms of knowledge and values: particularly Indigenous views rather than Eurocentric voices. She specifically criticises the fact that the UNESCO framework of Intangible Cultural Heritage is restricted

[38] Ibid., p. 120.
[39] Ibid.
[40] Barbara Kirschenblatt-Gimblett, 'Intangible Heritage as Metacultural Production', *Museum International*, 56:1-2 (2004), 52-65, this citation from p. 57.
[41] Laurajane Smith, 'Intangible Heritage: A Challenge to the Authorised Heritage Discourse?', *Revista d'etnologia de Catalunya*, 39 (2014), 133-142.
[42] Laurajane Smith, 'Discourses of Heritage: Implications for Archaeological Practice', *Nuevo Mundo Mundos Nuevos*, 2012, <https://doi.org/10.4000/nuevomundo.64148>, last accessed 15 June 2020.

by the 'requirement … to operate through state parties, rather than communities and other sub-national groups.'[43]

She expounds upon this in her monograph *Uses of Heritage*, stating that AHD's tenet to which many heritage practitioners adhere is the 'AHD normative belief' that 'the only way anyone can truly know about the past of Indigenous peoples is through archaeology.'[44] With regard to the PCH collection, an alternative view allows for the possibility that the artefacts have cultural value even though their validity as an archaeological resource is limited, due to insufficient provenance. Moreover, their future use does not necessarily need to perpetuate their static status as fragile objects which must be kept as they are, for the next generations of custodians. If they were to be used as purveyors of cultural heritage, then they may need to re-enter social life, even if that might mean their physical deterioration. Smith's underlying point is that heritage is not artefacts – it is the series of processes and performances, the negotiation of 'cultural and social values in response to the needs of the present … the negotiation of social change and dispute.'[45] Thus, Smith posits that discourse around heritage has a place in social justice and parity for communities with non-hegemonic views of culture. Ultimately, heritage represents identity, and marginalised groups need to be able to influence how their identities are represented.

Community-centred approaches to cultural heritage management

Holtorf and Longworth, cited above, suggest that cultural heritage management can benefit sustained cultural development. As Kirschenblatt-Gimblett and Smith posit, utilising community-centred approaches can be valuable in achieving this: one that is based on 'a relational or dialogical model, which sees heritage emerging from the relationship between a range of human and non-human actors and their environment'.[46] This means working within an alternative paradigm to authorised heritage discourse, in which multifarious Indigenous ways of knowing are at the centre. This idea has been utilised in museums in Australia, as reported by Lindy Allen and Louise Hamby in *Unpacking the Collection*, who show that

[43] Smith, 'Intangible Heritage', p. 134.
[44] Laurajane Smith, *Uses of Heritage* (Abingdon: Routledge, 2006), p. 284.
[45] Smith, 'Discourses of Heritage'.
[46] Rodney Harrison, *Heritage: Critical Approaches* (Abingdon: Routledge, 2013), p. 204.

Indigenous 'lived experiences' create a 'vastly enhanced and reinvigorated knowledge base … new knowledge and old knowledge emerge and merge.'[47]

Collaborative approaches to archaeology can include working with local communities, in order to further knowledge, as well as to ensure the community is benefitting from the project: for example, though public education. Christian E. Downum and Laurie J. Price summarise the connections between archaeology, cultural resource management, and environmental protection, in their article 'Applied Archaeology'; they emphasise that each project should be specific to its locality, and utilise 'existing social groups and networks', to promote the development of the project after the archaeologists have left.[48]

Collaboration is also a way to ensure the sustainability of archaeology as a discipline. Sonya Atalay cites the model of community-based participatory research (CBPR), which places importance on information from different sources of knowledge and aims for a reciprocal relationship with community members – particularly with Indigenous communities and other local people who have 'experienced disenfranchisement from their own past, and their own ways of understanding, engaging with, and preserving it.'[49] Atalay gives an example of CBPR: a project run by Ian Hodder in rural Turkey, which was 'exceptional for its concern with the social context of archaeology.'[50] Atalay connects Hodder's attitude towards multivocality and reflexivity in his scholarship with his commitment to parity and participation in archaeological fieldwork.

There are multiple other instances of museum personnel and archaeologists utilising collaborative methods for community engagement and knowledge production: for example, Stephen Brighton worked with members of the descendent community of Irish immigrants at a town in Baltimore County in Maryland;[51] Praetzellis and Praetzellis investigated the nineteenth-century Chinese immigrant community in San Jose, California.[52] I mention these

---

[47] Lindy Allen and Louise Hamby, 'Pathways to Knowledge: Research, Agency and Power Relations in the Context of Collaborations Between Museums and Source Communities', in Sarah Byrne, Anne Clarke, Rodney Harrison, and Robin Torrence (eds.), *Unpacking the Collection: Networks of Material and Social Agency in the Museum* (New York: Springer, 2011), pp. 209-230, this citation from p. 211.
[48] Christian E. Downum and Laurie J. Price, 'Applied Archaeology', *Human Organization*, 58:3 (1999), 226-239, this citation from p. 233.
[49] Sonya Atalay, *Community-Based Archaeology: Research with, by, and for Indigenous and Local Communities* (Oakland: University of California Press, 2012), p. 4.
[50] Ibid., p. 7.
[51] Stephen A. Brighton, 'Applied Archaeology and Community Collaboration: Uncovering the Past and Empowering the Present', *Human Organization*, 70:4 (2011), 344-354.
[52] Mary Praetzellis and Adrian Praetzellis, 'Cultural Resource Management Archaeology and Heritage Values', *Historical Archaeology*, 45:1 (2011), 86-100.

as both present conflict and dissonance – racism and the reception of immigrants – in ways that include contemporary communities, and in both cases, the value of the archaeological project carried on after its cessation. Archaeological projects in Mexico, however, have faced criticism for excluding local Indigenous communities from the retelling of their own past.

Cultural heritage in Mexico

In Chapter 1 above, I described how all Mexican cultural property has been declared as property of Mexico and how this relates to the legislation over ownership of cultural artefacts. What this means is that cultural property belongs to the state, which in reality, means the country's National Institute for Anthropology and History (Instituto Nacional de Antropología e Historia; INAH). INAH administers archaeological excavations, oversees several National Museums in Mexico City, as well as having administrations in different regions of Mexico. As reported by José Luis Lorenzo, writing in *Approaches to the Archaeological Heritage*, this results in a skewing of attention to certain types of heritage, as state archaeologists historically pursue the projects that attract tourists and fit with the view of great ancient Mexican city complexes. More resources are required for these huge sites, subsidised by governmental funding, perpetuating this type of archaeology that has a specifically 'nationalistic focus'[53] of Mexican history. As a result, there are relatively few monumental sites which have received a lot of attention, compared with smaller, 'unspectacular remains.' Work upon archaeological remains that 'best exemplify the cultural glories of the past' are prioritised.[54]

There is a link between heterogeneous Indigenous identities and cultural property, which is made clear by Lilia Lizama Aranda in her chapter 'Heritage Values and Mexican Cultural Property'.[55] She points out that only in 2001 did the federal government officially acknowledge the existence of Indigenous groups in Mexico, leading to the inception of the National Commission for the Development of Indigenous Towns. Since Mexico ratified UNESCO's Convention on the Protection and Promotion of the Diversity of Cultural Expressions in 2006, there have been several projects under the multi-agency 'National

[53] José Luis Lorenzo, 'Mexico', in Henry Cleere (ed.), *Approaches to the Archaeological Heritage* (Cambridge: Cambridge University Press, 1984), pp. 89-100, this citation from p. 99.
[54] Ibid., p. 97.
[55] Lilia Lizama Aranda, 'Heritage Values and Mexican Cultural Policies: Dispossession of the "Other's" Culture by the Mexican Archaeological System', in George Smith, Phyllis Mauch Messenger, and Hilary A. Soderland (eds.), *Heritage Values in Contemporary Society* (Abingdon: Routledge, 2016), Kindle edition.

Movement for Cultural Diversity in Mexico',[56] which focus on the sustainability of Indigenous languages, preventing discrimination, and debating issues that could endanger cultural diversity.

Lizama outlines several issues with the state-sanctioned archaeological activity in Mexico, ranging from the perceived identity of Indigeneity by dominant social classes, the patchy regulation and legislation of archaeology, and most pertinently, the treatment of cultural artefacts:

> … the acquisition of site objects by the government, with artifacts generally deposited in storerooms; often, years will go by before publication and information reaches the public. In the best cases, some of the cultural remains will be displayed in national museums and international expositions. This type of procurement and management of cultural heritage often limits the participation of the Indigenous community with its own cultural heritage.[57]

Lizama goes on to discuss the case of a community in El Naranjal, in the eastern state of Quintana Roo: after the recovery of archaeological objects, the INAH responded to community calls for the physical return of the artefacts to the area by imposing a series of conditions, such as museum-level facilities to receive them. In an area of poverty, and after setbacks from a hurricane and crop failure, the community was unable to meet the conditions and the objects were not returned. Lizama Aranda uses this example to illustrate

> what seems to the government's logic of taking away tangible artifacts of a community's heritage and asking in return a series of conditions that are illogical and unreal in order to exercise control, while not returning the objects.[58]

This indicates a problem with the nationalisation of Indigeneity, in failing to include the sustainable development of source communities in the acquisition of cultural property for the Institute's research. Lizama Aranda concludes her chapter by suggesting that more can be done in the way of public and community archaeology in Mexico, to allow 'Indigenous peoples the enjoyment of proximity with their cultural past', rather than seeing the Indigenous population as 'a producer of memories, images, and artifacts … for tourists.'[59] An implication for the PCH collection is the way that the INAH and source communities may

[56] UNESCO Diversity of Cultural Expressions, 'Periodic Report Mexico', 2012, <https://en.unesco.org/creativity/governance/periodic-reports/2012/mexico>, last accessed 14 June 2020.
[57] Lizama Aranda, 'Heritage Values and Mexican Cultural Policies'.
[58] Ibid.
[59] Ibid.

reach an equitable relationship in the protection of their cultural heritage, if repatriation is to be considered.

The criticism of UNESCO and INAH notwithstanding, the institutions have several advantages: infrastructure, access to funding, and international links. If there were a way to combine the might of the institute with a genuinely inclusive collaboration with Indigenous groups, the PCH artefacts could contribute to their development in a way that would benefit both – following the precedent set by Cuauhtémoc Camarena and Teresa Morales who, while working for the INAH, helped to establish the Union of Community Museums in Oaxaca, by developing grassroots initiatives and adhering to existing local traditional governance.[60]

6.A.v. Strategies for sustainability

Sustainability can mean preservation: ensuring that the PCH collection remains as it is now, to be passed on unharmed to future generations. For this to happen, the collection could remain in its current position, in a store room with environmental controls and appropriate packing; some artefacts show repairs that are now old and could cause further damage, so remedial repairs using modern techniques would ensure their ongoing maintenance. Chapter 2 above examined the definition of the collection in its entirety, which is founded on Crossley-Holland's preferences. Maintaining the current situation of the collection as a complete whole may not be the most useful way forward, as the interpretation of individual objects or their value as representative of various cultures is obscured by the overriding definition of the PCH collection.

However, the current chapter has shown that sustainability can go beyond maintenance to cultural renewal and activism. The artefacts of the PCH collection could thus contribute to wider sustainable development. Two concerns of the UN sustainability goals are the continuation of cultural traditions and of community cohesion. The PCH collection represents the cultural heritage of communities in western Mexico whose archaeological records have been plundered, so the artefacts could contribute to the sustainable development of cultural

[60] Cuauhtémoc Camarena and Teresa Morales, 'Community Museums and Global Connections: The Union of Community Museums of Oaxaca', in Ivan Karp, Corinne A. Kratz, Lynn Szwaja, and Tomás Ybarra-Frausto (eds.), *Museum Frictions: Public Cultures/Global Transformations* (Durham: Duke University Press, 2006), pp. 322-346, this citation from p. 332.

and economic parity in those regions, by being repatriated under a responsible and collaborative programme which would ensure their use.

The community museum programme in Oaxaca could be replicated in other parts of Mexico to which the PCH collection is connected, such as Colima, Michoacán, Jalisco and Nayarit. The INAH already runs several museums in western Mexico. These will be working towards their own goals and have existing acquisitions policies, but they could be the recipients were the PCH artefacts to be repatriated. However, repatriation could be an opportunity to create new heritage centres, perhaps in more rural areas. Artefacts from the PCH collection could be donated as founding collections, and thus have a part to play in the cultural development of those areas.

6.B. The future of the collection

In order to suggest the best future use of the collection, I have devised a series of possibilities which could be applied when deciding its fate of the collection of cultural artefacts. This could also be relevant to other collections of cultural property whose future is undetermined; the custodians of the collection, and other stakeholders, can evaluate the different factors. Here, I will outline a number of scenarios, with the first major decision determining whether the collection should stay in its current situation or be moved elsewhere (see Figure 59).

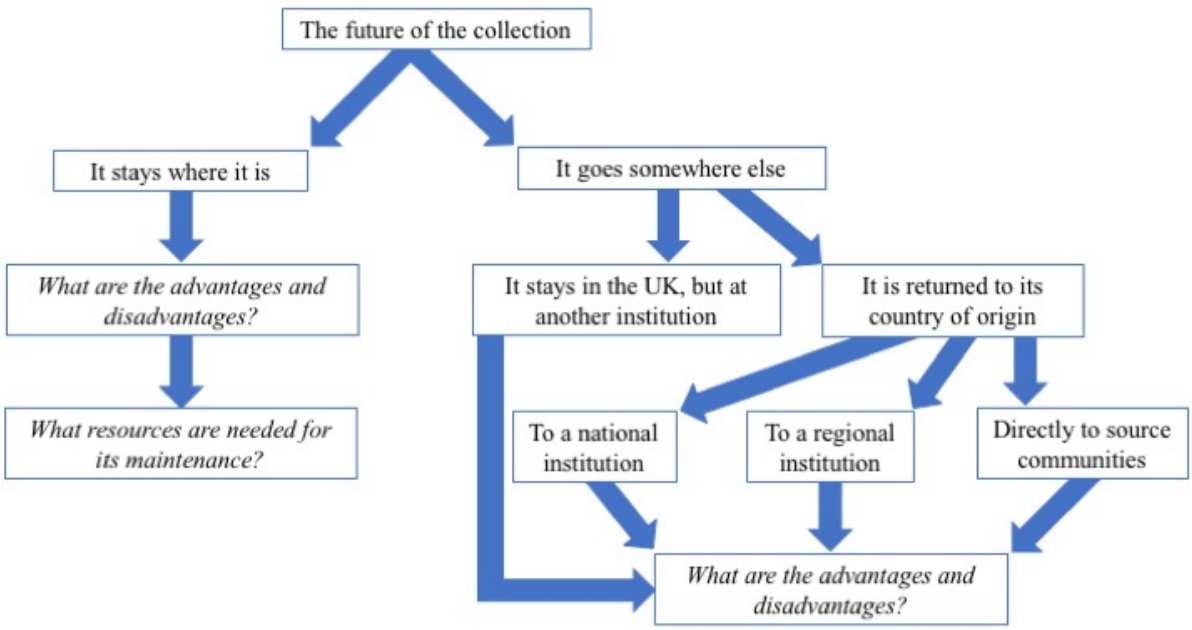


Figure 59: Options for the future use of the collection.

6.B.i. Recommendations

Should it stay or should it go?

If the collection were to stay in its current housing – in the Music building at Bangor, with conservation provided by Storiel – there would be some advantages. The artefacts would not sustain damage which may be incurred through relocation, and their current environment is sufficient for their preservation. In Bangor they can be displayed, which would be for the benefit of local people, in an area where few people may have access to national museums due to economic deprivation. Even if the collection physically stays in Bangor, there is the potential for links with communities in Mexico or expatriates in Britain. The disadvantages fall into two categories: the lack of facility for research, and the ethical issues. Firstly, there are no relevant research specialisms at Bangor University, for example in Latin American archaeology or art history, and the collection lies outside the scope of the museum, whose priority is the local social history of Gwynedd. There is also the question of ethics, due to the methods of collection and the high probability of the presence of looted artefacts, as well as ethical objections to keeping cultural property from other nations. The implications if the collection is to stay where it is include a commitment to the ongoing conservation and for restorative work, with continuing monitoring of the care of the collection; and an investment in resources and staff to catalogue the collection and administer external research visits.

If it goes: where?

It could go to somewhere else in the UK, for example the British Museum, or another university which has a more relevant research focus on material culture, Mexican archaeology, or even contemporary Latin American cultures. The advantages of this option would be that other institutions with more storage space and existing staffing and facilities could be better placed to provide care for and accessibility to the collection without significant financial commitment. The disadvantage of this would be that there are the same ethical concerns over keeping cultural property in a different context; but without the advantages that Bangor provides of being decentralised and benefitting a community which does not have the cultural advantages of a large city. The implications would be whether the University can legally sell the collection on, whether another institution would accept it, or whether the collection becomes a temporary or permanent loan.

Repatriation to Mexico

The National Institution (INAH) and the National Museum (MNA)

The most obvious possibility for repatriation would be for the collection to be returned to the National Institute for Anthropology and History, which administers archaeological excavations, runs the cultural museums in Mexico, and provides a base for research across the country. The National Museum in Mexico City is an excellent source of knowledge about ancient and contemporary culture, and it holds west Mexican cultures in the same regard as the more widely-known cultures such as Mexica (Aztec), and Maya. The return of the objects to Mexico would allow them to be used as a resource for cultural research, and comparative study with their current collections. As looting is so rife in the regions of western Mexico, any tangible cultural heritage can help to add to the understanding of their past that Mexicans are working to piece together.

The advantages of this option are that it provides an accessible and well-maintained home for the artefacts. The MNA is a world-leading museum, and Mexico City is as accessible for tourists as the British Museum or the American Museum of Natural History in New York City, thus countering one argument in favour of keeping cultural objects in museums of the Global North. Although not a universal museum, MNA in fact provides the opposite benefit of having in-depth displays of culture, which can be enjoyed by both native Mexicans and visitors. Also, this option would adhere to the Mexican government's declaration that all archaeological heritage is the rightful property of the country, regardless of its current residence. There is an ethical impetus for the return of cultural property as well, which holds the benefit to the understanding of the culture of Mexico as outweighing the potential educational benefits of its placement outside of Mexico.

A disadvantage of this option would be the loss of the collection from Bangor, and thus the potential benefits for the community, as well as the University's loss of an asset, although UNESCO stipulate that a financial reimbursement should be offered as an incentive for repatriation. Another disadvantage is that INAH and MNA provide a national service, which is centred in Mexico City and which is inaccessible to communities in other regions of the country.

The implications are for communication to be set up between the University in Bangor and the Institute in Mexico City. In previous cases of repatriation, there have been agreements

about payment and/or credit; for example, stipulations could be made that the University or Peter Crossley-Holland are mentioned in any displays using the objects. Also, it cannot be assumed that MNA has the space or the means to acquire more objects. They will have their own plans for acquisition, and many museums face the problem of limited storage space. Jerald T. Milanich, an archaeologist who worked at the Florida Museum of Natural History, wrote in *Archaeology* in 2005 that many museums face the problem of simply not being able to acquire any more objects due to the premium on space.[61]

A regional museum or several regional museums

Another possibility for repatriation in Mexico is for the collection to be held by a regional museum. Many of the archaeological museums around Mexico are run by the National Institute, based in Mexico City, but there are also private museums, for example those based upon the private collections of Diego Rivera (Anahuacalli, near Mexico City) and Rufino Tamayo (Museum of Pre-Hispanic Art in Oaxaca). Returning the objects to a regional museum would allow the benefits of the centralised administration of the museum (and thus support with conservation, research, and display) but the collection could have greater value in a smaller local museum. It would also be quite apt, as the PCH collection has been associated with a local museum in Bangor, which recognises the strength of material heritage in the formation and affirmation of local identities. There is a precedent in Mexico for the regions to benefit from their own heritage: for example, the programme of collaborative community museums in Oaxaca.

The disadvantage of this option is that it would make the collection less accessible – there would be fewer visitor numbers to a local museum than to the MNA. This would be particularly pronounced in western Mexico, as the western states are frequently cited as dangerous areas which foreign tourists should avoid, due to crime and violence. Colima, Guerrero, Sinaloa and Michoacán are currently on the 'do not travel' list of the US government travel advice,[62] which only contains one other state that is not in the west (Tamaulipas). The UK Government currently advises caution if travelling on the Pacific

[61] Jerald T. Milanich, 'Homeless Collections: What Happens to Artifacts When They Have No Place to Go?', *Archaeology*, 58:6 (2005), 59-64.
[62] United States Department of State, Bureau of Consular Affairs, 'Mexico Travel Advisory', <https://travel.state.gov/content/travel/en/traveladvisories/traveladvisories/mexico-travel-advisory.html>, last accessed 25 May 2020.

Highway, or to several resorts, including Puerto Vallarta, Jalisco, and Nuevo Vallarta, Nayarit.[63]

There are also similar implications to the previous point: would the museums have enough storage space for a new acquisition? How could communication commence? Furthermore, there are several regions represented by the artefacts in the collection, so would they be divided between regional museums in Mexico, or is it important to keep the collection whole?

Specific communities that have a connection with the cultures of origin of the artefacts

The move towards reciprocity and community collaboration has been emphasised by the idea of sustainability in archaeology and museum studies. Cultural sustainability requires the input of culture bearers and for people from source communities to become involved. One way to achieve this would be for the PCH collection to be divided, and for the artefacts to be used in community programmes throughout the regions. This could be administered by the INAH, or grassroots organisations. In this way, the repatriation of the artefacts could ensure their use by people who have a cultural connection with the ancient people who created and used them. The advantage of this option would be that the objects would be returned to the place where they were most likely stolen (by looters), and allows for Indigenous ways of knowing to influence the future treatment of the artefacts. Museums can measure success quantitatively, for example by counting visitor numbers; but the successful outcome of this option would be a qualitative benefit for communities in western Mexico. The disadvantages of this option are that it would be much more difficult to set up and administer, as there would not be the pre-existing infrastructure of a museum. However, there has been a successful project of this nature in South Dakota, where a Lakota Ghost Shirt, taken from the site of the Battle of Wounded Knee and displayed in Glasgow until 1998, was repatriated and a new museum built in which to display it.[64]

One implication is that this option would necessitate a long term and ongoing relationship. Also, the Lakota Ghost Shirt repatriation was successful in part because it was initiated by a

[63] United Kingdom Foreign & Commonwealth Office, 'Foreign Travel Advice – Mexico: Safety and Security', <https://www.gov.uk/foreign-travel-advice/mexico/safety-and-security#main-tourist-destinations>, last accessed 25 May 2020.
[64] Mark O'Neill, 'Repatriation and its Discontents: the Glasgow Experience', in Eleanor Robson, Luke Treadwell and Chris Gosden (eds.), *Who Owns Objects? The Ethics and Politics of Collecting Cultural Artefacts* (Oxford: Oxbow Books, 2006), pp. 105-128.

group of Lakota people including descendants of survivors of the Battle. There was a clear link between a particular site and the artefact, and the Battle was in recent enough history for it to be almost in living memory. The PCH collection comprises artefacts which originated thousands of years ago, and across a large area. Repatriation would require more research into the provenance of the artefacts, as the current information has varying levels of reliability, and without provenience, there is no direct link to living people. However, this concept of ancestry and of documental evidence belongs to the epistemology of nineteenth-century scholars, as discussed by John Gilkeson in his 2014 chapter 'Saving the Natives'.[65] Having discussed the production of history in Chapter 1 of this thesis, to apply this empirical methodology to establishing provenience is perhaps not appropriate. Instead, there could be a more inclusive way of discovering the PCH artefacts' histories which uses an alternative model, based on Indigenous ontologies.

6.B.ii. Further research

In order to implement these recommendations, some future research is required: namely to determine the provenience of the artefacts as much as possible, and then to carry out fieldwork to investigate the relevance of individual artefacts to contemporary communities.

The first investigation, into provenience, requires further study of the PCH archival material. Some of the receipts that Crossley-Holland kept are from the Stendahl Galleries, based in Los Angeles. Although the receipts contain very little information beyond the transactions with Crossley-Holland, there may be further information to be gleaned from the Stendahl archive at the Getty Research Institute. However, this archive mainly concerns activities in the 1940s and 1950s; but although Crossley-Holland's receipts all date from the 1970s, it is possible that there are some clues as to the origins of the PCH artefacts, if they were acquired earlier. It would also be useful to discover more about particular excavations in western Mexico during the twentieth century, and their possible links to specific PCH objects.

The next steps would be to carry out fieldwork to investigate the value of cultural artefacts among Indigenous communities. There are three major Indigenous groups in the west: the Wixáritari (exonym: Huichol), who mainly live in and around the Sierra Madre Occidental

[65] John S. Gilkeson, 'Saving the Natives: The Long Emergence and Transformation of Indigeneity', in Philip L. Kohl, Irina Podgorny, and Stefanie Gänger (eds.), *Nature and Antiquities: The Making of Archaeology in the Americas* (Tucson: University of Arizona Press, 2014), pp. 202-220, this citation from p. 206.

mountains of Nayarit and Jalisco; the Náayerite (Cora), from Nayarit; and the P'urhépecha (Tarascan), who are based in central Michoacán. This fieldwork would build on the work of anthropologists and linguists who have investigated the indigeneity of Mexican communities;[66] and ethnomusicological studies which explore the links between contemporary and pre-invasion culture in central and southern America.[67]

If the PCH collection is to continue in its current situation, there are several areas which could be explored through further research, based on my preliminary enquiry. There is the potential for further artefact-based research: investigating how 3D printed replicas can be utilised, either for conservation purposes (repairing damaged or missing parts) or for acoustic testing. There is also scope for organological and archaeomusicological research, beginning with an evaluation of Crossley-Holland's somewhat ethnocentric measurements of pitch and timbre. Further research about Storiel and the identity of residents of Bangor could be undertaken if the collection were to stay there: how international culture fits with ideas of local and Welsh-speaking culture. My research focussed on a particular demographic, a museum-visiting audience of University students and staff. This should be widened to include the views of people from other socio-economic backgrounds.

However, as this chapter has shown, cultural sustainability is a key concern, and cultural artefacts can have a role to play. Firstly, good collections management can ensure the sustainability of museums, to make sure that resources are being used appropriately and efficiently. In the case of the PCH collection, the current interest in the collection at Bangor does not seem to counterbalance the resources needed to store and conserve it. Secondly, I have shown that sustainable cultural development can contribute to resilience: safeguarding cultures against peril. Furthermore, the authorised heritage discourse focusses on top-down approaches to cultural sustainability. An alternative paradigm is a collaborative and inclusive way of working that takes into account Indigenous ways of knowing culture. This leads me to the conclusion that the PCH collection should now be used to benefit people who represent

---

[66] See, for example: Andrew Roth-Seneff, Robert V. Kemper, and Julie Adkins (eds.), *From Tribute to Communal Sovereignty: The Tarascan and Caxcan Territories in Transition* (Tucson: The University of Arizona Press, 2015); *Instituto Nacional de Lenguas Indígenas*, a federal government agency in Mexico, <https://www.inali.gob.mx>, last accessed 30 June 2020.

[67] Such as Grazia Tuzi, 'The Voladores Dance: Traces of the Past for the Interpretation of the Present', in Matthias Stöckli and Arnd Adje Both (eds.), *Flower World: Music Archaeology of the Americas vol.2* (Berlin: Ekho Verlag, 2013), pp. 159-176; Mark Howell, 'Possible Prehispanic Music Survivals in the "Rab'inal Achi"', *The World of Music*, 49:2 (2007), 105-138; Sergio Navarrete Pellicer, *Maya Achi Marimba Music in Guatemala* (Philadelphia: Temple University Press, 2005); Linda O'Brien-Rothe, *Songs That Make the Road Dance: Courtship and Fertility Music of the Tz'utujil Maya* (Austin: University of Texas Press, 2015).

its source communities, and it has a role to play in sustainable cultural development in those areas.

To summarise the main issues around the future placement of the collection: this resource has great potential as a focal point for the formation of new relationships, projects, and exchange. The decision to keep the collection or not depends on the desired outcomes. Is the priority to preserve the collection as it is, in the format determined by Crossley-Holland? Should it remain a resource for the benefit of Bangor and the region? Could that include links to organisations in Mexico? If it should be repatriated, where should it go? My opinion is that these artefacts deserve the opportunity to be both studied and disseminated, and that their potential as bearers of cultural knowledge best places them in Mexico. This is compounded by the fact that so many objects from the region have been lost to private collections after illegal looting and trade. The PCH collection could contribute a great deal to the western regions of Mexico, and could have a role in a community-based sustainable development programme for the benefit of people whose cultures are linked to that location.

Conclusion

In the final section of the previous chapter, I recommended ways that the PCH collection could be utilised in the future. I will conclude this thesis by responding to my research questions and suggesting how my investigations may be applied to the wider study of collections and museum display.

To what extent does the PCH collection represent ancient west Mexican cultures, and how can this information be interpreted and disseminated?

Ancient west Mexican cultures have historically been portrayed as marginal or insignificant.[68] This may have been a part of the appeal for Crossley-Holland, who was drawn towards the mysterious and the peripheral. Another lens through which ancient Mexico has been interpreted is the idea of a mixed Indigenous heritage, which was championed in the early twentieth century by intellectuals, artists and politicians. This idea may have disguised the heterogeneity of Indigenous culture in the regions of Mexico, in favour of a national traditional heritage. The PCH collection comprises a large volume of material evidence showing the diversity of style in these western Mexican cultures. Its use as a repository of west Mexican artefacts may be beneficial in counteracting the loss of cultural heritage from extensive looting in Jalisco and Nayarit in particular.

The interpretation of the collection as a whole must burrow through the volume of information to glean coherent information about specific aspects of culture: this is difficult when there are numerous objects and copious amounts of documentation, but little archaeological or contextual information. Crossley-Holland's interpretations show two basic approaches: musical and cultural. His cultural approach was subjective, and also varied in detail, depth and methodology depending on the artefact. Some objects were compared with others that he had seen in museums and in publications (for example, illustrations from surveys of UCLA archaeological excavations). Others were described in more speculative terms, with Crossley-Holland's interest in shamanism and his belief in a unifying and universal spirit influencing his deductions. The musical interpretations took place in the context of a significant period of change in UCLA's ethnomusicology department under Mantle Hood; but Crossley-Holland's research and publications on his collection seemed to have little connection with the activities of his colleagues. Instead, he employed a systematic

[68] As discussed and evaluated by Christopher Beekman, 'Recent Research in Western Mexican Archaeology', *Journal of Archaeological Research*, 18:1 (2010), 41-109 and Helen Perlstein Pollard, 'Recent Research in West Mexican Archaeology', *Journal of Archaeological Research*, 5:4 (1997), 345-384.

approach, applying Hornbostel-Sachs classifications, and measuring the physical and acoustic characteristics of the musical instruments. These interpretations created the framework through which I encountered the collection, and by examining Crossley-Holland's approaches I have uncovered his influence on the understanding of these artefacts in Bangor. This acknowledgement of his research and methods can hereby lead to the creation of alternative interpretations.

Based on my examination of several exhibitions, the most appropriate form of interpretation of this kind of collection for museum display involves an examination of the collector's motivations, showing the inherent bias in collected objects. Museums in Europe, the USA, and Mexico approach the display of ancient Mexico in different ways, depending on the archaeological and anthropological foci of their country's universities, the political landscape, and the institutions' values and aims. There are other activities beyond museum display which can disseminate information about these cultures. Other strategies employed by music archaeologists have been the use of acoustics and geographic or architectural sound mapping; employment of 3D printed replicas; collaboration between instrument makers and archaeologists; recordings; apps; and performances. These methods point towards the great potential for future research utilising the PCH artefacts.

What are the circumstances of the original artefacts' assemblage into a collection, and what are the ethical implications around the movement of cultural property?

Crossley-Holland's motivations for assembling the collection were primarily aesthetic and personal. Later, he indulged his interest more deeply by carrying out research on the instruments. This research exemplified some of the characteristics in ethnomusicological research at the time, as well as a typological approach stemming from early twentieth-century archaeology. The typological type of research was also a characteristic of nineteenth-century collectors, and there is some evidence that Crossley-Holland employed a 'fetishitic' approach to collecting.[69] This combination of private and public in the definition of the collection obscures the reliability of cultural information gleaned from the artefacts. The archaeological origins are unknown, and the artistic interpretation of the objects relies on cross-cultural

[69] Susan Pearce, *Museums, Objects and Collections: A Cultural Study* (Leicester: Leicester University Press, 1992), p. 69.

comparisons (which often yield circular arguments and interpretative trends rather than empirical explanations) and Crossley-Holland's own preferences and views.

The movement of cultural objects raises ethical and legal questions. My review of legislation in Mexico, the US, and the UK, as well as advice from UNIDROIT about the implementation of the UNESCO Convention of 1970, leads me to conclude that it would be difficult for any criminal activity to be proven in the case of the PCH collection. Although there is much anecdotal evidence about looting and illegal trade of west Mexican artefacts, there is little matching the stories to specific objects. Crossley-Holland kept receipts and notes about his acquisitions: he took it on good faith that the dealers he worked with were trading legitimately, and that they had legally acquired the objects before selling them on to him. The issue of ethics in the history of the collection is subjective. Debate over the ownership of cultural property, and the wedded issue of repatriation, is largely partisan: people associated with museums and archaeology believe that cultural property belongs in its place of origin, while those from an art history or a private collecting background judge cultural artefacts as examples of world heritage that can be displayed or held anywhere – except in countries outside western Europe or the USA.

Is the PCH collection in its most appropriate place, and how may it best be utilised if so?

The ethical treatment of the artefacts alone does not proffer the optimal strategy; the best future use of the collection depends upon the values and views of the stakeholders. I have outlined the possibilities for the future use of the collection, depending on whether the collection should stay in Bangor or be moved elsewhere. There is a danger that the collection is held as a curiosity in its current situation: it can be utilised as an interesting ornament, it could inspire music compositions or artistic interpretations, but as there is no contextual research taking place beyond this doctoral project, then it could easily be appropriated rather than utilised as a cultural resource.

My findings from interviewing visitors to Storiel show that the PCH collection is seen as incongruous when on display in Bangor. Visitors wanted to discuss Storiel as a representation of local history; for local people and Welsh speakers, this meant their identity, and for visitors to the area, a summary of the history of the area. The PCH display was well-received, but appeared to engender cognitive dissonance, because the identity of Storiel is that of a local history museum and the presence of ancient ethnographic objects which are so far

removed from that identity did not adhere to a coherent narrative. Although the PCH collection can contribute to a new identity of Storiel as 'glocal', this would be an ideological departure for the museum to take. The question remains whether the potential benefits for the collection in Bangor outweigh the benefits that it could bring to other arenas. Furthermore, the importance of culture in sustainable development suggests that the PCH artefacts can play a part in the creation and protection of heritage in their original contexts. A ground-breaking approach to the collection's future situation would be to utilise it in community-based heritage projects in western Mexico, to benefit Indigenous communities who have historically been marginalised. Many museums are bound by their policies about deaccessioning collections, which affects the efficacy of their role in restitution. The PCH collection is not in a situation governed by the same procedures, and so I believe it is possible to utilise the artefacts to their full potential as cultural heritage.

A framework for managing collections of cultural artefacts

By exploring the situation of the PCH collection, this thesis provides a model for the management, interpretation, and future use of a discrete collection. To conclude, I present a framework that can be used by individuals or organisations with responsibility for cultural artefacts. This is applicable to collections that, like the PCH collection, are defined primarily by their collector, removed from their original context, and/or whose futures are uncertain. This framework sets out considerations that can be applied to private collections and to collections which have been donated to a university or other public institution. The framework has three building blocks: 1) a collection's meaning and value; 2) ethics and consequential ethical mandates; and 3) practical considerations. To demonstrate how the framework may be applied, I will outline the major conclusions from my investigations with the PCH collection alongside consideration of other possible situations and scenarios.

1) Meaning and value

This part of the framework considers a collection's definition, based upon its meaning and value.

The manager of the collection should ask the following questions:

- What are the criteria and parameters by which the value of a collection can be identified?

- What were the meanings of the objects in their original context, and how have these meanings changed?
- How important is the collector's influence on the past, current, and future definition of the collection?
- What is the cultural relevancy of the collection?

The value of a collection could be defined by economic or cultural values, or a combination of both. Cultural value can be further considered in a number of ways, including values relating to identity and heritage, or to educational, artistic, or utilitarian concerns.

The economic value of the PCH collection is largely born from its trade, having been bought and sold by dealers and by Crossley-Holland himself. After spending years purchasing items, he sought to make a profit from selling his collection, as evidenced by the archival letters discussed in section 2.D.ii. This led him to approach museums as potential future owners, but the museums did not share his view of the collection's assigned economic value, and did not have the resources to proceed with a sale. One museum felt that the collection had less value due to its provenance involving a high probability of looting and illicit trade. Crossley-Holland recognised the value of the collection as an educational resource, and used this as a selling point. The collection remains valuable for its potential as an educational resource, but I see the artefacts as having greater value as vessels of cultural heritage for living people, and I would recommend that this value should be the significant factor in deciding the collection's future use, particularly because of the provenance issues. For other collections, there may not be such issues, and the artefacts may be more readily saleable, in which case consideration of the economic value might be more significant.

The meaning of a collection could also relate to its interpretation, and several meanings may occur simultaneously depending on context. I have shown in this thesis that Crossley-Holland considered music and sound as the most important function of the collection, and this translated to his definition of it as a collection of musical artefacts. An alternative interpretation might consider the artefacts as art, and another as cultural heritage. Some of the PCH artefacts' original functions were as sound-producing objects, but not necessarily musical instruments, and these meanings were lost and others gained when they were placed to rest in graves and tombs. One consequence of the age of the artefacts is that there is a loss of continuity between their original functions and their current meanings. This may be less pronounced in artefacts which are from the more recent past. Furthermore, contextual

information about the PCH artefacts' origins is difficult to glean, due both to the artefacts' age and to the loss of archaeological knowledge as a result of looting and illicit trade. Other collections may represent cultures for which there are more historical sources, whether written, iconographic, or oral, and in these cases it might be easier to glean the artefacts' meanings and their value.

The influence and importance of the collector can vary. One consideration might be historical context. For example, a display of the Sir Stamford Raffles objects at the British Museum illustrated the importance of that person in the history of the collection, due to his position in colonial Indonesia as a representative of British rule. The historical significance of that collection is closely connected to the activities of the collector. Another example might be a personal collection, for example the corsets of Frida Kahlo (at the Frida Kahlo Museum in Mexico City) which she painted herself and which fitted her body. A third consideration may be the integrity of the collection: its definition as discrete, incomplete, or modified in some way. It is this consideration which applies to the PCH collection. All 329 items were collected by Peter Crossley-Holland; if Bangor University held a larger collection of ancient west Mexican objects, of which these 329 constituted a fraction, then Crossley-Holland's influence would be less significant.

Crossley-Holland's actions were the defining factor in the collection's inception as a discrete group, but I have evaluated his influence and concluded that the artefacts in his collection could be utilised better as separate entities (or at least in smaller constituent groups). The integrity of the collection in this case is less important than the diverse and rich cultural meanings that the objects hold.

The cultural relevancy of a collection can be considered in relation to its location, and this will depend greatly on geographic and demographic differences: the size of the city, whether there is a university or a museum, how accessible it is. The PCH collection is in a particularly challenging situation, as its current home is so far away from its country of origin. In other cases, there may be different considerations. A hypothetical collection of cultural artefacts from the Hebrides residing in Glasgow would be much closer to its geographic origins, and the two locations share good communications, cultural and linguistic connections, and a government. Thus, a more equitable agreement could be reached regarding the storage and display of such a collection.

The relevance of the PCH collection to its current location in Bangor is as a resource for display, with the potential to enrich the cultural life of north Wales. It is a rare instance in this region of a significant archaeological collection from such a distant place. Museum collections in north Wales are usually concerned with north Wales, so this collection provides a unique opportunity for people in Bangor to appreciate a resource of a kind more commonly found in much larger cities. However, the PCH collection could also be seen as diluting the strong assertion of local culture that is currently found in Storiel, in a way that a collection of triple harps would not. Moreover, the artefacts could be more valuable in locations closer to their origins where they could be utilised as cultural resources among communities that have lost much of their tangible heritage.

2) Ethics and ethical mandates

This component of the framework asks what ethical standards should be attained when managing a collection. Museums have clearly-defined ethical responsibilities, so this framework could be used in conjunction with those, but with clearer applicability outside the museum sector.

The questions that need to be asked on this topic are:

- What legislation applies to the collection in its current location?
- What are the ethical considerations, and should these lead to mandates?
- What are the ramifications of the identified ethical principles?
- Is repatriation an option that is possible or desirable?
- Are there other possibilities for the future of the collection, so it can reach its full potential?

Legislation and ethics work hand in hand, as they share objectives relating to fairness and justice. The legislation concerning the PCH collection would only come into play if the collection were to be sold to another owner, in which case there would need to be more information about the provenance of the artefacts. In other cases there may be a more pressing legal obligation. For example, some of the artefacts stolen from the National Museum of Iraq in 2003 are still surfacing on the black market around the world; these objects are clearly being traded illegally. (See section 4.B.iii.)

In the case of the PCH collection, ethical issues are more pertinent than legal ones. These include the illicit trading and looting that may have occurred in the objects' histories; how appropriate it is to own these objects, especially considering they are largely being kept locked away; and whether the artefacts are being exploited as exotic objects for education or entertainment so far removed from their origins.

From evaluating the different perspectives of archaeologists and art historians, I conclude that the PCH collection should not be utilised as an archaeological resource, as its provenance is likely to be chequered. Furthermore, the display and use of the artefacts in Bangor is ethically dubious, unless the problematic aspects of their histories are also conveyed. I believe that the PCH objects are the property of the descendants of their original cultures – although it is difficult to identify who they might be. In other situations, there might be a clearer mandate to work with source communities, as in the case of the Lakota Ghost Dance shirt, as discussed in section 1.B.iv., which belonged a recent ancestor of living members of that community whose cultural and emotional connection to the artefact is very clear and immediate.

The obligation to act on these ethical considerations depends on individual and institutional aims. My view is that there is a clear ethical mandate to use the PCH artefacts as a way to promote well-being and cultural development in their source communities. Bangor University and Storiel will have different responsibilities and therefore different ethical considerations: for example, a duty to represent Crossley-Holland's family and friends, or to provide education for the students and community of Bangor. In a different situation, the presence of stakeholders, for example a large diasporic community in the local area, might point to a different set of considerations.

My interpretation of the ethical issues surrounding the PCH collection suggests that repatriation would be a beneficial future outcome. This is not as simple as sending the objects back to Mexico; as well as practical considerations, which I will outline below, there is the question of to whom the artefacts belong. Their source communities are diverse and represent a large geographic region in Mexico; moreover there may not be appropriate museum facilities to receive the objects. A repatriation programme would first require source communities to be identified; a relationship would need to be created with representatives of those communities; and a way of communicating would need to be established which considers the idea of cultural value from their point of view as well as that of a museum or

institution. In reality, successful repatriation has been carried out when the objects to be returned have been able to remain in a similar setting: for example, a number of artefacts moved from a national museum in one country to a national museum in another. An alternative view of repatriation, whereby the future of the cultural property is placed in the hands of the source communities and their own ideas of heritage, requires much more negotiation.

The PCH collection could be utilised in a way that balances the benefit for source communities with the preservation of the artefacts. For example, a temporary exhibit of some of the collection could tour museums and institutions around the UK; there could be a donation or admission charge, and the proceeds could be used for projects which promote Indigenous languages in western Mexico, or develop the cultural sustainability of intangible heritage.

3) Practical considerations

Having considered the above issues, those with responsibility for a collection must then establish whether it is practical to implement their decisions, given the resources currently or potentially available. These resources might include budget, staffing, and space for storage and/or display. Further decisions will need to be taken based on other practicalities, such as location, accessibility, the condition of the artefacts and, potentially, restorative work.

The budgetary considerations must address the current situation of the collection as well as its ongoing maintenance and any future plans for its use. For example, if items are to be repatriated, cost would be a particularly pertinent issue if the collection is large, fragile, and/or would have to travel a great distance. This might necessitate repairs to the artefacts to allow them to be transported safely. This might even be a consideration were the artefacts not to be moved. Further budget may be needed if the artefacts are to be returned to source communities that do not currently have the facility to house ancient artefacts.

Staffing implications arise not only from the curation and display of collections, but also from education, security, conservation, research, and financial management. These considerations may limit the potential future uses of collections. Space for storage and display may catalyse decisions over the future of the collection: if space is inadequate, an alternative home for a collection may be more appropriate.

* * *

This thesis has used methodologies and literature from archaeology, museology, and ethnomusicology to situate the PCH collection in its current home, to examine its recent past, and to suggest strategies for the future. I have employed this multidisciplinary approach to uncover the overlapping meanings of the collection and its position in the worlds of trade and commodity, ethnomusicology and museums. The construct of the collection has been dismantled through an examination of the circumstances of its assemblage, the motivations of the collector, and the cultural context within which it sits, and I have provided a framework so that this approach can be applied to similar collections whose identities are bound by the actions of their collector, that have been removed from their original contexts, or whose futures are uncertain. My process of deconstruction has redefined the PCH collection as a fount of cultural knowledge rather than a legacy of the collector, and this can enable a more equitable and active future for the artefacts. The collection demonstrates the great diversity and sophistication of its original cultures which has been obscured by its decontextualisation over the last 50 years. The time is ripe for the collection to enter the next stage in its life, promoting a renewed cultural heritage.

Bibliography

Books and articles

Abeyasekera, Karl, and Geoff Matthews, *Sustainable Exhibit Design: Guidelines for Designers of Small Scale Interactive and Travelling Exhibits* (Lincoln: University of Lincoln, 2007).

Achim, Miruna, *From Idols to Antiquity: Forging the National Museum of Mexico* (Lincoln: University of Nebraska Press, 2017).

Al Hamdani, Abdulamir, 'Protecting and Recording Our Archaeological Heritage in Southern Iraq', *Near Eastern Archaeology*, 71:4 (2008), 221-30.

Allen, Lindy, and Louise Hamby, 'Pathways to Knowledge: Research, Agency and Power Relations in the Context of Collaborations Between Museums and Source Communities', in Sarah Byrne, Anne Clarke, Rodney Harrison, and Robin Torrence (eds.), *Unpacking the Collection: Networks of Material and Social Agency in the Museum* (New York: Springer, 2011), pp. 209-230.

Alonso Bolaños, Marina, *La 'invención' de la música indígena de México [The 'Invention' of Indigenous Music of Mexico]* (Buenos Aires: Editorial Sb, 2008).

Amador Bech, Julio, 'Figuras y narrativas míticas de lo indígena prehispánico en el mural "Dualidad" de Rufino Tamayo [Figures and Mythical Narratives of the Pre-Hispanic Indigenous in the mural "Dualidad" by Rufino Tamayo'], *Revista Mexicana de Ciencias Políticas y Sociales*, 56:213, (2011), 93-124.

Anderson, Jon, *Understanding Cultural Geography: Places and Traces* (London: Routledge, 2015).

Andrew, Patricia, 'Standards in the Museum Curation of Musical Instruments', *Museums, Libraries and Archives Council*, 2005, <https://326gtd123dbk1xdkdm489u1q-wpengine.netdna-ssl.com/wp-content/uploads/2017/02/Museums-Libraries-Archives-Council-Standards-in-the-Museum-Curation-of-Musical-Instruments-2005.pdf>, last accessed 20 January 2020.

Appadurai, Arjun, (ed.), *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1988).

— 'Museum Objects as Accidental Refugees', *Historische Anthropologie*, 25:3 (2017), 401-408.

Appadurai, Arjun, and Carol A. Breckenridge, 'Museums are Good to Think: Heritage on View in India', in Ivan Karp, Christina Mullen Kreamer, and Steven D. Lavine (eds.), *Museums and Communities: The Politics of Public Culture* (Washington, D.C.: Smithsonian Institution Press, 1992), pp. 34-55.

Aronsson, Peter, and Gabriella Elgenius (eds.), *National Museums and Nation-Building in Europe, 1750-2010: Mobilization and Legitimacy, Continuity and Change* (Abingdon: Routledge, 2015).

Ashley-Smith, Jonathan, 'The Ethics of Conservation', in Simon Knell (ed.), *Care of Collections* (London: Routledge, 1994), pp. 11-20.

Atalay, Sonya, *Community-Based Archaeology: Research with, by, and for Indigenous and Local Communities* (Oakland: University of California Press, 2012).

Atwood, Roger, *Stealing History: Tomb Raiders, Smugglers and the Looting of the Ancient World* (New York: St Martin's Press, 2004).

Bahrani, Zainab, 'Iraq's Cultural Heritage: Monuments, History, and Loss', *Art Journal*, 62:4 (2003), 10-17.

Baily, John, 'Learning to Perform as a Research Technique in Ethnomusicology', *British Journal of Ethnomusicology*, 10:2 (2001), 85-98.

Baldwin, Alex, 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.

Bangor University, 'Environmental Performance Data 2017/18', <https://www.bangor.ac.uk/environment/documents/2017_18%20Environmental%20Data.pdf>, last accessed 6 June 2020.

— 'Helping to meet Wales' ambitious targets to cut carbon emissions by 80% by 2050', <https://www.bangor.ac.uk/environment/documents/CarbonManagement-InvesttoSavenarrative_000.pdf>, last accessed 6 June 2020.

Barber, Sarah B., and Guy David Hepp, 'Ancient Aerophones of Coastal Oaxaca, Mexico: The Archaeological and Social Context of Music', in Ricardo Eichmann, Fang Jianjun and Lars-Christian Koch (eds.), *Sound from the Past: The Interpretation of Musical Artifacts in an Archaeological Context: Papers from the 7th Symposium of the International Study Group on Music Archaeology at the Tianjin Conservatory of Music, Tianjin, China, 20–25 September, 2010* (Rahden: Marie Leidorf, 2012), pp. 259-270.

Barnes, Erin, 'Mexico's National Program of Community Museums: Local Patrimonies in a Multicultural Mexico', *Museum History Journal*, 1:2 (2008), 209-234.

Basu, Paul, and Wayne Modest (eds.), *Museums, Heritage and International Development* (New York: Routledge, 2017).

Bates, Eliot, 'The Social Life of Musical Instruments', *Ethnomusicology*, 56:3 (2012), 363-395.

Baudrillard, Jean, 'The System of Collecting', trans. Roger Cardinal, in John Elsner and Roger Cardinal (eds.), *The Cultures of Collecting* (Cambridge: Harvard University Press, 1994), pp. 7-24.

Bauer, Alexander A., 'Itinerant Objects', *Annual Review of Anthropology*, 48 (2019), 335-352.

Beck Kehoe, Alice, 'Manifest Destiny as the Order of Nature', in Philip L. Kohl, Irina Podgorny and Stefanie Gänger (eds.), *Nature and Antiquity: The Making of Archaeology in the Americas* (Tucson: University of Arizona Press, 2014), pp. 186-201.

Beekman, Christopher S., 'Recent Research in Western Mexican Archaeology', *Journal of Archaeological Research*, 18:1 (2010), 41-109.

— 'Mesoamerican Symbols of Authority in the Shaft Tomb Figures of West Mexico', paper presented at the *76th Annual Meeting of the Society for American Archaeology, Sacramento, 30 March–3 April, 2011.* <https://www.academia.edu/5000228/Mesoamerican_Symbols_of_Authority_in_the_Shaft_Tomb_Figures_of_West_Mexico>, last accessed 18 March 2020.

— 'Unseating the Shaman: Narrative Performance and Co-Essences in the Hollow Figures of Western Mexico', in Brigitte Faugère and Christopher Beekman (eds.), *Anthropological Imagery in the Mesoamerican Highlands: Gods, Ancestors, and Human Beings* (Louisville: University Press of Colorado, 2020), pp. 68-107.

Bell, Betty, 'Archaeology of Nayarit, Jalisco and Colima', in Gordon F. Ekholm and Ignacio Bernal (eds.), *Handbook of Middle American Indians, Volumes 10 and 11: Archaeology of Northern Mesoamerica* (Austin: University of Texas Press, 1971), pp. 694-753.

Bennett, Tony, 'The Exhibitionary Complex,' *New Formations*, 4 (1988), 73-102.

— *The Birth of the Museum: History, Theory, Politics* (London: Routledge, 1995).

Benson, Elizabeth P., (ed.), *Death and the Afterlife in Pre-Columbian America* (Washington, D.C.: Dumbarton Oaks Research Library and Collection, 1975).

Besterman, Tristram, 'Museum Ethics', in Sharon Macdonald (ed.) *A Companion to Museum Studies* (Chichester: Wiley-Blackwell, 2011), pp. 431-441.

Bieletto-Bueno, Natalia, 'Noise, Soundscpae and Heritage: Sound Cartographies and Urban Segregation in Twenty-First Century Mexico City', *Journal of Urban Cultural Studies*, 4:1-2 (2017), 107-126.

Bigenho, Michelle, Henry Stobart, and Richard Mújica Angulo, 'From *Indigenismo* to *Patrimonialismo*: An Introduction to the Special Issue on Music and Cultural Heritage Making in Latin America, *Transcultural Music Review*, 21-22 (2018), 2-21.

Birley, Margaret, 'Merchants, Musicians and Missionaries: Contributors to the Musical Instrument Collection of the Horniman Museum 1898-1998', in Anthony Shelton (ed.), *Collectors: Expressions of Self and Other* (London and Coimbra: Horniman Museum and Gardens and Museu Antropológico da Universidade de Coimbra, 2001), pp. 137-145.

Blass, Michael, 'Legal Restrictions on American Access to Foreign Cultural Property', *Fordham Law Review*, 46:6 (1978), 1177-1204.

Both, Arnd Adje, 'Shell Trumpets in Mesoamerica: Music-Archaeological Evidence and Living Tradition', in Ellen Hickmand and Ricardo Eichmann (eds.), *Music-Archaeological Sources: Finds, Oral Transmission, Written Evidence: Papers from the 3rd Symposium of the International Study Group on Music Archaeology at Monastery Michaelstein, 9–16 June, 2002* (Rahden: Verlag M. Leidorf, 2004), pp. 261-278.

— 'Music Archaeology: Some Methodological and Theoretical Considerations', *Yearbook for Traditional Music*, 41 (2009), 1-11.

Both, Arnd Adje, 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).

Bouquet, Mary, *Museums: A Visual Anthropology* (London: Berg, 2012).

Bourdieu, Pierre, *Distinction: A Social Critique of the Judgement of Taste* (London: Routledge, 2010).

Brading, David A., 'Manuel Gamio and Official Indigenismo in Mexico', *Bulletin of Latin American Research*, 7:1 (1988), 75-89.

Brighton, Stephen A., 'Applied Archaeology and Community Collaboration: Uncovering the Past and Empowering the Present', *Human Organization*, 70:4 (2011), 344-354.

British Museum, 'Acquistion of Objects for the Collection', December 2018, <https://www.britishmuseum.org/sites/default/files/2019-10/Acquisitions_objects_collection_policy_Dec_2018.pdf>, last accessed 12 May 2020.

Brodie, Neil, 'Congenial Bedfellows? The Academy and the Antiquities Trade', *Journal of Contemporary Criminal Justice*, 27:4 (2011), 408-437.

Brodie, Neil, and Colin Renfrew, 'Looting and the World's Archaeological Heritage: The Inadequate Response', *Annual Review of Anthropology*, 34 (2005), 343-61.

Brown, Alison, 'Reviewed Work: The Relational Museum Project, 2002-2006', *Journal of Museum Ethnography,* 20 (2008), 186-189.

Brown, Ernest D., 'Something from Nothing and More from Something: The Making and Playing of Music Instruments in African-American Cultures', in Sue Carole DeVale (ed.), *Issues in Organology* (Los Angeles: University of California Department of Ethnomusicology and Systematic Musicology, 1990), pp. 275-294.

Brugman, Fernando, 'The UNESCO Conventions and their Contribution to Sustainable Development', *Culture and Development*, 10 (2013), 5-6.

Butterwick, Kristi, *Heritage of Power: Ancient Sculpture from West Mexico* (New York and New Haven: Metropolitan Museum of Art and Yale University Press, 2004).

Buttler, Caroline, and Mary Davis (eds.), *Things Fall Apart ... Museum Conservation in Practice* (Cardiff: National Museum of Wales Books, 2006).

Byrne, Sarah, Anne Clarke, Rodney Harrison, and Robin Torrence (eds.), *Unpacking the Collection: Networks of Material and Social Agency in the Museum* (New York: Springer, 2011).

Camarena, Cuauhtémoc, and Teresa Morales, 'Community Museums and Global Connections: The Union of Community Museums of Oaxaca,' in Ivan Karp, Corinne A. Kratz, Lynn Szwaja, and Tomás Ybarra-Frausto (eds.), *Museum Frictions: Public Cultures/Global Transformations* (Durham: Duke University Press, 2006), pp. 322-344.

Carballo, David, *Urbanization and Religion in Ancient Central Mexico* (New York: Oxford University Press, 2015).

Carmona Macias, Martha (ed.), *El preclásico o formativo [The Pre-classic or Formative]* (Mexico City: Instituto Nacional de Antropología e Historia, 1989).

Carnell, Brent, and Dilly Fung (eds.), *Developing the Higher Education Curriculum: Research-Based Education in Practice* (London: UCL Press, 2017).

Chamorro, Arturo, *Los instrumentos de percusión en México* [*The Percussion Instruments of Mexico*] (Zamora: Colegio de Michoacán, 1984).

Champ, Claire, 'Best Practices in Bilingual Exhibition Text: Lessons from a Bilingual Museum', *Exhibition*, 35:1 (2016), 42-48.

Child, Robert, 'Introduction', in Caroline Buttler and Mary Davis (eds.), *Things Fall Apart ... Museum Conservation in Practice* (Cardiff: National Museum of Wales Books, 2006), p. i-xi.

Cleere, Henry, (ed.), *Approaches to the Archaeological Heritage* (Cambridge: Cambridge University Press, 1984).

Clifford, James, 'Introduction: Partial Truths', in James Clifford and George E. Marcus (eds.), *Writing Culture: The Poetics and Politics of Ethnography* (Berkeley: University of California Press, 1986), pp. 1-26.

— 'On Ethnographic Allegory', in James Clifford and George E. Marcus (eds.), *Writing Culture: The Poetics and Politics of Ethnography* (Berkeley: University of California Press, 1986), pp. 98-121.

— *The Predicament of Culture: Twentieth-Century Ethnography, Literature and Art* (Cambridge: Harvard University Press, 1988).

— *Routes: Travel and Translation in the Late Twentieth Century* (Cambridge: Harvard University Press, 1997).

— 'Quai Branly in Process', *October*, 120 (2007), 3-23.

Clifford, James, and George E. Marcus (eds.), *Writing Culture: The Poetics and Politics of Ethnography* (Berkeley: University of California Press, 1986).

Coe, Michael D., 'From *Huaquero* to Connoisseur: The Early Market in Pre-Columbian Art', in Elizabeth Hill Boone (ed.), *Collecting the Pre-Columbian Past: A Symposium at Dumbarton Oaks, 6th and 7th October 1990* (Washington, D.C.: Dumbarton Oaks Research Library and Collection, 2011), pp. 271-290.

Cohen, Dalia, and Ruth Katz, 'Remarks Concerning the Use of the Melograph in Ethnomusicological Studies', *Yuval: Studies of the Jewish Music Research Centre*, 1 (1968), 155-168.

Cooper Alarcón, Daniel, *The Aztec Palimpsest: Mexico in the Modern Imagination* (2nd edition; Tucson: University of Arizona Press, 1997).

Corner, John, and Sylvia Harvey (eds.), *Enterprise and Heritage: Cross-currents of National Culture* (London: Routledge, 1991).

Corona Núñez, José, *Tumba de El Arenal, Etzatlán, Jal.* (Mexico City: Instituto Nacional de Antropología e Historia, 1955).

Corsane, Gerard, (ed.), *Heritage, Museums and Galleries: An Introductory Reader* (London: Routledge, 2005).

Crossley-Holland, Peter, 'Musical Curiosities: The Aeolian Harp', *Radio Times*, 1389 (1950), 37. Available at <https://genome.ch.bbc.co.uk/53fa6a3145384058b656825647f9dfd9>, last accessed 24 June 2020.

— 'Preservation and Renewal of Traditional Music', *Journal of the International Council for Traditional Music*, 16 (1964), 15-18.

— (ed.), *Selected Reports in Ethnomusicology, Volume II No.1: The Melograph* (Los Angeles: University of California, Los Angeles, Institute of Ethnomusicology, 1974).

— 'The Religious Music of Tibet and its Cultural Background', in Peter Crossley-Holland (ed.), *Proceedings of the Centennial Workshop on Ethnomusicology* (Victoria: Aural History, Provincial Archives of British Columbia, 1975), pp. 79-91.

— (ed.) *Proceedings of the Centennial Workshop on Ethnomusicology* (Victoria: Aural History, Provincial Archives of British Columbia, 1975).

— Untitled chapter in Jacob Needleman (ed.), *Speaking of My Life: The Art of Living in the Cultural Revolution* (San Francisco: Harper & Row, 1979), pp. 70-94.

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

— 'Wales', in Stanley Sadie (ed.), *The New Grove Dictionary of Music and Musicians* (London: Macmillan, 1980), pp. 159-171.

— *Musical Instruments in Tibetan Legend and Folklore* (Los Angeles: University of California, 1982).

— *The Composers in the Robert ap Huw Manuscript: The Evidence for Identity, Dating and Locality* (Bangor: The Centre for Advanced Welsh Music Studies, 1998).

Crossley-Holland, Peter, and Nicole Marzac, 'A Cante-Fable from Sillé-le-Guillaume (France)', *Ethnomusicology* 15:1 (1971), 1-37.

Crumrine, N. Ross, 'Review: Musical Artifacts of Pre-Hispanic West Mexico: Towards an Interdisciplinary Approach', *Ethnomusicology*, 27:2 (1983), 375-376.

Cuno, James, *Who Owns Antiquity? Museums and the Battle over our Ancient Heritage* (Princeton: Princeton University Press, 2008).

— (ed.), *Whose Culture? The Promise of Museums and the Debate Over Antiquities* (Princeton: Princeton University Press, 2009).

— *Museums Matter: In Praise of the Encyclopedic Museum* (Chicago: The University of Chicago Press, 2011).

Dahlback, Karl, *New Methods in Vocal Folk Music Research* (Oslo: Oslo University Press, 1958).

Davis, Mary, and Felicity Woor, 'Is Half a Pot a Whole Object? Restoration of a Bronze Age Beaker', in Caroline Buttler and Mary Davis (eds.), *Things Fall Apart … Museum Conservation in Practice* (Cardiff: National Museum of Wales Books, 2006), pp. 138-142.

Dawe, Kevin, 'People, Objects, Meaning: Recent Work on the Study and Collection of Musical Instruments', *The Galpin Society Journal*, 54 (2001), 219-232.

— 'Guitar Ethnographies: Performance, Technology and Material Culture', *Ethnomusicology Forum*, 22:1 (2013), 1-25.

DeVale, Sue Carole (ed.), *Issues in Organology* (Los Angeles: University of California Department of Ethnomusicology and Systematic Musicology, 1990).

Dolmetsch, Arnold, *Translations from the Penllyn Manuscript of Ancient Harp Music* (Llangefni: Early Welsh Music Society, 1937).

Dorfman, John, 'Getting Their Hands Dirty? Archaeologists and the Looting Trade', *Lingua Franca*, May/June 1998 (published online 28 December 2005), <http://linguafranca.mirror.theinfo.org/9805/dorfman>, last accessed 25 May 2020.

Doubleday, Veronica, 'The Frame Drum in the Middle East: Women, Musical Instruments and Power', *Ethnomusicology*, 43:1 (1999), 101-134.

Douglas, Mary, *How Institutions Think* (London: Routledge & Kegan Paul Ltd., 1987).

Dournon, Geneviève, 'Theory and Method: Organology', in Helen Myers (ed.), *Ethnomusicology: An Introduction* (London: Macmillan, 1992), pp. 245-300.

Downum, Christian E., and Laurie J. Price, 'Applied Archaeology', *Human Organization*, 58:3 (1999), 226-239.

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

Duhs, Rosalind, 'Learning from University Museums and Collections in Higher Education: University College London (UCL)', *University Museums and Collections*, 3 (2010), 183-186.

Eichmann, Ricardo, Fang Jianjun and Lars-Christian Koch (eds.), *Sound from the Past: The Interpretation of Musical Artifacts in an Archaeological Context: Papers from the 7th Symposium of the International Study Group on Music Archaeology at the Tianjin Conservatory of Music, Tianjin, China, 20–25 September, 2010* (Rahden: Marie Leidorf, 2012).

Eichmann, Ricardo, Lars-Christian Koch and Fang Jianjun (eds.), *Sound – Object – Culture – History: Papers from the 9th Symposium of the International Study Group on Music Archaeology at the Ethnological Museum, State Museums Berlin, 09–12 September, 2014* (Rahden: Verlag M. Leidorf, 2016).

Ekholm, Gordon, F., *Excavations at Guasave, Sinaloa, Mexico* (New York: American Museum of Natural History, 1942).

Ekholm, Gordon F., and Ignacio Bernal (eds.), *Handbook of Middle American Indians, Volumes 10 and 11: Archaeology of Northern Mesoamerica* (Austin: University of Texas Press, 1971).

Ellingson, Ter, 'Transcription', in Helen Myers (ed.), *Ethnomusicology: An Introduction* (London: MacMillan Press, 1992), pp. 110-152.

Elliott, Mark, *Another India: Explorations and Expressions of Indigenous South Asia* (Cambridge: Museum of Archaeology and Anthropology/Adivaani, 2017).

Elsner, John and Roger Cardinal (eds.), *The Cultures of Collecting* (Cambridge: Harvard University Press, 1994).

Evans, Chris, *Slave Wales: The Welsh and Atlantic Slavery, 1660-1850* (Cardiff: University of Wales Press, 2010).

Faugère, Brigitte, and Christopher Beekman (eds.), *Anthropological Imagery in the Mesoamerican Highlands: Gods, Ancestors, and Human Beings* (Louisville: University Press of Colorado, 2020).

Flores Mercado, Georgina, and E. Fernando Nava L. (eds.), *Identidades en venta: Músicas tradicionales y turismo en México [Identities for Sale: Traditional Musics and Tourism in Mexico]* (Mexico City: Instituto de Investigaciones Sociales, 2016).

Flores Mercado, Georgina, Cecilia Reynoso Riqué, and E. Fernando Nava L., '"Esto es música p'urhépecha ...": *Pireris, pirekuas* y turismo en Michoacán' ['"This is P'urhépehca Music …": *Pireris, Pirekuas* and tourism in Michoacán'], in Georgina Flores Mercado and E. Fernando Nava L. (eds.), *Identidades en venta: Músicas tradicionales y turismo en México* (Mexico City: Instituto de Investigaciones Sociales, 2016), pp. 31-68.

Foster, Michael S., and Phil C. Weigand (eds.), *The Archaeology of West and Northwest Mesoamerica* (Boulder: Westview Press, 1985).

Fowler, William R., Christopher S. Beekman, and Robert B. Pickering, 'Introduction', *Ancient Mesoamerica*, 17:2 (2006), 231-233.

Franklin, John Curtis, '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.

Freeman, Michael, 'Lady Llanover and the Welsh Costume Prints', *The National Library of Wales Journal*, 34:2 (2007), 235-252.

French McVicker, Mary, *Adela Breton: A Victorian Artist Amid Mexico's Ruins* (Albuquerque: University of New Mexico Press, 2005).

Friedman, Jonathan, 'Being in the World: Globalization and Localization', *Theory, Culture and Society*, 7:2-3 (1990), 311-328.

Furst, Peter T., *Shaft Tombs, Shell Trumpets and Shamanism: A Culture-Historical Approach to Problems in West Mexican Archaeology* (PhD Dissertation, University of California, Los Angeles, 1966).

— 'House of Darkness and House of Light', in Elizabeth P. Benson (ed.), *Death and the Afterlife in Pre-Columbian America* (Washington, D.C.: Dumbarton Oaks Research Library and Collection, 1975), pp. 33-68.

Gänger, Stefanie, Philip Kohl, and Irina Podgorny, 'Introduction: Nature in the Making of Archaeology in the Americas', in Philip L. Kohl, Irina Podgorny and Stefanie Gänger (eds.), *Nature and Antiquity: The Making of Archaeology in the Americas* (Tucson: University of Arizona Press, 2014), pp. 3-20.

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

Garrigan, Shelley, *Collecting Mexico: Museums, Monuments, and the Creation of National Identity* (Minneapolis: University of Minnesota Press, 2012).

Gell, Alfred, *Art and Agency: An Anthropological Theory* (Oxford: Oxford University Press, 1998).

Gilchrist, Roberta, *Gender and Archaeology: Contesting the Past* (London: Routledge, 1999).

Gilkeson, John S., 'Saving the Natives: The Long Emergence and Transformation of Indigeneity', in Philip L. Kohl, Irina Podgorny, and Stefanie Gänger (eds.), *Nature and Antiquities: The Making of Archaeology in the Americas* (Tucson: University of Arizona Press, 2014), pp. 202-220.

Glasgow Museums, 'A Practical Guide for Exhibitions', *Glasgow City Council*, <https://www.britishcouncil.in/sites/default/files/guidelines_for_museum_display.pdf>, last assessed 7 January 2020.

Glassow, Michael A., 'Foreword', in C. Roger Nance, Jan de Leeuw, Phil C. Weigand, Kathleen Prado, and David S. Verity (eds.), *Correspondence Analysis in West Mexico Archaeology: Ceramics from the Long-Glassow Collection* (Albuquerque: University of New Mexico Press, 2013), pp. xv-xix.

Golding, Viv, and Wayne Modest (eds.), *Museums and Communities: Curators, Collections and Collaboration* (London: Bloomsbury, 2013).

González Mello, Renato, 'Manuel Gamio, Diego Rivera, and the Politics of Mexican Anthropology', *RES: Anthropology and Aesthetics*, 45 (2004), 161-185.

Gosden, Chris, and Frances Larson, *Knowing Things: Exploring the Collections at the Pitt Rivers Museum 1884-1945* (Oxford: Oxford University Press, 2007).

Gosden, Chris, and Yvonne Marshall (eds.), 'The Cultural Biography of Objects', *World Archaeology*, 31:2 (1999), 160-178.

Grant, Catherine, 'Analogies and Links between Cultural and Biological Diversity', *Journal of Cultural Heritage Management and Sustainable Development*, 2:2 (2012), pp. 153-163.

Greet, Michele, and Gina McDaniel Tarver, *Art Museums of Latin America: Structuring Representation* (New York: Routledge, 2018).

Gurvin, Olav, 'Photography as an Aid in Folk Music Research', *Norweg*, 3 (1953), 181-196.

Gwyn, Marian, 'Wales and the Memoralisation of Slavery in 2007', *Atlantic Studies,* 9:3 (2012), 299-318.

Gwynedd Council, 'Gwynedd Council Welsh Language Policy 2016', 2016, <https://www.gwynedd.llyw.cymru/en/Council/Documents---Council/Strategies-and-policies/Language-Standards-and-Policy/Language-Policy-2016.pdf>, last accessed 6 March 2020.

Gwynedd Council Research and Analytics Team, 'Key Statistics for Gwynedd', October 2017, <https://www.gwynedd.llyw.cymru/en/Council/Documents---Council/Key-statistics-and-data/Population.pdf>, last accessed 13 February 2020.

Hardwick, Tom, '"The Sophisticated Answer": A Recent Display of Forgeries Held at the Victoria and Albert Museum', *The Burlington Magazine*, 152:1287 (2010), 406-408.

Harper, John, 'Peter Crossley-Holland and Early Welsh Music Studies', *Welsh Music History*, 5 (2002), 1-10.

Harrison, Klisara, 'Epistemologies of Applied Ethnomusicology' *Ethnomusicology*, 56:3 (2012), 505-529.

Harrison, Rodney, *Heritage: Critical Approaches* (Abingdon: Routledge, 2013).

Hawkes, Jon, *The Fourth Pillar of Sustainability: Culture's Essential Role in Public Planning* (Melbourne: Common Ground Publishing, 2001).

Hayton, Brian, 'Sustainability and Public Museum Buildings: The UK Legislative Perspective', *Studies in Conservation*, 55:3 (2010), 150-154.

Hellier-Tinoco, Ruth, *Embodying Mexico: Tourism, Nationalism & Performance* (Oxford: Oxford University Press, 2011).

Hepworth-Sawyer, R., J. Hodgson, R. Toulson, and J. Paterson (eds.), *KES Transactions on Innovation in Music* (Shoreham-by-Sea: Future Technology Press, 2013).

Hickmann, Ellen, and Ricardo Eichmann (eds.), *Music Archaeology of Early Metal Ages: Papers from the 1st Symposium of the International Study Group on Music Archaeology at Monastery Michaelstein, 18–24 May, 1998* (Rahden: Verlag M. Leidorf, 2000).

— *Music-Archaeological Sources: Finds, Oral Transmission, Written Evidence: Papers from the 3rd Symposium of the International Study Group on Music Archaeology at Monastery Michaelstein, 9–16 June, 2002* (Rahden: Verlag M. Leidorf, 2004).

Higgins, Nicolas P., 'Mexico's Stalled Peace Process: Prospects and Challenges', *International Affairs*, 77:4 (2001), 885-903.

Hill Boone, Elizabeth (ed.), *Collecting the Pre-Columbian Past: A Symposium at Dumbarton Oaks, 6th and 7th October 1990* (Washington, D.C.: Dumbarton Oaks Research Library and Collection, 2011).

— 'Collecting the Pre-Columbian Past: Historical Trends and the Process of Reception and Use', in Elizabeth Hill Boone (ed.), *Collecting the Pre-Columbian Past: A Symposium at Dumbarton Oaks, 6th and 7th October 1990* (Washington, D.C.: Dumbarton Oaks Research Library and Collection, 2011), pp. 315-350.

Hobsbawm, Eric, and Terence Ranger (eds.), *The Invention of Tradition* (Cambridge: Cambridge University Press, 1983).

Hodder, Ian, *The Present Past: An Introduction to Anthropology for Archaeologists* (Barnsley: Pen and Sword Archaeology, 2012).

Hofman, Corinne L., and Floris W.M. Keehnen, *Material Encounters and Indigenous Transformations in the Early Colonial Americas: Archaeological Case Studies* (Leiden: Brill, 2019).

Holtorf, Cornelius, 'Embracing Change: How Cultural Resilience is increased through Cultural Heritage', *World Archaeology*, 50:4 (2018), 639-650.

Homer, Christina, *Music in the Museum: An Ethnomusicological Approach to the Display of Musical Culture*, (MusM Dissertation, University of Manchester, 2014).

Hood, Mantle, 'The Challenge of "Bi-musicality"', Ethnomusicology, 4:2 (1960), 55-59.

— *The Ethnomusicologist* (New edition; Kent: Kent State University Press, 1982).

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

Howell, Mark, 'Possible Prehispanic Music Survivals in the "Rab'inal Achi"', *The World of Music*, 49:2 (2007), 105-138.

Ingold, Tim, 'When ANT meets SPIDER: Social Theory for Arthropods', in Carl Knappett and Lambros Malafouris (eds.), *Material Agency: Towards a Non-Anthropocentric Approach* (New York: Springer: 2008), pp. 209-215.

International Council of Museums, 'Red List: Latin American Cultural Objects at Risk', October 2003, <https://icom.museum/wp-content/uploads/2018/06/RL_LatinAmerica.pdf>, last accessed 13 May 2020.

— 'Declaration on the Importance and Value of Universal Museums', *ICOM News*, 2004, <http://archives.icom.museum/pdf/E_news2004/p4_2004-1.pdf>, last accessed 11 March 2020.

— 'ICOM Code of Ethics for Museums', 2017, <https://icom.museum/wp-content/uploads/2018/07/ICOM-code-En-web.pdf>, last accessed 18 June 2020.

Jairazbhoy, Nazir, A., 'The "Objective" and Subjective View in Music Transcription', *Ethnomusicology*, 21:2 (1977), 263-273.

— 'Introduction', in Nicole Marzac-Holland and Nazir A. Jairazbhoy (eds.), *Essays in Honour of Crossley-Holland on his Sixty-Fifth Birthday* (Los Angeles: University of California, Los Angeles, 1983), pp. ix-xii.

Jairazbhoy, Nazir, A., and Hal Balyoz, 'Electronic Aids to Aural Transcription', *Ethnomusicology*, 21:2 (1977), 275-282.

Johnes, Martin, 'For Class and Nation: Dominant Trends in the Historiography of Twentieth-Century Wales', *History Compass*, 8:11 (2010), 1257-1274.

Jones, Martin, Scott Orford, and Victoria Macfarlane (eds.), *People, Places and Policy: Knowing Contemporary Wales through New Localities* (New York: Routledge, 2015).

Jones, Peter Ellis, *Bangor 1883-1983: A Study in Municipal Government* (Cardiff: University of Wales Press, 1986).

Joseph, Gilbert, Anne Rubenstein, and Eric Zolov (eds.), *Fragments of a Golden Age: The Politics of Culture in Mexico Since 1940* (Durham: Duke University Press, 2001).

Joyce, Rosemary A., and Susan Gillespie (eds.), *Things in Motion: Object Itineraries in Anthropological Practice* (Santa Fe: School for Advanced Research Press, 2015).

Kador, Thomas, Helen Chatterjee, and Leonie Hannan, 'The Materials of Life: Making Meaning through Object-based Learning in Twenty-first Century Higher Education', in Brent Carnell and Dilly Fung (eds.), *Developing the Higher Education Curriculum: Research-Based Education in Practice* (London: UCL Press, 2017), pp. 60-74.

Kaplan, Flora *Edouwaye* S., 'Making and Remaking National Identities', in Sharon Macdonald (ed.), *A Companion to Museum Studies* (Chichester: Wiley-Blackwell, 2011), pp. 152-169.

Karp, Ivan, Christina Mullen Kreamer, and Steven D. Lavine (eds.), *Museums and Communities: The Politics of Public Culture* (Washington, D.C.: Smithsonian Institution Press, 1992).

Karp, Ivan, Corinne A. Kratz, Lynn Szwaja and Tomas Ybarra-Frausto (eds.), *Museum Frictions: Public Cultures/Global Transformations* (Durham: Duke University Press, 2006).

Katz, Jared, 'The Maya Music Project: Analysis and Documentation of Ancient Maya Musical Artifacts', in Ricardo Eichmann, Lars-Christian Koch and Fang Jianjun (eds.), *Sound – Object – Culture – History: Papers from the 9th Symposium of the International Study Group on Music Archaeology at the Ethnological Museum, State Museums Berlin, 09–12 September, 2014* (Rahden: Verlag M. Leidorf, 2016), pp. 257-261.

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

Kelker, Nancy L., and Karen O. Bruhns, *Faking Ancient Mesoamerica* (London: Routledge, 2016).

Kelly, Erica, and Amparo Leyman Pino, 'Beyond Translation: Towards Better Bilingual Exhibitions', *Exhibition*, 35:1 (2016), 49-54.

Kelly, Isabel, *The Archaeology of the Autlán-Tuxcacuesco Area of Jalisco, II: The Tuxcacuesco-Zapotitlán Zone* (Los Angeles: University of California Press, 1949).

Kirschenblatt-Gimblett, Barbara, *Destination Culture: Tourism, Museums and Heritage* (Berkeley: University of California Press, 1998).

— Intangible Heritage as Metacultural Production', *Museum International*, 56:1-2 (2004), 52-65.

Knappett, Carl and Lambros Malafouris (eds.), *Material Agency: Towards a Non-Anthropocentric Approach* (New York: Springer, 2008).

Knell, Simon, (ed.), *Care of Collections*, (London: Routledge, 1994).

— ‘Altered Values: Searching for a New Collecting’, in Simon Knell (ed.), *Museums and the Future of Collecting* (2nd edition; Farnham: Ashgate Publishing, 2004), pp. 1-46.

— (ed.), *Museums and the Future of Collecting* (2nd edition; Farnham: Ashgate Publishing, 2004).

Knell, Simon J., Peter Aronsson, Arne Bugge Amundsen, Amy Jane Barnes, Stuart Burch, Jennifer Carter, Viviane Gosselin, Sarah A. Hughes and Alan Kirwan (eds.), *National Museums: New Studies from Around the World* (Abingdon: Routledge, 2011).

Kohl, Philip L., Irina Podgorny and Stefanie Gänger (eds.), *Nature and Antiquity: The Making of Archaeology in the Americas* (Tucson: University of Arizona Press, 2014).

Kopytoff, Igor, ‘The Cultural Biography of Things: Commoditization as Process’, in Arjun Appadurai (ed.), *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1988), pp. 64-94.

Kreps, Christina, *Liberating Culture: Cross-cultural Perspectives on Museums, Curation and Heritage Preservation* (London: Routledge, 2003).

— ‘University Museums as Laboratories for Experiential Learning and Engaged Practice’, *Museum Anthropology*, 38:2 (2015), 96-111.

Lähdesmäki, Tuulu, ‘Discourses of Europeanness in the reception of the European Capital of Culture events: The case of Pécs 2010’, *European Urban and Regional Studies*, 21:2 (2014), 191-205.

Larson, Frances, Alison Petch and David Zeitlyn, ‘Social Networks and the Creation of the Pitt Rivers Museum’, *Journal of Material Culture*, 12:3 (2007), 211-239.

Latour, Bruno, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2007).

— ‘An attempt at a “Compositionist Manifesto”’, *New Literary History*, 41 (2010), 471-490.

Lawergren, Bo, ‘Extant Silver Pipes from Ur, 2450 BC’, in Ellen Hickmann and Ricardo Eichmann (eds.), *Music Archaeology of Early Metal Ages: Papers from the 1st Symposium of the International Study Group on Music Archaeology at Monastery Michaelstein, 18–24 May, 1998* (Rahden: Verlag M. Leidorf, 2000), pp. 121-132.

León, Javier F., ‘Introduction’, in Javier F. León and Helena Simonett, *A Latin American Music Reader* (Urbana: University of Illinois Press, 2016), pp. 331-342.

León, Javier F., and Helena Simonett (eds.), *A Latin American Music Reader* (Urbana: University of Illinois Press, 2016).

León-Portilla, Miguel, 'Introducción General al Volumen Conocido Como *Cantares Mexicanos*' ['General Introduction to the Volume Known As *Cantares Mexicanos'*], *Universidad Nacional Autónoma de México*, 20 July 2016, <http://www.historicas.unam.mx/publicaciones/publicadigital/libros/cantares/cm01/05_introduccion_general.pdf>, last accessed 27 February 2020.

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

Lizama Aranda, Lilia, 'Heritage Values and Mexican Cultural Policies: Dispossession of the "Other's" Culture by the Mexican Archaeological System', in George Smith, Phyllis Mauch Messenger, and Hilary A. Soderland (eds.), *Heritage Values in Contemporary Society* (Abingdon: Routledge, 2016), Kindle edition.

Lobley, Noel, 'Taking Xhosa Music out of the Fridge and into the Townships', *Ethnomusicology Forum*, 21:2 (2012), 181-195.

Lobley, Noel, and Marina Jirotka, 'Innovations in Sound Archiving: Field Recordings, Audiences and Digital Inclusion', paper presented at 'Digital Engagement', Newcastle, 15-17 November 2011. Available at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.652.6838&rep=rep1&type=pdf>, last accessed 8 March 2020.

Lofland, Lyn H., *The Public Realm: Exploring the City's Quintessential Social Territory* (Abingdon: Routledge, 2017).

Lomax, Alan, 'Song Structure and Social Structure', *Ethnology*, 1:4 (1962), 425-451.

Long, Stanley, *Archaeology of the Municipio of Etzatlan, Jalisco* (PhD Dissertation, University of California, Los Angeles, 1966).

Longair, Sarah, and John McAleer (eds.), *Curating Empire: Museums and the British Imperial Experience* (Manchester: University of Manchester Press, 2012).

Longworth, Elizabeth, 'The Culture of Prevention: Heritage and Resilience', in Sabine von Schorlemer and Sylvia Maus (eds.), *Climate Change as a Threat to Peace: Impacts on Cultural Heritage and Cultural Diversity* (Frankfurt am Main: Peter Lang, 2014), pp. 119-126.

López Mestas Camberos, Lorenza, and Jorge Ramos de la Vaga, 'Excavating the Tomb at Huitzilapa', in Richard F. Townsend (ed.), *Ancient West Mexico: Art and Archaeology of the Unknown Past* (Chicago: The Art Institute of Chicago, 1998), pp. 53-70.

Low, Setha M., and Denise Lawrence-Zúñiga, 'Locating Culture', in Setha M. Low and Denise Lawrence-Zúñiga (eds.), *The Anthropology of Space and Place: Locating Culture* (Malden: Blackwell Publishers, 2003), pp. 1-48.

— (eds.), *The Anthropology of Space and Place: Locating Culture* (Malden: Blackwell Publishers, 2003).

Lowe Dworsky, Tamara, and Lawrence N. Dworsky, 'Review: Selected Reports in Ethnomusicology by Peter Crossley-Holland', *Ethnomusicology*, 19:3 (1975), 490-493.

Loza, Steve, 'Book Summary and Review: Arturo Chamorro, "Los instrumentos de percusión en México"', *Pacific Review of Ethnomusicology*, 2 (1985), 109-119.

Luis Lorenzo, José, 'Mexico', in Henry Cleere (ed.), *Approaches to the Archaeological Heritage* (Cambridge: Cambridge University Press, 1984), pp. 89-100.

Macdonald, Sharon (ed.), *A Companion to Museum Studies* (Chichester: Wiley-Blackwell, 2011).

MacGregor, Neil, 'To Shape the Citizens of "That Great City, the World"', in James Cuno (ed.), *Whose Culture? The Promise of Museums and the Debate Over Antiquities* (Princeton: Princeton University Press, 2009), pp. 39-54.

Mann, Robin, and Alexandra Plows, 'East, West, and the Bit in the Middle: Localities in North Wales', in Martin Jones, Scott Orford, and Victoria Macfarlane (eds.), *People, Places and Policy: Knowing Contemporary Wales through New Localities* (New York: Routledge, 2015), pp. 95-117.

Mann, Robin, and Steve Fenton, *Nation, Class and Resentment: The Politics of National Identity in England, Scotland and Wales* (London: Palgrave Macmillan, 2017).

Marian-Bãlaça, Marin, 'Who Actually Needs Transcription? Notes on the Modern Rise of a Method and the Postmodern Fall of an Ideology', *The World of Music*, 47:2 (2005), 5-29.

Martí, Samuel, *Instrumentos musicales precortesianos [Pre-Cortesian Musical Instruments]* (Mexico City: Instituto Nationcel de Antropología, 1955).

Martin, Emily, and Susan Harding, 'Anthropology Now and Then in the American Museum of Natural History: An Alternative Museum', *Anthropology Now*, 9:2 (2017), 1-13.

Marzac-Holland, Nicole, and Nazir A. Jairazbhoy (eds.), *Essays in Honour of Crossley-Holland on his Sixty-Fifth Birthday* (Los Angeles: University of California, Los Angeles, 1983).

Mason, Rhiannon, 'Museums, Galleries and Heritage: Sites of Meaning-making and Communication', in Gerard Corsane (ed.), *Heritage, Museums and Galleries: An Introductory Reader* (London: Routledge, 2005), pp. 200-214.

— *Museums, Nations, Identities: Wales and its National Museums* (Cardiff: University of Wales Press, 2007).

— 'Representing the Nation', in John Osmond (ed.), *Myths, Memories and Future: The National Library and National Museum in the Story of Wales* (Cardiff: Institute of Welsh Affairs, 2007), pp. 23-37.

Mason, Rhiannon, Chris Whitehead, and Helen Graham, 'One Voice to Many Voices?: Displaying Polyvocality in an Art Gallery', in Viv Golding and Wayne Modest (eds.), *Museums and Communities: Curators, Collections and Collaboration* (London: Bloomsbury, 2013), pp. 163-177.

McAlpine, Kenneth, 'Sampling the Past: A Tactile Approach to Interactive Musical Instrument Exhibits in the Heritage Sector', in R. Hepworth-Sawyer, J. Hodgson, R. Toulson, and J. Paterson (eds.), *KES Transactions on Innovation in Music* (Shoreham-by-Sea: Future Technology Press, 2013), pp. 110-125.

McEwan, Colin, *Ancient Mexico in the British Museum* (London: British Museum Press, 1994).

Merriam, Alan P., 'Ethnomusicology: Discussion and Definition of the Field', *Ethnomusicology*, 4:3 (1960), 107-114.

Merriman, Nick, 'Museums and Sustainability', *Cultural Trends*, 17:1 (2008), 3-21.

Metfessel, Milton, 'A Photographic Method of Measuring Pitch', *Science*, 68:1766 (1928), 430-432.

— *Phonophotography in Folk Music: American Negro Songs in New Notation* (Chapel Hill: University of North Carolina Press, 1928).

— The Collecting of Folk Songs by Phonophotography', *Science*, 67:1724 (1928), 28-31.

Milanich, Jerald T., 'Homeless Collections: What Happens to Artifacts When They Have No Place to Go?', *Archaeology*, 58:6 (2005), 59-64.

Morgan, Prys, 'From a Death to a View: The Hunt for the Welsh Past in the Romantic Period', in Eric Hobsbawm and Terence Ranger (eds.), *The Invention of Tradition* (Cambridge: Cambridge University Press, 1983), pp. 43-100.

Myers, Fred, 'The Complicity of Cultural Production: The Contingencies of Performance in Globalizing Museum Practices', in Ivan Karp, Corinne A. Kratz, Lynn Szwaja and Tomas Ybarra-Frausto (eds.), *Museum Frictions: Public Cultures/Global Transformations* (Durham: Duke University Press, 2006), pp. 504-536.

Myers, Helen, (ed.), *Ethnomusicology: An Introduction* (London: Macmillan, 1992).

Nance, Roger C., Jan de Leeuw, Phil C. Weigand, Kathleen Prado, and David S. Verity (eds.), *Correspondence Analysis in West Mexico Archaeology: Ceramics from the Long-Glassow Collection* (Albuquerque: University of New Mexico Press, 2013).

Navarrete Pellicer, Sergio, *Maya Achi Marimba Music in Guatemala* (Philadelphia: Temple University Press, 2005).

Needleman, Jacob, (ed.), *Speaking of My Life: The Art of Living in the Cultural Revolution* (San Francisco: Harper & Row, 1979).

Nettl, Bruno, *The Study of Ethnomusicology: Thirty-Three Discussions* (Urbana: University of Illinois Press, 2015).

Neurath, Johannes, *Las fiestas de la casa grande: Procesos rituals, cosmovisión y estructura social en una comunidad huichola [The Parties at the Big House: Ritual Processes, Cosmovision and Social Structure in a Huichol Community]* (Mexico City: Conaculta-Instituto Nacional de Antropología, 2002).

Neville, Howard, 'Unique Collection of Musical Artefacts from Pre-Hispanic West Mexico', *Apollo*, July 2000, 11.

O'Brien-Rothe, Linda, *Songs That Make the Road Dance: Courtship and Fertility Music of the Tz'utujil Maya* (Austin: University of Texas Press, 2015).

O'Dwyer, Dervilla, 'The Contribution of Conservators to Sustainability at the National Maritime Museum, UK', *Studies in Conservation*, 55:3 (2010), 155-158.

O'Hanlon, Michael, 'Foreword', in Chris Gosden and Frances Larson, *Knowing Things: Exploring the Collections at the Pitt Rivers Museum 1884-1945* (Oxford: Oxford University Press, 2007), pp. xvii-xviii.

Olsen, Dale A., *Music of the Warao of Venezuela: Song People of the Rain Forest* (Gainesville: University of Florida Press, 1996).

— *Music of El Dorado: The Ethnomusicology of Ancient South American* Cultures (Gainesville: University of Florida Press, 2005).

— 'The Complementarity and Interdisciplinarity of Archaeomusicology: An Introduction to the Field and this Volume', *The World of Music*, 49:2 (2007), 11-15.

O'Neill, Mark, 'Enlightenment Museums: Universal or Merely Global?', *Museum and Society*, 2:3 (2004), 190-202.

— 'Repatriation and its Discontents: the Glasgow Experience', in Eleanor Robson, Luke Treadwell and Chris Gosden (eds.), *Who Owns Objects? The Ethics and Politics of Collecting Cultural Artefacts* (Oxford: Oxbow Books, 2006), pp. 105-128.

Ortiz, Daniela, 'The Culture of Coloniality', *Decolonising Museums* (Gothenburg, L'Internationale Books, 2015), pp. 96-103. Available online at <https://www.internationaleonline.org/library/#decolonising_museums>, last accessed 11 March 2020.

Osmond, John (ed.), *Myths, Memories and Future: The National Library and National Museum in the Story of Wales* (Cardiff: Institute of Welsh Affairs, 2007).

Osorio Sunnocks, Laura, 'Curating the Mexican Days of the Dead: "Intangible Heritage" at the British Museum', *Anthropology Now*, 8:1 (2016), 25-36.

Pasztory, Esther, 'The Iconography of the Teotihuacan Tlaloc', *Studies in Pre-Columbian Art and Archaeology*, 15 (1974), 1-22.

— 'Truth in Forgery', *Anthropology and Aesthetics*, 42 (2002), 159-165.

Pearce, Susan, *Museums, Objects and Collections: A Cultural Study* (Leicester: Leicester University Press, 1992).

Perlstein Pollard, Helen, 'Recent Research in West Mexican Archaeology', *Journal of Archaeological Research*, 5:4 (1997), 345-384.

Perry, Chris, 'Will It Run? Should It Run? Restoring a Benz Car', in Caroline Buttler and Mary Davis (eds.), *Things Fall Apart … Museum Conservation in Practice* (Cardiff: National Museum of Wales Books, 2006), pp. 147-150.

Perzolla, Valentina, Chris M. Carr and Stephen Westland, 'Proactive Collaborative Conservation: Museums and Companies Working Towards Sustainability', *Journal of Cultural Heritage Management and Sustainable Development*, 8:3 (2018), 321-341.

Pickering, Robert, and Cheryl Smallwood-Roberts, 'Old Figures, New Ways of Seeing,' *Gilcrease Journal*, 20:1 (2013), 6-25.

Politis, Dionysios, 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.

Porter, James, 'Introduction: Locating Celtic Music (and Song)', *Western Folklore*, 57:4 (1998), 205-224

— 'The Distant Isle: The Scholarship and Music of Peter Crossley-Holland (1916-2001)', *Ethnomusicology*, 46:2 (2002), 323-329.

Power, Elaine M., 'Toward Understanding in Postmodern Interview Analysis: Interpreting the Contradictory Remarks of a Research Participant', *Qualitative Health Research*, 14:6 (2004), 858-865.

Praetzellis, Mary, and Adrian Praetzellis, 'Cultural Resource Management Archaeology and Heritage Values', *Historical Archaeology*, 45:1 (2011), 86-100.

Pratt, Mary Louise, *Imperial Eyes: Travel Writing and Transculturation* (London: Routledge, 1992).

Quave, Kylie, E., and Nicolette B. Meister, 'Assessing the Impact of Curricular Collections Use at a Liberal Arts College', *Museum Management and Curatorship*, 32:1 (2017), 2-19.

Qureshi, Regula, 'How Does Music Mean? Embodied Memories and the Politics of Affect in the Indian "sarangi"', *American Ethnologist,* 27:4 (2000), 805-838.

Ramos de la Vega, Jorge, and M. Lorenza López Mestas Camberos, 'Datos preliminares sobre el descubrimiento de una tumba de tiro en el sitio de Huitzilapa, Jalisco' ['Preliminary Data about the Discovery of a Shaft Tomb in the Site of Huitzilapa, Jalisco'], *Ancient Mesoamerica*, 7:1 (1996), 121-134.

Rasmussen, Anthony W., 'Sales and Survival within the Contested Acoustic Territories of Mexico City's Historic Centre', *Ethnomusicology Forum*, 26:3 (2017), 307-330.

Rectanus, Mark W., 'Globalization: Incorporating the Museum', in Sharon Macdonald (ed.), *A Companion to Museum Studies* (Chichester: Wiley-Blackwell, 2011), pp. 381-397.

Roberts, David, *Bangor University, 1884–2009* (Cardiff: University of Wales, 2009).

Roberts, Huw, *Pais a Becon, Gŵn Stwff a Het Silc: Y Wisg Gymreig ym Môn yn y Bedwaredd Ganrif ar Bymtheg [Petticoat and Bedgown, Stuff Gown and Silk Hat: Traditional Welsh Costume in Nineteenth-century Anglesey]* (Llangefni: Oriel Ynys Môn, 2006).

Robertson, Roland, *Globalization: Social Theory and Global Culture* (London: Sage Publications, 1992).

Robins, Kevin, 'Tradition and Translation: National Culture in its Global Context', in John Corner and Sylvia Harvey (eds.), *Enterprise and Heritage: Cross-currents of National Culture* (London: Routledge, 1991), pp. 21-44.

Robson, Eleanor, Luke Treadwell and Chris Gosden (eds.), *Who Owns Objects? The Ethics and Politics of Collecting Cultural Artefacts* (Oxford: Oxbow Books, 2006).

Roda, P. Allen, 'Tabla Tuning on the Workshop Stage: Toward a Materialist Musical Ethnography', *Ethnomusicology Forum,* 23:3 (2014), 360-382

Rodman, Margaret, 'Empowering Place: Multilocality and Multivocality', in Setha M. Low and Denise Lawrence-Zúñiga (eds.), *The Anthropology of Space and Place: Locating Culture* (Malden: Blackwell Publishers, 2003), pp. 204-224.

Rollston, Christopher A., Davis Parker, and Heather Dana, 'The Public Display of Forgeries: A Desideratum for Museums and Collections', *Near Eastern Archaeology*, 68:1/2 (2005), 75.

Roth-Seneff, Andrew, Robert V. Kemper, and Julie Adkins (eds.), *From Tribute to Communal Sovereignty: The Tarascan and Caxcan Territories in Transition* (Tucson: The University of Arizona Press, 2015).

Sadie, Stanley (ed.), *The New Grove Dictionary of Music and Musicians* (London: Macmillan, 1980).

Saragoza, Alex, 'The Selling of Mexico: Tourism and the State, 1929-1952', in Gilbert Joseph, Anne Rubenstein, and Eric Zolov (eds.), *Fragments of a Golden Age: The Politics of Culture in Mexico Since 1940* (Durham: Duke University Press, 2001), pp. 91-115.

Sarr, Felwine, and Bénédicte Savoy, 'Rapport sur la restitution de patrimoine culturel africain: Vers une nouvelle éthique relationnelle' ['Report on the Restitution of African Cultural Patrimony: Toward a New Relational Ethics'], November 2018, <http://restitutionreport2018.com/sarr_savoy_fr.pdf>, last accessed 30 June 2020.

Sauer, Carl, *Agricultural Origins and Dispersals: The Domestication of Animals and Foodstuffs* (Cambridge: MIT Press, 1969).

Saussure, Ferdinard de, *Course in General Linguistics*, trans. Wade Baskin (New York: The Philosophical Library, 1959).

Savan, Jamie, 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.

Schorlemer, Sabine von, and Sylvia Maus (eds.), *Climate Change as a Threat to Peace: Impacts on Cultural Heritage and Cultural Diversity* (Frankfurt am Main: Peter Lang, 2014).

Schultz, Lainie, 'Object-Based Learning, or Learning from Objects in the Anthropology Museum', *Review of Education, Pedagogy, and Cultural Studies*, 40:4 (2018), 282-304.

Secretaría de Turismo de Michoacán [Tourism Minster for Michoacán], 'Guía de Michoacán, El alma de México' ['Guide to Michoacán, the Soul of Mexico], <https://play.google.com/books/reader?id=7O4XBQAAQBAJ&pg=GBS.PP1>, last accessed 18 June 2020.

Seeger, Charles, 'Toward a Universal Music Sound-Writing for Musicology', *Journal of the International Folk Music Council*, 9 (1957), 63-66.

— 'Prescriptive and Descriptive Music-Writing', *The Musical Quarterly*, 44:2 (1958), 184-195.

— 'The Model b "Melograph": A Progress Report', *Journal of the International Folk Music Council*, 14 (1962), 168.

Shaya, Josephine, 'Communicating Context: Spain's Newly Renovated Museo Arqueológical Nacional', *American Journal of Archaeology*, 121:2 (2017), 333-341.

Shelton, Anthony, (ed.), *Collectors: Expressions of Self and Other* (London and Coimbra: Horniman Museum and Gardens and Museu Antropológico da Universidade de Coimbra, 2001).

Shrylock, Andrew, and Daniel Lord Smail (eds.), in *Deep History: The Architecture of Past and Present* (Berkeley: University of California Press, 2011).

Silva, Megan de, and Jane Henderson, 'Sustainability in Conservation Practice', *Journal of the Institute of Conservation*, 34:1 (2011), 5-15.

Simonett, Helena, 'Envisioned, Ensounded, Enacted: Sacred Ecology and Indigenous Musical Experience in Yoreme Ceremonies of Northwest Mexico', *Ethnomusicology*, 58:1 (2014), 110-132.

Simonett, Helena, and Michael Marcuzzi, 'One Hundred Years of Latin American Music Scholarship: An Overview', in Javier F. León and Helena Simonett (eds.), *A Latin American Music Reader: Views from the South* (Urbana: University of Illinois Press, 2016), pp. 1-68.

Smith, Claire, 'Decolonising the Museum: The National Museum of the American Indian in Washington, DC', *Antiquity*, 79:304 (2005), 424-439.

Smith, George, Phyllis Mauch Messenger, and Hilary A. Soderland (eds.), *Heritage Values in Contemporary Society* (Abingdon: Routledge, 2016), Kindle edition.

Smith, Hazel, and Roger T. Dean (eds.), *Practice-led Research, Research-led Practice in the Creative Arts* (Edinburgh: Edinburgh University Press, 2009).

Smith, Laurajane, *Uses of Heritage* (Abingdon: Routledge, 2006).

— 'Discourses of Heritage: Implications for Archaeological Practice', *Nuevo Mundo Mundos Novos*, 2012, <https://doi.org/10.4000/nuevomundo.64148>, last accessed 15 June 2020.

— 'Intangible Heritage: A Challenge to the Authorised Heritage Discourse?', *Revista d'etnologia de Catalunya,* 39 (2014), 133-142.

Stevenson Day, Jane, Kristi Butterwick, and Robert B. Pickering, 'Archaeological Interpretations of West Mexican Ceramic Art from the Late Preclassic Period: Three Figurine Projects', *Ancient Mesoamerica*, 7:1 (1996), 149-161.

Stevenson, Robert, *Music in Mexico: A Historical Survey* (New York: Crowell, 1971).

— 'Peter Crossley-Holland: Composer', in Nicole Marzac-Holland and Nazir A. Jairazbhoy (eds.), *Essays in Honour of Crossley-Holland on his Sixty-Fifth Birthday* (Los Angeles: University of California, Los Angeles, 1983), pp. 1-10.

Stobart, Henry, 'Staging Sound: Acoustic Reflections on Inca Music, Architecture and Performance Spaces', in Matthias Stöckli and Arnd Adje Both (eds.), *Flower World: Music Archaeology of the Americas vol.2* (Berlin: Ekho Verlag, 2013), pp. 11-36.

Stöckli, Matthias, 'Playing Music as a Domestic Activity? Interpretations of the Finds of Sound-producing Artifacts at Aguateca, El Petén, Guatemala', *The World of Music*, 49:2 (2007), 17-33.

Stöckli, Matthias, and Arnd Adje Both (eds.), *Flower World: Music Archaeology of the Americas vol.2* (Berlin: Ekho Verlag, 2013).

Sullivan, Graeme, 'Making Space: The Purpose and Place of Practice-led Research', in Hazel Smith and Roger T. Dean (eds.), *Practice-led Research, Research-led Practice in the Creative Arts* (Edinburgh: Edinburgh University Press, 2009), pp. 41-65.

Sund, Judy, 'Beyond the Grave: The Twentieth-Century Afterlife of West Mexican Burial Effigies', *The Art Bulletin*, 82:4 (2000), 734-767.

Thomas, Dominic (ed.), *Museums in Postcolonial Europe* (Abingdon: Routledge, 2010).

Till, Rupert, '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.

Titon, Jeff Todd (ed.), *Worlds of Music: An Introduction to the Music of the World's Peoples* (1st edition; New York: Schirmer Books, 1984).

— 'Music and Sustainability: An Ecological Viewpoint', *The World of Music*, 51:1 (2009), 119-137.

Townsend, Richard F. (ed.), *Ancient West Mexico: Art and Archaeology of the Unknown Past* (Chicago: The Art Institute of Chicago, 1998).

— 'Introduction: Renewing the Inquiry in Ancient West Mexico', in Richard F. Townsend (ed.), *Ancient West Mexico: Art and Archaeology of the Unknown Past* (Chicago: The Art Institute of Chicago, 1998), pp. 15-33.

Turner, Andrew D., 'Unmasking Tlaloc: The Iconography, Symbolism, and Ideological Development of the Teotihuacan Rain God', in Brigette Faugère and Christopher S. Beekman (eds.), *Anthropomorphic Imagery in the Mesoamerican Highlands: Gods, Ancestors, and Human Beings* (Louisville: University Press of Colorado, 2020), pp. 205-237.

Tuzi, Grazia, 'The Voladores Dance: Traces of the Past for the Interpretation of the Present', in Matthias Stöckli and Arnd Adje Both (eds.), *Flower World: Music Archaeology of the Americas vol.2* (Berlin: Ekho Verlag, 2013), pp. 159-176.

United Kingdom Government Department for Culture, Media and Sport, 'Guidance for the Care of Human Remains in Museums', <https://webarchive.nationalarchives.gov.uk/+/http:/www.culture.gov.uk/images/publications/GuidanceHuman Remains11Oct.pdf>, last accessed 29 June 2020.

— 'Ministerial Advisory Panel on Illicit Trade Report', December 2000, <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/78352/Repor t_AdPanel_Illicit_Trade.pdf>, last accessed 12 May 2020.

United Kingdom Government Department for Culture, Media and Sport (Cultural Property Unit), 'Combating Illicit Trade: Due Diligence Guidelines for Museums, Libraries and Archives on Collecting and Borrowing Cultural Material', October 2005, <http://webarchive.nationalarchives.gov.uk/20121204133803/http://www.culture.gov.uk/images/publications/Combating_Illicit_Trade05.pdf>, last accessed 6 November 2018.

United States Bureau of Educational and Cultural Affairs, 'Convention on Cultural Property Implementation Act', 1987, <https://eca.state.gov/files/bureau/97-446.pdf>, last accessed 6 November 2018.

— 'Treaty of Cooperation Between the United States of America and the United Mexican States Providing for the Recovery and Return of Stolen Archaeological, Historical and Cultural Properties', 1970, <https://eca.state.gov/files/bureau/treaty01.pdf>, last accessed 20 June 2020.

United States Congress, 'An Act to establish the "Smithsonian Institution," for the Increase and Diffusion of Knowledge among Men', 10 August 1846, <https://www.loc.gov/law/help/statutes-at-large/29th- congress/session-1/c29s1ch178.pdf>, last accessed 22 June 2020.

Weigand, Phil C., 'Evidence for Complex Societies during the Western Mesoamerican Classic Period', in Michael S. Foster and Phil C. Weigand (eds.), *The Archaeology of West and Northwest Mesoamerica* (Boulder: Westview Press, 1985), pp. 47-91.

— 'Architecture and Settlement Patterns Within the Western Mesoamerican Formative Tradition', in Martha Carmona Macias (ed.), *El preclásico o formativo* (Mexico City: Instituto Nacional de Antropología e Historia, 1989), pp. 39-64.

Welsh Government, 'How to Measure a Nation's Progress: National Indicators for Wales', 2016, <https://gov.wales/sites/default/files/publications/2019-06/national-indicators-for-wales.pdf>, last accessed 6 June 2020.

— 'Well-being of Future Generations (Wales) Act 2015: The Essentials', 2015, <https://futuregenerations.wales/wp-content/uploads/2017/02/150623-guide-to-the-fg-act-en.pdf>, last accessed 6 June 2020.

Wilkinson, Helen, 'A Long Way to Go', *Museums Journal*, 109:6 (2009), 9.

Winning, Hasso von, 'Ceramic House Models and Figurine Groups Mounted on Slabs', in Hasso von Winning and Olga Hammer (eds.), *Anecdotal Sculpture of Ancient West Mexico* (Los Angeles: Ethnic Arts Council of Los Angeles, 1972), pp. 17-30.

— *The Shaft Tomb Figures of West Mexico* (Los Angeles: Southwestern Museum, 1974).

Winning, Hasso von, and Olga Hammer (eds.), *Anecdotal Sculpture of Ancient West Mexico* (Los Angeles: Ethnic Arts Council of Los Angeles, 1972).

Wright, Martin, *Wales and Socialism: Political Culture and National Identity Before the Great War* (Cardiff: University of Wales Press, 2016).

Wylie, Alison, 'Ethical Dilemmas in Archaeological Practice: Looting, Repatriation, Stewardship, and the (Trans)formation of Disciplinary Identity', *Perspectives on Science*, 4:2 (1996), 154-194.

Xirau, Ramón, 'Tamayo y el Arte Prehispanico', *Diálogos: Artes, Letras, Ciencias Humanas*, 8:3 (1972), 46.

Websites

Ampie, Rodrigo, 'La increíble Colección de Arqueología Sinaloense del Chino Billetero' [The Incredible Collection of Archaeology from Sinaloa of *El Chino Billetero*'], *Debate*, 14 January 2018, <https://www.debate.com.mx/mexico/Tengo-71-anos-rescatando-la-historia-y-al-gobierno-ni-le-interesa----20180113-0379.html>, last accessed 17 May 2020.

Archivo Histórico General del Estado de Sinaloa, 'Homenaje a Héctor Manuel Delgado Salas "El Chino Billetero"' ['Homage to Héctor Manuel Delgado Salas, "*El Chino Billetero*"'], 2015, <https://ahgs.gob.mx/homenaje-a-hector-manuel-delgado-salas-el-chino-billetero/>, last accessed 17 May 2020.

Bangor University, 'Bangor University Goes 100% Renewable', 31 October 2019, <https://www.bangor.ac.uk/sustainability/news/bangor-university-goes-100-renewable-42169>, last accessed 6 June 2020.

— 'Campaigns, Schemes, Initiatives and Awards', <https://www.bangor.ac.uk/environment/wastecampaigns.php.en>, last accessed 6 June 2020.

— 'Finance and Procurement', <https://www.bangor.ac.uk/sustainability/finance-and-procurement.php.en>, last accessed 6 June 2020.

BBC, 'Wales' longest high street gets £2m aid to regenerate', 26 March 2019, <https://www.bbc.co.uk/news/uk-wales-47696952>, last accessed 13 February 2020.

Bravo, Karen, 'Héctor Manuel Delgado Salas, el Indiana Jones Mexicano' ['Héctor Namuel Delgado Salas, the Mexican Indiana Jones'], *El Heraldo de México*, 22 March 2019, <https://heraldodemexico.com.mx/artes/hector-manuel-delgado-salas-el-indiana-jones-mexicano/>, last accessed 17 May 2020.

Bristol Museum, 'Object Number E4916, 'Flute' from the Breton Collection at Bristol Museum', <http://museums.bristol.gov.uk/details.php?irn=240280>, last accessed 17 May 2020.

— 'Object Number Ea8251e, 'Watercolour', from the Breton Collection at Bristol Museum'; <http://museums.bristol.gov.uk/details.php?irn=310581>, last accessed 17 May 2020.

British Embassy Mexico City, '2015: The Year of Mexico in the UK and the UK in Mexico', 20 November 2013, <https://www.gov.uk/government/news/2015-the-year-of-mexico-in-the-uk-and-the-uk-in-mexico>, last accessed 9 March 2020.

British Museum, 'British Museum Trustees' Statement', <https://www.britishmuseum.org/parthenon-sculptures-trustees-statement>, last accessed 25 June 2020.

— Catalogue record for museum number Am1921,0613.1, "vase"', <https://www.britishmuseum.org/collection/object/E_Am1921-0613-1>, last accessed 23 June 2020.

— Catalogue record for museum number Am1940,03.1, "ceremonial axe; blade"', <https://www.britishmuseum.org/collection/object/E_Am1940-03-1>, last accessed 23 June 2020.

— Catalogue record for museum number 121198,a, "lyre"', <https://www.britishmuseum.org/collection/object/W_1928-1010-1-a>, last accessed 24 June 2020.

— 'Parthenon Sculptures in the British Museum', <https://www.britishmuseum.org/parthenon-sculptures-british-museum>, last accessed 25 June 2020.

Brodie, Neil, 'Market of Mass Destruction', <https://marketmassdestruction.com/> last accessed 20 June 2020.

Chilvers, Ian, 'Tamayo, Rufino', *The Oxford Dictionary of Art and Artists*, Oxford University Press, 2015, <https://www.oxfordreference.com/view/10.1093/acref/9780191782763.001.0001/acref-9780191782763-e-2418>, last accessed 8 March 2020.

Cohen, Dalia, and Ruth Katz, 'Melograph', *Grove Music Online*, 2001, <https://doi.org/10.1093/gmo/9781561592630.article.18359>, last accessed 17 April 2020.

Collections Trust, 'Ethical Contexts', <https://collectionstrust.org.uk/cultural-property-advice/ethical-contexts>, last accessed 12 May 2020.

Conner, Ron, 'History of Ethnomusicology at the University of California, Los Angeles', 5 December 2011, <https://www.ethnomusicology.org/page/HS_InsUCLA>, last accessed 23 June 2020.

Cuellar, José, 'Reviving Ancient Music', *Peabody Museum*, 2015, <https://www.peabody.harvard.edu/node/2608>, last accessed 20 January 2020.

Dalglish, Dominic, 'Imagining the Divine: Where are the Blobs?', 5 February 2018, <https://empiresoffaith.com/2018/02/05/imagining-the-divine-where-are-the-blobs/>, last accessed 11 December 2019.

Dorfman, John, 'Getting Their Hands Dirty? Archaeologists and the Looting Trade', *Lingua Franca*, May/June 1998 (published online 28 December 2005), <http://linguafranca.mirror.theinfo.org/9805/dorfman>, last accessed 25 May 2020.

European Music Archaeology Project, 'Exhibition: Soundgate', <http://www.emaproject.eu/exhibition/soundgate.html>, last accessed 13 January 2020.

— 'Soundgate App', <http://www.emaproject.eu/content/soundgate-app.html>, last accessed 13 January 2020.

Fincham, Derek, 'Illicit Cultural Property', <http://illicitculturalproperty.com/>, last accessed 20 June 2020.

Fowler Museum at UCLA, 'Chupícuaro: The Natalie Wood Gift of Ancient Mexican Ceramics', <https://www.fowler.ucla.edu/exhibitions/fowler-at-fifty-chupicuaro-ancient-mexican-ceramics/>, last accessed 23 May 2020.

Getty Research Institute, 'Latin American Dealer Archives', <https://www.getty.edu/research/special_collections/notable/LAD.html>, last accessed 23 May 2020.

Giglio, Bobby, 'To Play Or Not To Play? The MFA Activates Its Rare Instruments', *WBUR*, 29 November 2018, <https://www.wbur.org/artery/2018/11/29/to-play-or-not-to-play-the-mfa-activates-its-rare-instruments>, last accessed 21 January 2020.

God Article Team, 'The God Article – Getting Started', *Objects Sandbox Projects 2014,* <http://old.react-hub.org.uk/objects-sandbox/projects/2014/the-god-article/journal/the-god-article-getting-started/>, last accessed 13 January 2020.

Google Maps, 'Crossley-Holland's Museum Visits', <https://www.google.com/maps/d/edit?mid=1CnJhf9inBABgeg30pDq95OQNIDNisJq6&usp=sharing>, last accessed 30 June 2020.

— 'Zones I-X', <https://www.google.com/maps/d/edit?mid=1CnJhf9inBABgeg30pDq95OQNIDNisJq6&usp=sharing>, last accessed 30 June 2020.

— 'Zones X-XIV', <https://www.google.com/maps/d/edit?mid=1IyDqxauFomRpzmylAEkj5gNq4yqZK0wg&usp=sharing>, last accessed 30 June 2020.

Green, Alexandra, 'Sir Stamford Raffles – Collecting in Southeast Asia', *British Museum Blog*, 19 September 2019, <https://blog.britishmuseum.org/sir-stamford-raffles-collecting-in-southeast-asia/>, last accessed 24 May 2020.

Gurdjieff Club, 'Gurdjieff's Followers', 2011, <http://gurdjieffclub.com/en/p-d-ouspensky>, last accessed 10 January 2019.

Gwynedd Council, 'Language Area Profiles', <https://www.gwynedd.llyw.cymru/en/Council/Key-statistics-and-data/Language-area-profiles.aspx>, last accessed 13 February 2020.

Herd, George, 'Art to help heal Penrhyn Castle's slate strike pain', 15 April 2017, <https://www.bbc.co.uk/news/uk-wales-north-west-wales-39532667>, last accessed 15 February 2020.

Heritage Fund, '£1.4million Lottery Funding for Gwynedd's Culture and Heritage', 15 October 2013, <https://www.heritagefund.org.uk/news/ps14million-lottery-funding-gwynedds-culture-and-heritage>, last accessed 15 February 2020.

Hernández, César, 'Se busca un museo: Entrevista con Héctor Manuel Delago Salas, El Chino Billetero' ['Looking for a museum: Interview with Héctor Manuel Delgado Salas, The Chinese Ticket-Seller'], *Espejo*, 24 October 2015, <https://revistaespejo.com/2015/10/24/se-busca-un-museo-entrevista-con-hecor-manuel-delgado-salas-el-chino-billetero/>, last accessed 17 May 2020.

Homer, Christina, 'Mexico Seen and Heard', <mexicoseenandheard.ac.uk>, last accessed 8 March 2020.

Honouring the Ancient Dead, 'Definitions for Honouring the Ancient Dead (HAD)', 2 November 2012, <https://www.honour.org.uk/definitions>, last accessed 29 June 2020.

Instituto Nacional de Antropología e Historia, '¿Quiénes somos?' ['Who are we?'], 10 June 2015, <https://www.inah.gob.mx/quienes-somos>, last accessed 27 February 2020.

— 'Xochipilli, el Señor de las Flores Reina en el Museo Nacional de Antropología' ['Xochipilli, Lord of the Flowers, Reigns in the National Museum of Anthropology'], 27 April 2018, <https://www.inah.gob.mx/boletines/7144-xochipilli-el-senor-de-las-flores-reina-en-el-museo-naciona>, last accessed 27 February 2020.

Instituto Nacional de Lenguas Indígenas, <https://www.inali.gob.mx>, last accessed 30 June 2020.

International Council of Museums, 'Missions and Objectives', <https://icom.museum/en/about-us/missions- and-objectives>, last accessed 12 May 2020.

Kolar, Miriam A., 'Uncanny Acoustics: Phantom Instrument Guides at Ancient Chavín de Huántar, Peru', <https://ccrma.stanford.edu/groups/chavin/ASA2014.html>, last accesses 10 January 2020.

Lamb, Andrew, 'To Play or Not to Play: The Ethics of Musical Instrument Conservation', *Victoria and Albert Museum Conservation Journal*, April 1995, <http://www.vam.ac.uk/content/journals/conservation-journal/issue-15/to-play-or-not-to-play-the-ethics-of-musical-instrument-conservation/>, last accessed 7 February 2020.

Los Angeles County Museum of Art online catalogue, <https://collections.lacma.org/search/site/?front=1&f[0]=bm_field_has_image%3Atrue&f[1]=im_field_curatorial_area%3A33>, last accessed 26 February 2020.

Lowings, Andy, 'Introduction', *The Lyre of Ur*, <http://www.lyre-of-ur.com/>, last accessed 10 January 2020.

'Music of the Lyre', *Lyre of Ur*, <http://www.lyre-of-ur.com/music.htm>, last accessed 10 January 2020.

MacGregor, Neil, 'The Whole World in our Hands', *The Guardian,* 24 July 2004, <https://www.theguardian.com/artanddesign/2004/jul/24/heritage.art> Last accessed 10 January 2020.

Majewski, Janice, 'Smithsonian Guidelines for Accessible Exhibition Design', Smithsonian Institute, <https://www.si.edu/Accessibility/SGAED>, last accessed 6 September 2016.

Marshburn, Alex, 'Treaty on Archaeological, Historical, and Cultural Properties', Nixon Foundation, 26 February 2015, <https://www.nixonfoundation.org/2015/02/treaty-archaeological-historical-cultural- properties>, last accessed 7 September 2018.

Mayer Brown, Howard, 'Sachs, Curt', *Grove Music Online,* 2001, <https://doi.org/10.1093/gmo/9781561592630.article.24735>, last accessed 10 April 2020.

McGraw, Carol, 'Couple Indicted in Art Smuggling Investigation', *Los Angeles Times*, 18 November 1988, <https://www.latimes.com/archives/la-xpm-1988-11-18-me-603-story.html>, last accessed 23 May 2020.

Mexican Ministry for Culture, 'Sound Map of Mexico', <https://mapasonoro.cultura.gob.mx/> last accessed 20 June 2020.

Molloy, Tom, 'North Wales Castle Visit Was Like "Going to See Hitler's Home"', <https://www.dailypost.co.uk/news/north-wales-news/north-wales-castle-visit-like-14986225>, last accessed 15 February 2020.

Museo Anahuacalli, 'What is the Anahuacalli Museum?', <http://museoanahuacalli.org.mx/en/museum/what-is/>, last accessed 26 February 2020.

— 'What is the City of Arts?', <http://museoanahuacalli.org.mx/en/city-of-arts/what-is/>, last accessed 26 February 2020.

Museo de América, 'Mi Pieza Favorita [My Favourite Piece]', <http://www.culturaydeporte.gob.es/museodeamerica/coleccion/mi-pieza-favorita.html>, last accessed 29 February 2020.

Museum of Archaeology and Anthropology, 'Archaeological Collections', <http://maa.cam.ac.uk/archaeological-collections/>, last accessed 20 February 2020.

Museums Association, 'Code of Ethics for Museums', 2015, <https://www.museumsassociation.org/download?id=1155827>, last accessed 6 November 2018.

— 'Illicit Trade: Ethics Case Studies', <https://www.museumsassociation.org/ethics/26012016-ethical-dilemmas-illicit-trade>, last accessed 20 June 2020.

— 'Policy Statement on Repatriation of Cultural Property', September 2006, <https://www.museumsassociation.org/policy/01092006-policy-statement-on-repatriation-of-cultural-property>, last accessed 6 November 2018.

National Museums Scotland, 'Victor Gama's Instruments', <https://www.nms.ac.uk/explore-our-collections/stories/world-cultures/victor-gamas-instruments>, last accessed 5 March 2020.

— 'World Music Composer', <https://www.nms.ac.uk/explore-our-collections/games/world-music-composer/>, last accessed 5 March 2020.

National Slate Museum, 'Slate to the Sea', <https://museum.wales/slate/whatson/10240/SLATE-TO-THE-SEA-/>, last accessed 15 February 2020.

National Trust, 'Penrhyn Castle and the Great Penrhyn Quarry Strike, 1900-03', <https://www.nationaltrust.org.uk/penrhyn-castle/features/penrhyn-castle-and-the-great-penrhyn-quarry-strike-1900-03>, last accessed 15 February 2020.

Noce, Vincent, 'France Promises to Return 26 Looted Benin Artefacts by 2021', The Art Newspaper, 17 December 2019, <https://www.theartnewspaper.com/news/france-benin-objects>, last accessed 20 June 2020.

O'Connell, John Morgan, '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 13 January 2020.

Oxford English Dictionary, 'Pothunter', <https://www.lexico.com/definition/pothunter>, last accessed 26 April 2020.

Peabody Museum of Archaeology and Ethnology at Harvard University, 'Reviving the Ancient Sounds of Mesoamerican Ocarinas', 2016, <https://www.peabody.harvard.edu/ancient-sounds>, last accessed 30 April 2020.

— 'Breathing Life into an Ancient Instrument', 2017, <https://youtu.be/7PmqSaLLuh8>, last accessed 24 June 2020.

— 'Ocarinas of the Americas: Music Made in Clay', 2017, <https://www.youtube.com/playlist?list=PLj5h_wBtShfFjV3O9G0rkzrpSdG9J2N5v, last accessed 20 January 2020.

Pitt Rivers Museum, 'History of the Museum', <https://www.prm.ox.ac.uk/history-museum>, last accessed 24 May 2020.

Reel 2 Real, 'About the Reel to Real Project', *The Pitt Rivers Museum*, <https://web.prm.ox.ac.uk/reel2real/index.php/about.html>, last accessed 29 February 2020.

School of Music and Media, 'Organology and Traditional Instruments of Wales', Bangor University, <https://www.bangor.ac.uk/music-and-media/research/music/welshmusic_organology.php.en>, last accessed 25 May 2020.

Select Committee on Culture, Media and Sport, 'Memorandum submitted by Glasgow City Council', April 2000, <https://publications.parliament.uk/pa/cm199900/cmselect/cmcumeds/371/0051808.htm>, last accessed 1 November 2018.

Shea, Andrea, 'To Play Or Not To Play? The MFA Activates Its Rare Instruments', *WBUR*, 29 November 2018, <https://www.wbur.org/artery/2018/11/29/to-play-or-not-to-play-the-mfa-activates-its-rare-instruments>, last accessed 21 January 2020.

Simon, Robert L., 'In Memoriam: Peter Crossley-Holland', 2001, <https://senate.universityofcalifornia.edu/_files/inmemoriam/html/PeterCrossley-Holland.htm>, last accessed 29 April 2020.

Smith, Michael E., 'Publishing Archaeology', <http://publishingarchaeology.blogspot.com/>, last accessed 20 June 2020.

Society for American Archaeology, 'Principle No. 3: Commercialization', Ethics in Professional Archaeology, <https://www.saa.org/career-practice/ethics-in-professional-archaeology>, last accessed 25 May 2020.

Spieth-Weissenbacher, Christiane, revised by Jean Gribenski, 'Schaeffner, André', *Grove Music Online,* 2001, <https://doi.org/10.1093/gmo/9781561592630.article.24735>, last accessed 10 April 2020.

Stendahl Galleries, 'Stendahl Galleries Ceases Trading after 106 Years', <https://www.stendahlgalleries.com/>, last accessed 23 May 2020.

Storiel, 'About Us: Mission and Values', <https://www.storiel.cymru/about-us/>, last accessed 11 February 2020.

— 'Satellites', <https://www.storiel.cymru/satellites/>, last accessed 15 February 2020.

Taylor, Charles, and Murray Campbell, 'Sound', *Grove Music Online*, 2001, <https://doi.org/10.1093/gmo/9781561592630.article.26289>, last accessed 20 April 2020.

Tennent, Scott, 'Jorge Pardo on the Pre-Columbian Galleries', 17 November 2008, <https://unframed.lacma.org/2008/11/17/jorge-pardo-on-the-pre-columbian-galleries>, last accessed 26 February 2020.

Thieme, Darius L., 'Cantometrics', *Grove Music Online*, 2001, <https://doi.org/10.1093/gmo/9781561592630.article.04788>, last accessed 10 April 2020.

Turner, John, 'Peter Crossley-Holland', *Musicteachers.co.uk Online Journal*, May 2001, <https://www.musicteachers.co.uk/journal/2001-05_crossley_2.html>, last accessed 4 May 2020.

Turner, Luke, '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 10 January 2020.

UCLA Department of Ethnomusicology, <http://www.ethnomusic.ucla.edu/history-of-the-department>, last accessed 23 February 2016.

United Kingdom Foreign & Commonwealth Office, 'Foreign Travel Advice – Mexico: Safety and Security', <https://www.gov.uk/foreign-travel-advice/mexico/safety-and-security#main-tourist-destinations>, last accessed 25 May 2020.

United Kingdom Government, 'Human Tissue Act', 2004, <http://www.legislation.gov.uk/ukpga/2004/30/contents> last accessed 29 June 2020.

UNESCO Diversity of Cultural Expressions, 'Periodic Report Mexico', 2012, <https://en.unesco.org/creativity/governance/periodic-reports/2012/mexico>, last accessed 14 June 2020.

United Nations, 'Transforming our World: The 2030 Agenda for Sustainable Development', 2015, <https://sustainabledevelopment.un.org/post2015/transformingourworld/publication>, last accessed 6 June 2020.

United States Department of State, Bureau of Consular Affairs, 'Mexico Travel Advisory', <https://travel.state.gov/content/travel/en/traveladvisories/traveladvisories/mexico-travel-advisory.html>, last accessed 25 May 2020.

United States Immigration and Customs Enforcement, 'ICE Returns Stolen and Looted Archeological Art and Antiquities To Mexico', 24 October 2012, <https://www.ice.gov/news/releases/ice-returns-stolen-and-looted-archeological- art-and-antiquities-mexico>, last accessed 7 September 2018.

University of Oregon, 'anahuac' and 'calli', *Nahuatl Dictionary*, <https://nahuatl.uoregon.edu/>, last accessed 9 March 2020.

Waterhouse, William, 'Mahillon, Victor-Charles', *Grove Music Online*, 2001, <https://doi.org/10.1093/gmo/9781561592630.article.53197>,last accessed 10 April 2020.

Welsh Government/Stats Wales, 'Annual Population Survey - Ability to speak Welsh by local authority and year', <https://statswales.gov.wales/Catalogue/Welsh-Language/Annual-Population-Survey-Welsh-Language/annualpopulationsurveyestimatesofpersonsaged3andoverwhosaytheycanspeakwelsh-by-localauthority-measure>, last accessed 13 February 2020.

World Archaeological Congress, 'Code of Ethics: First Code of Ethics', 1990, <https://worldarch.org/code-of-ethics>, last accessed 12 May 2020.

Audio-visual resources

Anon., 'Another India: Expressions and Explorations of Indigenous South Asia', panel text from exhibition at the Museum of Archaeology and Anthropology, 8 March 2017 to 22 April 2018.

A World of Music. Directed by Jim Ward. 1972. <https://archive.org/details/calauem_000054>, last accessed 19 April 2020.

Crossley-Holland, Peter, 'Music from Tibet: Two Illustrated Talks by Peter Crossley-Holland', BBC Third Programme, 6 and 13 January 1962.

— 'Musical Curiosities: The Aeolian Harp', BBC Third Programme, 2 June 1950.

— 'Indian Classical Music', BBC Third Programme, 22 February, 7 March, 28 March, and 11 April 1964.

Kenny, John. *Dragon Voices: The Giant Celtic Horns of Ancient Europe*. 2016. Compact Disc. Delphian. DCD34183.

Lewis, Andrew, 'Skyline: Acoustic Music in 8 Channels', 2016, Composition. <http://www.andrewlewis.org.uk/works/skyline.php>, last accessed 6 November 2018.

The Lyre Ensemble. *The Flood.* 2014. Compact Disc. Lyre of Ur.

Various Artists. *The Music of Tibetan Buddhism*. 1961. LP record. Three discs. Bärenreiter-Musicaphon. BM30L2011. Recordings, photographs and notes by Peter Crossley-Holland.

Archival documents

From Bangor University Crossley-Holland Archive:

Arundel, Ian, receipt showing purchase of 'Colima raspador, Mexico, human femur', from Old Curiosity Shop, Los Angeles, dated 15 December 1974, uncatalogued box.

Crossley-Holland, Nicole, handwritten letter, uncatalogued box.

Crossley-Holland, Peter, 'Apologia', Box F59.

— 'Guide to the Documentation', Box F59.

— 'The Documentation', Box F61: PCH 1.1, 17.5, 27.1, 27.3, 33.7, 34.9, 37.2, 47.3, 52.1, 69.4, 69.5, 73.4, 77.4, 86.2, 87.2, 107.2, 122.3, 125.1, 136.2, 146.4, 153.2, 155.4, 168.2, 201.4, 214.3, 220.2, 224.3, 234.4, 237.2, 239.2, 242.3, 250.2, 265.3, 266.4, 312.2, 317.4, 319.2.

— 'Report on Sabbatical Leave', January–June 1976, uncatalogued box.

From University of California, Los Angeles, Library Special Collections:

Anon., Proposal to Establish a Department of Ethnomusicology, 23 February 1971, UARC.0595, Box 595.

Anon., Schedule of Classes 1968–1976, LD781.L7 S34, Box 003.

Rubsamen, Walter H., Letter Regarding the Creation of a Department of Ethnomusicology, 14 October 1971, UARC.0595, Box 595.

Situating Crossley-Holland's Collection of Ancient Mexican Musical Instruments: Strategies for Interpretation, Dissemination, and Sustainability

Christina Ruth Homer

APPENDICES

PRIFYSGOL
BANGOR
UNIVERSITY

School of Music, Drama and Performance, Bangor University

July 2020

Appendix 1: PCH collection catalogue

Created by Christina Homer, with information taken from Crossley-Holland's Documentation (held at Bangor University Crossley-Holland Archive, Box F61).

PCH item number	Title	Description	Provenience	Period
1	Strung rattle: shell bracelets	These two bracelets, carved from shells, would have been worn on the upper arm and if strung together, would strike against each other making a faint clinking sound. Alternatively, they could have been decorative amulets worn by musicians, as depicted in effigies. The umbo (highest projection) of each shell has been carved into the shape of a parrot-like head, one with eyes bored through and the other with drilled indentations.		Post-classic
2	Strung rattle: shell bracelets	These three bracelets, carved from shells, would have been worn on the upper arm and if strung together would strike against each other making a faint clinking sound. Alternatively, they could have been decorative amulets worn by musicians, as depicted in effigies. The umbo (highest projection) of each shell has been carved into the shape of a dog or coyote head (now eroded).		Post-classic
3	Vessel rattle: female figurine	This vessel rattle comprises a hollow gourd made from clay, and an enclosed clapper which is probably a small stone. It produces a very quiet, dull sound when shaken. Now missing the head, the rattle is shaped like a seated female figure with a round belly and arms curving round to and merging with the breasts. The natural red colour of the clay has been painted over with red pigment (except on the under-surface).	Central Sinaloa	Late post-classic, 1250–1530 CE

4	Whistle (vessel duct flute): head	This whistle has been made from clay shaped into a hollow body with solid flattened head. The walls of the body are very thick but allow for a small resonating chamber. The mouthpiece and internal whistle mechanism are contained in a rod which projects upwards from the back. The whistle produces a range of dynamics from very quiet to very loud. In Western terms, the pitch sounds like a very sharp F sharp 7. Of the facial features, the right eye remains along with a “coffee-bean” style female mouth and flattened areas of the rim representing ears or ear ornaments.	Central Sinaloa	1250–1400 CE
5	Whistle (vessel duct flute): bird	This whistle, made from clay, is shaped like a bird (possibly a duck) with eyes, mouth, and wings clearly depicted. The tail part has been damaged; this would have contained the mouthpiece and internal whistle mechanism. Nevertheless, a loud and shrill sound can still be produced by angling the lips over the end of the tail. A small hollow inside the body acts as a resonator. There is only one pitch as there are no finger holes, and this sounds (in Western terms) approximately like an F sharp 6.	Central Sinaloa	1250–1530 CE
6	Whistle (vessel duct flute): bird	This clay whistle is shaped like a bird with a long, thick neck (possibly something like a crane). The tail (if there was one) is missing, and with it the mouthpiece and internal whistle mechanism, so the whistle no longer produces a sound. The lower part of the body is hollow to act as a resonator. Short stubby legs would have formed a tripod base with the tail projection. Wings project from the body (although one is largely missing), as if the bird is about to take flight. The beak and part of the head. have been chipped, but the large eyes with incised irises remain.	Central Sinaloa	1250–1530 CE

7	Whistle (vessel duct flute): fragment from bird	The whistle from which this clay fragment originates would probably have been shaped in the form of a creature, most likely a bird. This fragment represents the tail and includes the internal whistle mechanism. A single pitch can be produced, loud and piercing, which (in Western terms) emanates as a slightly flat B flat 7. As with other bird-shaped whistles from pre-invasion West Mexico, the mouthpiece lies at the end of the tail, with an air duct running down to the resonating chamber just inside the body.	Central Sinaloa	Late post-classic, 1250–1530 CE
8	Whistle (vessel duct flute): fragment from bird	This clay fragment will have come from a larger whistle, most likely a bird. The whistle mechanism is still intact, and gives a loud, shrill pitch at around E 6 (in Western standard notation). The mouthpiece is beaked; this indicates that the fragment is likely to be the tail of a bird-shaped whistle, as flat beaked mouthpieces like this typically belonged to bird effigy whistles across West Mexico but not to other whistle shapes.	Central Sinaloa	Late post-classic, 1250–1530 CE
9	Flute (spiral, tubular, stopped): coiled serpent	Shaped like a coiled serpent, this clay flute has a beaked mouthpiece in the region of the creature's mouth. It produces a fairly loud, clear pitch which approximates a sharp G 6 in Western terms. There appears to be only one finger hole - three other holes are the result of damage - but this barely changes the pitch of the note: only by about 29 cents (about one third of a semitone, which is difficult to detect by ear). It is possible that the purpose of the finger hole is to affect the style or colour of the sound: for example, quickly stopping and releasing the finger hole creates a vibrato quality that undulates like the movement of a snake. Atop the serpent's head are two beady eyes, formed of two incised concentric circles. The clay has been painted with slip to form orange-red and buff stripes.	Probably central Sinaloa/north Nayarit	Post-classic

10	Hand drum: goblet-shaped	This pottery drum is nearly intact, but misses its head. This may have been a membrane of some other material, but it is also possible to make a sound using the pottery that remains at the head. Traces of pigment show that the drum had been painted with red and cream slip. Although scant in existence, some figurines of musicians from West Mexico show these kinds of hand drums in performance settings. In these depictions the drum is held in the crook of one arm whilst being struck with the hand of the other. Further than this, it is difficult to say how the drum may have been used or how it would have sounded. There are no surviving larger drums with which to compare, although there are depictions of such in musician effigies. If the actual instruments were made from biodegradable materials such as wood, this could explain why no examples remain.	South Sinaloa, Chatmetla	450–650 CE
11	Vessel rattle: stylized breast	The shape of this clay rattle suggests a breast with pronounced nipple and perforated holes covering the top. The clay has been coloured with grey slip and traces of red. Several clappers are enclosed; these are probably clay pellets or small stones. When shaken, the rattle produces a quiet but bright sound. The pitch is diffuse but appears to lie around C in Western terms, or about A flat when the holes are covered.	Nayarit	350 BCE–200 CE
12	Bell-rattle with handle	If Crossley-Holland's identification is correct, this is the first "early period" Amapa musical instrument to be reported. The clay rattle is reminiscent of botanic shapes, for example a chestnut pod. The single pellet (also made from clay) creates a bright sound when shaken, which produces a pitch that approximates a G 6 in Western parlance. The clay has been coloured with cream slip. There is no channel for a suspension cord, so the rattle would have been held and shaken rather than hung and worn. The resonating chamber lies in the body of the rattle, which has a slit around half its circumference.	Nayarit	200–425 CE

13	Composite instrument: drum effigy plus rattle plus ocarina (vessel rattle and vessel flute)	This is an object with several musical facets: it serves as both a rattle and an ocarina, but its shape is of a cylindrical drum. The rattle produces a quiet tinkling sound, caused by the single enclosed clapper. As an ocarina, the notes produced are fairly loud and clear. Four finger holes allow for five different pitches, which in Western terms approximate E 5, F sharp, G sharp, A sharp(+) and B. If the ocarina is played even louder, this raises the pitches up about a semitone. The composite nature of the instrument could suggest an ensemble of the separate iterations in performance practice. Crossley-Holland speculates ceremonial uses of the instrument: implied by its symbolic effigy drum, the redundant sound of the rattle, and the incised decorations. This is further suggested by the representation of a face, perhaps a deity, which appears when the ocarina is viewed standing upright.		200–425 CE
14	Flute (tubular): anthropomorphic, fragment	This fragment of a flute is unfortunately not complete enough to produce a sound. The surviving portion can be identified as part of a flute due to the finger holes on the upper and lower surfaces, and the remains of an internal duct. The anthropomorphic element can be deduced from the remains of the adorno, which depicts a collar (presumably a head was attached to the top) and parts of the arms, which show traces of red pigment. For comparison, accession no. 75.2 shows a complete head and arms lying atop the mouthpiece. Crossley-Holland places this fragment as from the Amapa region, based on its similarity in style and assemblage to other pieces from that area. If this placing is correct, then Crossley-Holland suspects it is the only surviving example of a tubular flute from Amapa.	Nayarit, Amapa	

15	Strung rattle: shells	This necklace, bracelet, or anklet would sound with the movements of the wearer to produce a gentle, high-pitched tinkling. The shells are of Olivella, a type of sea-snail, and have been perforated so that they may be suspended by a cord. This classifies them as a strung rattle. It is possible that they would have been worn by dancers to produce rhythmic accompaniments to dance movements. The ages of the shells have not been determined by testing; Crossley-Holland provisionally assigned them to the Cerritos Phase, circa CE 600-1000, by comparison with similar objects.	Nayarit, Amapa, Rio Santiago Basin	600–1000 CE
16	Vessel rattle: male figure	Shaped as a male seated figure, this vessel rattle sounds with a dull, quiet tinkling. The round, hollow body acts as a resonator and contains two or three clappers, probably pebbles. The head and limbs are solid clay, which has been painted with orange and white slip. The head is adorned with a cap and ear-ornaments. The rattle stands upright on its two legs, and a rear tail-like projection, but fits into the palm of the hand to be played. Although partially broken off, an unmistakable erect phallus is attached to the lower region of the body, framed by the figure's hands. This appears to represent an artificial attachment for ceremonial use. Crossley-Holland refers to the association with fecundity, based on the phallus and the round belly, and perhaps the "seeds" contained within the belly reinforce this.	Nayarit, Amapa, Rio Santiago Basin	1300–1400 CE
17	Vessel rattle: pizote	This small clay rattle has only one clapper and produces a very quiet sound when shaken, which Crossley-Holland describes as "earthy and somewhat hollow". The body is shaped like a plump mammal, probably the raccoon-like animal pizote (or coati). The clay has been coloured pinky-orange and white. Although the head is now missing, the crouching position with hind-legs back and fore-legs reaching forwards are characteristic of pizote imagery. Crossley-Holland suggests that the roundness of the body could be related to the idea of fecundity.	Nayarit, Amapa, Rio Santiago Basin	ca. 1300–1400 CE

18	Vessel rattle: clay gourd	This rattle, although made from clay, mimics the appearance of a gourd. Although there are no archaeological remains of actual gourd rattles, this clay reproduction suggests that they were made from this material. Similarly, clay simulacra of conch shell trumpets have been found (as well as actual conch shell trumpets). Numerous clappers are enclosed in the hollow body of the rattle, while the handle is solid. The sound produced is fairly quiet and described by Crossley-Holland as "an earthy tinkle". White crosses decorate the rattle, grouped into three panels, with white triangles or circles in each sector of the cross, with red and negative black paint. The polychrome colouring suggests the style of Amapa.	Nayarit, Amapa, Rio Santiago Basin	1100–1400 CE
19	Hand drum	Although incomplete, this pottery vessel can be identified as a hand drum. The clay body is polychrome: painted with white, orange and black pigment. The lack of polish on the upper rim suggests that a membrane would have been attached there. As this part of the drum has not survived, it is impossible to say what it would have sounded like. However, there is some clue as to how the drum would have been played from clay effigies of musicians: held in the crook of the arm. There is far more evidence of musician effigies with larger drums, played resting on the ground or held between the knees; presumably these were made of wood and as such have not survived the centuries.	Nayarit, Amapa	ca. 1000–1300 CE
20	Whistle (vessel duct flute): bird	This little whistle, shaped like a bird, sounds a shrill note that approximates (in Western terms) an E 7. The body has an embedded sphere which acts as resonator. There are no finger holes, so only a single pitch can be produced. The mouth hole is situated at the end of the bird's tail. The holes pierced through in the position of eyes confirm the shape of the bird, but could also act as suspension holes for a cord.		Classic, 600–900 CE

21	Whistle (vessel duct flute): bird fragment	This clay fragment could have been the head of a bird whistle, similar to several others in Crossley-Holland's collection. None of the musical components survive, so it makes no noise. The beak and neck of the head are very long, perhaps indicating an aquatic bird. Two blobs form the eyes, and holes in the neck allow for a suspension cord. Crossley-Holland places this as in the style of Amapa, compared with other clay fragments from excavations in that area.	Nayarit, probably style of Amapa	600–1000 CE
22	Strung rattle: shell necklace	This collection of shells represents the type of rattle which might have been used as a necklace, bracelet or ankle. As a rattle, their sound was described as "an appreciable chuckle" by Crossley-Holland. The sound may have been produced in music or dance, or merely with the movements of the wearer. The shells represented are sea snail, snail and conch. They have been drilled with small holes to hold a cord for suspension.	Possibly Nayarit	Post-classic
23	Strung rattle: stone necklace	These stones are a selection from a larger group which represent the sort of stones which were suspended together in necklaces or bracelets, as indicated by bored holes in each. These particular stones create a gentle "chuckling" sound which can only be heard in close vicinity to the wearer. It is difficult to say whether stone necklaces would have been intentionally musical; if they were, they would be classified as strung rattles.	Possibly Nayarit	Post-classic
24	Vessel rattle: tortoise	This rattle produces a quiet, earthy sound when shaken, with an indistinct but tonal pitch. The instrument fits into the palm of the hand. The flattened circular clay body contains the clappers, which are probably pebbles. The head, tail, and one of the legs have broken off; yet the form of a tortoise is still identifiable. The clay has been coloured with red slip.	Possibly south Sinaloa/north Nayarit	Post-classic (Late?)

25	Pellet-bell in form of dog	This pellet-bell or rattle produces a very quiet, earthy sound when shaken, which is pitched around a Western E flat to F 6. It takes the form of a little dog, painted with red slip; the bulbous body acts as the resonator, with a sound-hole in the form of a slot on one side. A single round pebble clapper is enclosed. Three legs, the back one central, and a stubby tail raised into the air are attached to the body, completing the canine attributes.		Post-classic (Late?)
26	Notched flute of bird-bone	This flute, made from a bird bone, no longer produces sound due to its incomplete components. There is evidence that the mouthpiece was notched (the airstream would have been directed against this) but this part of the flute has been damaged. The single bone has been hollowed and stripped of tissue, and finger holes have been bored with a sharp instrument. There were originally four finger holes: the edge of the fourth is just visible at the broken-off end. Crossley-Holland finds a parallel with the Peruvian quena, a flute similarly without duct and with a notched mouthpiece, which are sometimes also made from bird bones. The trade links between southern Mesoamerica and West Mexico could have caused the migration of this type of flute. Crossley-Holland believed this to be the only example of a West Mexican notched flute.	Possibly late Amapa	Post-classic (Late?)

27	Free piston whistle: bird	The bird appearance of this ceramic whistle is apt, as it produces a shrill birdcall-like trilling sound when blown with a sharp blast. Crossley-Holland found it difficult to measure the pitch in laboratory conditions, but nevertheless calculated it to be almost halfway between the western F sharp 6 and G 6. The hollow body of the bird acts as resonator and contains two clay pellets which produce the distinctive trilling sound, and also affect the pitch of the note when different breath pressures are applied. The bird's appearance is created by a tail, an open beak, and eyes but no wing markings. A suspension channel through the neck would allow the whistle to be hung (for example around the neck or wrist). Crossley-Holland believed that nothing would suggest whistles such as these to be "anything other than playthings".	Possibly Colima	ca. CE 600–1000
28	Ocarina (vessel duct flute): crested bird	Although part of the tail has broken off, this clay ocarina still produces a loud and "round" sound, and the four finger holes allow for a series or scale. Measured in western nomenclature, the pitches are approximately F 5, A flat, B flat, C 6, and D flat. As typical in the case of bird-shaped ocarinas, the mouthpiece is situated at the tail. The round body, crest and tail create the avian appearance. Four stubby supports enable the instrument to stand alone but suspension holes allow it to be strung and worn too. When the ocarina is turned over and viewed from the rear, another animal shape appears: some kind of snouted mammal. The presence of a secondary zoomorphic aspect links this ocarina to the "Nayarit" style of Chupícuaro culture.		Pre-classic, ca. 200 BCE–1 CE

29	Ocarina (vessel duct flute): lizard	This ceramic ocarina can produce a wide dynamic range, with what Crossley-Holland describes as a “fine, round tone”. The four finger holes generate five pitches, which form a series between C 5 and F 5 (in western terms), with an additional higher pitch sounding at G 5 with a more forceful blow. The ocarina has been hand shaped to appear like a reptilian creature, with the mouthpiece at the end of its tail. Four stubby supports enable the instrument to stand alone but suspension holes allow it to be strung and worn too. When the ocarina is turned over and viewed from the rear, another animal shape appears: some kind of snouted mammal.	Nayarit	Pre-classic, ca. 200 BCE–1 CE
30	Ocarina (vessel duct flute): frog	This ocarina has a wide dynamic range, but Crossley-Holland describes the tone as “breathy”, and advises cleaning out the earth from the internal mechanism to alleviate this. The four finger holes produce five pitches, approximately E 5, G, A, B and C 6 in western terms. The ocarina is shaped like a frog, but similar to no.29, a second animal form appears when viewed from the rear and upside down. Four stubby supports enable the instrument to stand alone but suspension holes allow it to be strung and worn too.	Nayarit	Pre-classic, ca. 200 BCE–1 CE
31	Seated figure chanting	The figure depicted here appears to be chanting: as shown by the right hand held up to the open mouth. The left hand rests of one of the short legs. The forward-leaning posture suggests a hunched back, seemingly a significant feature in West Mexican religion. A vertical channel runs 4cm down from the top of the spine, and contains traces of white colouring. It may have been used to hold a candle or other ceremonial object. The figure wears ornaments of earrings, beads on the shoulders which may represent bells, and a headpiece over long hair.		

32	Seated figure playing scraper effigy and singing	Effigies of instruments in performance, such as this young man holding a gourd rasp, give some clue as to how instruments were used and played in their ancient culture. The shape of the model's mouth suggests singing, and his hands are actively engaged in playing the scraper. The scraper is held in his right hand and the beater in his left. It is unusual to find depictions of left-handed percussionist; usually the instruments are held in the left hand and played with the right. Various features associate this effigy with the San Sebastian Red style (in addition to the red pigment): the cheek mutilation near the mouth, ear and nose ornaments, and the painted-on necklace.	Nayarit - Jalisco	Late pre-classic
33	Vessel rattle: Jaguar supporting *incensario* (censer)	This clay figure primarily functions as a censer: a vessel for burning incense or perfume. The clay has been painted with orange-red slip. The sound-producing attributes appear to be ancillary. It is in the shape of a jaguar, with the hollow body and legs each containing a pellet. Together, these produce a very quiet rattling sound which Crossley-Holland describes as "earthy". Crossley-Holland speculates that the jangling would have accompanied the burning of incense to attract "supernatural forces" associated with the jaguar deity which is invoked by the shape of the censer-rattle.	Possibly Colima	Post-classic

34	Figure straddling small drum	Ceramic figurines of musicians such as this indicate that large hand drums were played in ancient Mexico, even though no archaeological remains survive of the actual instruments (presumably their constituent materials were degradable). Crossley-Holland posits that the membrane shown on this model represents skin rather than an inflexible head of wood or clay; this is because it is being struck by the bare hand near to its rim, as with vertical drums with membranes. The difference here is that the player is straddling the drum rather than holding it upright. This could suggest that it is a large pot which has been requisitioned as a drum (especially since one end is open). However, the apparent presence of a soft membrane suggests its sole purpose as a musical instrument. The drum is hollow and rests on two supports. There are traces of white pigment on the drum head, in contrast to the orange-pink colour of the rest of the effigy. The figure is solid and appears to be unclothed except for a crested cap and ear ornaments.	Possibly late Amapa	Pre-classic, ca. 200 BCE–1 CE
35	Figure straddling large drum	Ceramic figurines of musicians such as this indicate that large hand drums were played in ancient Mexico, even though no archaeological remains survive of the actual instruments (presumably their constituent materials were degradable). The drummer is playing with both hands near to the rim of the head, which suggests that membrane is made from skin. The drum is hollow and rests on two supports. Crossley-Holland notes that the drummer's right leg is represented as a thin line, and appears almost vestigial. This may represent a physical disability, as it was manufactured as such and not the result of subsequent modification. The musician is unclothed but for a cap; a white band has been painted across the shoulders.	Nayarit, San Sebastian Red	Pre-classic, ca. 200 BCE–1 CE

36	Figure playing whistle	This figurine depicts a person holding one hand to their mouth, in the position of someone playing a whistle, ocarina or flute. The person has kyphosis (a hunchback), which Crossley-Holland reports to be associated with luck and possibly also the supernatural. The figure is supported by a projection from the rear, which forms a tripod with the figure's two legs. The person is unclothed except for a headdress, and wears ear ornaments. The limbs are solid and the body is hollow. The ceramic is brick red, and there are traces of red and cream pigment decorations, and some black patina.	Nayarit	
37	Ocarina (vessel duct flute): seated figurine	This ceramic ocarina, in the shape of a seated figure, creates a tone which Crossley-Holland describes as "a well-formed pipe – bright and clean". The two finger holes (at the sides of the belly) produce three different pitches, which can then also be modified by force of breath. In western terms, the pitches approximate F 6, A 6, and C 7, but a range of notes can be produced within D 5 and D 7. The mouthpiece lies at the ridged cap of the figure's triangular head. The face lacks features apart from a beaky nose, which could indicate a mask. The figure rests on its backside and stumpy legs and is decorated with a v-shaped design which may indicate a costume.	Nayarit - Jalisco, Magdalena Lake Basin	Late pre-classic
38	Ocarina (vessel duct flute): bird with outstretched wings	This ocarina produces a tone which Crossley-Holland describes as "penetrating but round, with an agreeable vibrato easily developing". The two finger holes create three pitches, which sound at the Western equivalents of approximately C 6, E and G. The ocarina is in the form of a bird with wings outstretched, as if in flight, although half of the right wing is missing and there are some chips on the left. The upwards-turned tail and the two stumpy legs complete the bird configuration. The upper surface has been painted red and white, with black pigment that has subsequently been removed by over-cleaning. There is no mouthpiece, only the blowhole on the head. Two holes in the wings suggest that it could have been worn suspended from a cord.	Nayarit - Jalisco, Magdalena Lake Basin	ca. 200 BCE–1 CE

39	Ocarina (vessel duct flute): dog	This clay ocarina produces a fairly loud, cooing tone. There are two finger holes and so three pitches: in Western terms, they approximate A flat 4, C 5 and E flat 5. Its form is of a dog, having large ears and short tail and legs, with a long body decorated with red and cream pigment in the shape of an X. The blowhole is in the top of the dog's head, and so faces the player when in the playing position. The finger holes are placed so that they are covered with the thumbs, which is typical of Ixtlán del Río and San Sebastian Red style ocarinas.	Nayarit - Jalisco, Magdalena Lake Basin	Of the shaft tombs (late pre-classic)
40	Ocarina (vessel duct flute): dog	This two-holed clay ocarina produces a fairly loud tone with pitches that approximate the Western C 5, E 5, and G 5. It is in the form of a dog with large ears, and short tail and legs. Its back is painted in bands of red and white/cream pigment. Similar to the other dog ocarinas in this collection, the blow hole resides in the head between dog's ears, and is played with the dog facing the player; also, the thumbs are used over the finger holes rather than fingers.	Nayarit - Jalisco, Magdalena Lake Basin	Of the shaft tombs (late pre-classic)
41	Ocarina (vessel duct flute): dog	This two-holed clay ocarina produces pitches which approximate the Western D 5, G 5, and B flat 5 at a fairly loud tone. It is in the form of a long dog, with upturned tail. Its back is painted in bands of red and white pigment. Similar to the other dog ocarinas in this collection, the blow hole resides in the head between dog's ears, and is played with the dog facing the player. Another similarity is that the thumbs are used over the finger holes rather than fingers.	Nayarit - Jalisco, Magdalena Lake Basin	Of the shaft tombs (late pre-classic)
42	Ocarina (vessel duct flute): dog	This clay ocarina produces a tone which Crossley-Holland describes as "a mellow piping". The pitches derived (using the two finger holes with the thumbs) approximate, in Western notation, F sharp 5, A sharp 5, and C sharp 6. The ocarina is in the shape of a dog with a curly tail, and is decorated with red pigment and cream-white spots. There are also traces of black pigment, but this has at some point been largely removed by over-cleaning. Similar to the related dog-shaped ocarinas, the blow hole is in the dog's head and it faces the player in performance.		ca. 200 BCE–1 CE

43	Ocarina (vessel duct flute): dog	This clay ocarina produces a fairly quiet tone. There are two finger holes and so three pitches: in Western terms, they approximate B 4, D sharp 5 and F sharp 5 (the same pitches as 44/82.29). It is in the form of a dog with a plump body, and decorated with V-shaped stripes on the back in cream and orange pigment. Similar to the other dog-shaped ocarinas from Magdalena Lake Basin, the two finger holes are used by the thumbs and the blow hole is situated in the dog's head.	Nayarit	Late pre-classic, ca. 200 BCE–1 CE
44	Ocarina (vessel duct flute): dog	This clay ocarina produces a farily quiet tone. There are two finger holes and so three pitches: in Western terms, they approximate B 4, D sharp 5 and F sharp 5 (the same pitches as 43/82.20). It is in the form of a dog with a plump body, and decorated with V-shaped stripes on the back in cream and orange pigment. Similar to the other dog-shaped ocarinas from Magdalena Lake Basin, the two finger holes are used by the thumbs and the blow hole is situated in the dog's head.	Nayarit	Late pre-classic, ca. 200 BCE–1 CE
45	Ocarina (vessel duct flute): warty animal	The quiet, breathy tones of this clay ocarina approximate the Western pitches of A 4, C 5, and D 5. The instrument's unusual shape is of an undetermined animal, with 4 legs and a tail, with the two finger holes situated in its belly, and the mouth hole in its forehead. Two holes in the front legs would have been used to suspend the instrument from a cord. There are several large lumps adorning the back, which Crossley-Holland deems "warts". Reddish-brown pigment (possibly originally black and red) covers buff-coloured paint.	Nayarit	Late pre-classic, ca. 200 BCE–1 CE

46	Ocarina (vessel duct flute): lizard with notched spine	This ceramic ocarina produces a loud, clear tone. The two finger holes produce three pitches, whose standard Western equivalents are E 5, G 5 and A 5. Typically for lizard-shaped ocarinas, the mouth hole lies at the lizard's mouth. The finger holes are placed on its belly so would be played with the thumbs, and suspension holes occur in the legs. The notched spine could have also served as a rasp (scraper). The ocarina has been coloured with black and red pigments. Crossley-Holland speculates that this represents a transition between older and newer styles from the Chupícuaro Horizon: an older attribute is the additional animal features which appear when the ocarina is inverted; newer features are the number of finger holes (two as opposed to four), and their placement on the underside rather than upper surface of the ocarina.		Late pre-classic, ca. 200 BCE–1 CE
47	Conch shell trumpet (made from clay)	This spiral trumpet is ceramic, but mimics the trumpets made from conch shells common throughout pre-conquest West Mexico. It can produce a wide range of dynamics and pitches covering the equivalent of three octaves, which are manipulated by changing lip position and air pressure. There is a mouthpiece, which on shell trumpets would be removable, but here it is fixed. The clay has been coloured with buff then red pigments. Crossley-Holland postulates that clay was used due to a shortage of shells. However, it could be a case of skeuomorphism. This is where objects copy, as decoration, elements of another object which are necessary in the original. This occurs for several reasons: to continue a cultural tradition, to learn how to manufacture using new materials, to allow a user to learn more easily by linking it to a familiar object.	Jalisco	ca. 200 BCE–1 CE

48	Figure of man playing bone scraper (part of couple)	This figure is part of a pair, which depicts a male playing a scraper and a woman holding a bowl on her knee. The scraper or rasp appears to be mimicking bone, or a stick or stone, with carved notches. There is a white object in the player's right hand which represents a shell or pebble: something to scrape along the notches to make a sound. The figure wears ear ornaments, necklaces (represented by painted dots), a patterned costume and a collar. It is hollow, hand-modelled from clay, and coloured with red slip and white and yellow pigments.	Nayarit	ca. 1–400 CE
49	Figure of woman holding bowl (part of couple)	This figure is part of a pair, which depicts a male playing a scraper and a woman holding a bowl on her knee. She leans her chin on her right hand, which in turn is resting on her knee. She wears multiple necklaces (represented by painted dots), ear ornaments, a skirt with attached tail-like flap, and a collar. The figure is hollow, hand-modelled from clay, and coloured with red slip and white, yellow and black pigments.	Nayarit	ca. 1–400 CE
50	Figure of man playing drum (part of couple)	This figure plays a cylindrical drum between his legs, with his hands resting on the drum membrane. We can assume that he is male due to the absence of female anatomy. The figure is part of a pair (PCH51). Crossley-Holland assumes the pair to be partaking in a fertility ceremony, based on the association of the drum with the womb and/or earth, and the female's apparent state of pregnancy. The figure is solid, and made from red clay which has been coloured with red, white and black pigments. His costume includes a peaked cap, nose ring, ear discs and arm bands. The drum is decorated with crossed white bands and another white band depicts a belt holding the drum round the figure's waist.	Nayarit	ca. 1–400 CE

51	Figure of woman holding belly (part of couple)	Part of a couple (PCH 51). This figure can be identified as female, due to the pregnant belly. Crossley-Holland assumes that the pair depicts a fertility ceremony based on this and the symbolic association of the drum (played by the male counterpart) with earth and/or the womb. This figure is solid and made from red clay which has been coloured with red, white and black pigments. She wears a flat cap, nose ring, ear discs, and arm bands.	Nayarit	ca. 1–400 CE
52	Figure playing rattle and panpipes	This figure is standing, playing panpipes (in the left hand) and rattle (in the right). The panpipes have six tubes and are held just below the level of the player's mouth; this is the typical playing position, breath being blown across the top of the pipes. The object in the right hand has been damaged and replaced at some point. Presumably, the original object was a rattle, as in several other comparable figurines. The figure wears ear disc, nose-ring, necklace and belly band. The object is solid and was hand-modelled from red clay, with black pigment.	Nayarit	Late pre-classic, ca. 1–400 CE
53	Figure playing whistle and gourd rattle	This clay figure is seated, with a whistle in the left hand and a rattle in the right. Although indistinct, the whistle can be identified as an ocarina with no finger holes. The rattle appears to be shaped like a gourd; this could either represent an actual gourd rattle, or one of the clay versions (see acc. no. 77.51). The figure is solid, and wears a pointed hat with a brim, ear-discs, two bands on the right forearm and the legs, a necklace, and a garment covering the lower body. It has been coloured red and white.	Nayarit	Late pre-classic ca. 1–400 CE

54	Figure striking turtle shell and chanting (?)	This figure sits cross-legged, playing a turtle-shell as an instrument by striking it with a beater which is probably the antler of a deer. The entire object has been hand-modelled from clay (although the head may have been cast). The figure's left hand holds the inside of the shell and the right hand holds the beater. The figure wears a variety of ornaments and patterned garments, depicted by engravings and pigment. The clay is red, with red, yellow, white and black pigment. The figure is hollow, with a smooth, flat back. A pebble-like object is enclosed inside the body.	Nayarit, Ixtlán del Rio	ca. 1–400 CE
55	Figure playing rattle	This large clay figure sits cross-legged with a rattle in the left hand. The right hand is held up to the figure's open mouth, which appears to be in the process of uttering, chanting, singing, or reciting. The rattle effigy is shaped like a gourd, but there are surviving actual rattles shaped like gourds which are made from clay, so it could equally depict one of those. The figure's costume consists of a headband of animal skin, peaked cap, earrings, nose ring and disc, armlets, waistband and loincloth. The clay has been painted white, yellow and black over red.	Nayarit, Ixtlán del Río	
56	Vessel rattle: clay gourd	This rattle is ceramic, but mimics the form of the gourd rattles which are depicted in effigies of musicians elsewhere in this collection. Crossley-Holland describes its sound as "quiet…earthy, with a sharp edge", and with a tonal focus approximately equivalent to a Western C 6. The rattle is made from unpolished clay, with traces of red pigment and white patina. Its body is hollow and contains several sound-producing pellets; the handle is solid.	Possibly Colima	Late pre-classic

57	Two vessel rattles joined by collar	These two ceramic rattles, shaped like gourds, are joined by a collar. Crossley-Holland suspected they were to be worn around the neck - but it would have to have been a small person! The complete rattle contains numerous pellets. When shaken, this produces a quiet, "gently earthy" sound, with a "silvery" edge. There is a hole in the other rattle where it has been broken at some point in its history, and no pellets remain. Both rattles and the adjoining collar are plum coloured, decorated with white bands.	Nayarit-Jalisco, Amapa	Late post-classic
58	Fragment of bone scraper, with shell activator (.59)	This is a bone rasp, or scraper. The notches along the bone, when scraped with a stick, produce a loud, sharp percussive sound. The shell segment (accession number 81.36b) could have been used for this purpose. There are several figurines in various collections which depict musicians playing scrapers in this way. The bone has been engraved with freeform rectangular patterns, and its natural colour has been modified with black and brown patina.	Nayarit	Of the shaft tombs
59	Shell Activator (with .58)	This is a section of a spiral shell, which Crossley-Holland suspects to have been used for scraping a bone rasp (such as 81.36a). The shell has been perforated with two drilled holes, possibly to allow for a cord for suspension from the musician's neck or wrist, or to attach to its bone scraper. The shell would have been rubbed up and down the notches of the rasp to produce a percussive scraping sound. Ceramic figures have been found which show this style of playing. The natural orange-brown colour of the shell remains.		Late post-classic

60	Figure playing tortoise-shell instrument	This clay model depicts a figure playing a tortoise-shell instrument. The figure sits cross-legged, holding the shell with one arm and in the other hand, what could be a stick (deer horn, or shell) with which to scrap it - although this is indistinct. Crossley-Holland assumes that the figure is a man, in the absence of any gendered features. Various body ornaments are depicted: ear-discs, nose-ring, and headdress. The figure is solid, except for at its head, and is coloured with red, white, yellow, and black pigments.	Nayarit, Ixtlán del Rio	ca. 1–400 CE
61	Figure playing tortoise-shell instrument	This clay figure depicts a seated musician holding a tortoise-shell instrument in its right arm and a stick in its left hand. Although not very clear, this stick probably represents a segment of deer horn, which would have been used to strike or rub along the tortoise shell, to produce a percussive scraping sound. The figure is solid, and painted red, black, and white. The musician is decorated with a headdress, ear-discs, nose-ring, necklace, upper and lower body garments, and painted patterns on the face.	Nayarit	Late pre-classic ca. 1–400 CE
62	Figure playing drum	This ceramic figurine portrays a standing drummer playing a cylindrical drum. The hands rest on the skin of the drum, as if mid-performance. The drum rests on the ground, supported by the player's feet. As far as we know, no archaeological evidence of these drums has been discovered, but models such as these demonstrate their use in this ancient culture. This figure wears a pointed hat with band, ear discs, and nose ring. The clay is polychrome: coloured yellow and black on red pigment.	Nayarit	ca. 1–400 CE
63	Figure playing drum	This solid ceramic figurine portrays a standing drummer playing a cylindrical drum. The hands rest on the skin of the drum, as if mid-performance. The drum rests on the ground. Its player wears a pointed hat with brim, earrings, nose ring, and bead necklace. The colour of the figurine is orange-red, with white paint.	Nayarit	Late pre-classic, ca. 1–400 CE

64	Figure playing drum	This solid clay figurine is of a seated drummer, with hands resting on a cylindrical drum. The drum stands on the ground, supported by the drummer's feet. The drummer's costume includes a bird mask and tail, pointed cap, nose ring, and painted bead necklace and band around the belly. The figure is painted red, with white and black decorations.	Nayarit	ca. 1–400 CE
65	Large Seated Drummer	This figure sits cross-legged, playing a drum by striking it with both hands. The drum appears to have a membrane with a rim and is open at the other end (although this end is also damaged). The drum rests on the player's crossed legs. The figure wears a headdress, nose-ring, ear ornaments, amulets, and a garment akin to a loincloth. The eyes are almond-shaped and the mouth is open (possibly denoting singing or chanting). The figurine's body is hollow, the limbs solid. It has been hand-modelled from red clay, and painted with yellow, white, black, and red pigment.	Nayarit, Ixtlán del Rio	ca. 1–400 CE
66	Figure playing drum	This solid clay figurine shows a drummer holding a frame drum whilst seated cross-legged. The drum rests on the left leg, supported or being played by the right hand. The left hand lies on the skin of the drum; either playing it, or resting. The drummer wears a hat with three peaks, ear discs, nose ring, and a bird mask and tail flap. Crossley-Holland suggests that the bird-like costume could show a musician or shaman's assistant in the service of an avian deity. The figure is brick red, and the drum is decorated with white and band bands.	Nayarit	Of the shaft-tombs, ca. 1–400 CE
67	Figure playing drum	This solid ceramic figure shows a seated drummer, holding a frame drum with both hands. The drum sits on the left knee, and it appears to be at rest rather than in performance. The drummer wears a conical hat, earrings, and a tail flap suspended from a band around the belly. The clay is red, and traces of yellow around the neck and chin suggest a necklace.	Nayarit	ca. 1–400 CE (late pre-classic)

68	Whistle (vessel duct flute): dog	This clay whistle has the same structure as an ocarina, but has no finger holes. It produces a loud, clear pitch which sounds approximately like a Western F sharp 5. It is shaped like a dog. There is an extended tail which contains the whistle mechanism and mouthpiece. The body is hollow; head, neck and legs solid. Crossley-Holland thought its appearance very distinctive due to the length, angular head, pricked ears and huge "all seeing" eyes. The whistle has been painted brown with white stripes. The surface appears to have been burnt, obscuring some of the colours.	Nayarit	Late pre-classic
69	Ocarina (vessel duct flute): human-crustacean	This clay ocarina, with two finger holes, can produce sounds ranging from very quiet to very loud. Although the mouthpiece has been replaced at some point, the ocarina sounds a very clear series similar to a Western triad: D 6, F sharp 6, A 6. The ocarina is shaped like a person with kyphosis (i.e. hunchback), with the mouthpiece in its head. If viewed from the back, a crustacean shape appears. The dual identity suggests a mythical or divine figure. The clay has been painted red, yellow and orange and decorative white wavy lines, depicting water, reinforce the crustacean connection.	Nayarit, style of Ixtlán del Río	
70	Ocarina (vessel duct flute): dog	This clay ocarina is in the form of a dog, with the mouthpiece at its mouth. It has two finger holes and produces a breathy, piping sound with the approximate pitches of A 7, C 7 (flatter), C7 (sharper), and D 7. The body of the ocarina dog is hollow, and legs solid. At some point the ocarina has broken into three sections which have been re-joined. There is a channel in the front left leg which allows for a suspension cord. The clay has been coloured brick red.	Nayarit, Ixtlán del Rio polychrome	Late pre-classic

71	Ocarina (vessel duct flute): pakira	This clay ocarina is shaped like a pakira, a type of wild pig still found in the Americas. The mouthpiece is in its snout. There are two finger holes, which produce three notes similar to a Western triad: F 6, A 6, and C 7. The tone is described by Peter Crossley-Holland as “well-rounded”. The ocarina is hollow. The clay is plum-coloured with white stripes, with traces of black.	Ixtlán del Rio/Amapa?	Late pre-classic, ca. 1–400 CE
72	Ocarina (vessel duct flute): pakira	This clay ocarina is shaped like a pakira, a type of wild pig still found in the Americas. The mouthpiece is in its snout. There are two finger holes, so the ocarina produces three notes, which approximate the Western pitches F 4, A flat 4, and B flat 4. The ocarina produces a quiet tone, tone described by Peter Crossley-Holland as “breathy” and “cooing”. The ocarina is hollow. The clay has been coloured red, with painted pink and white stripes which represent the markings of the pakira.	Nayarit	
73	Ocarina (vessel duct flute): tapir	This ocarina is shaped like a tapir with its head turned to look over its shoulder. The mouthpiece is in its tail, and there are two finger holes. The ocarina produces three notes, which are approximately the Western pitches of C 6, E flat 6, and F. The body of the tapir-ocarina is buff-coloured clay, with red and black stripes. Instruments in the shape of tapirs are found in other parts of Mesoamerica (e.g. Costa Rica) but Crossley-Holland thought this to be the only example from West Mexico.	Nayarit, Ixtlán del Río polychrome	ca. 1–400 CE
74	Ocarina (vessel duct flute): turtle	This clay ocarina in shaped like a turtle. The mouthpiece is in its head so the player’s lips are at the turtle’s mouth. There are two finger holes, which would create three notes, but Crossley-Holland did not record what these pitches are. The finger holes are on the underside of the body, which means they are most easily covered using the thumbs. The clay is plum-coloured, with orange and white decorations.	Nayarit	Late pre-classic, shaft tombs, ca. 1–400 CE

75	Ocarina (vessel duct flute): turtle	This clay ocarina is shaped like a turtle. The mouthpiece is in its head so the player's lips are at the turtle's mouth. There are two finger holes on the underside of the turtle, which means they are most easily stopped with the thumbs. The ocarina produces the approximate Western pitches of G sharp 6, C sharp 7 and D sharp 7, with a tone that Crossley-Holland describes as "piping". The body is hollow, but the legs and tail are solid. One of the legs is missing. The clay has been painted brown with faint red designs.	Nayarit	Late pre-classic
76	Ocarina (vessel duct flute): snail	Crossley-Holland has labelled this clay ocarina as a "little snail", but elsewhere describes it as a bullfrog! The mouthpiece is in the creature's open mouth. There are two finger holes, of different size. Finger holes are usually the same size in instruments of this type, and it means that there are four pitches instead of the usual three. Crossley-Holland concluded, by comparing data with other instruments from the same area, that the intended pitches approximate the Western A 6, B 6, and D 7. The clay is buff-coloured and decorated with cream and red patterns.	Nayarit, Ixtlán del Rio polychrome	Late pre-classic
77	Ocarina (vessel duct flute): turtle	This clay ocarina is shaped like a turtle with two heads. It is unique in this collection in that it has two mouthpieces, one in each head, so it can be played by two people at the same time. Crossely-Holland speculates that this could have had a shamanistic meaning, or used for teaching. There are two finger holes, and the two mouthpieces also create differences in pitch, resulting in a series of 5 notes: approximately C 5, D 5, E 5, F sharp 5, and G 5. The clay is buff-coloured, with red and cream decorations.	Nayarit, Tomb I (Las Cebollas, Tequilita), Ixtlán del Rio polychrome	Late pre-classic

78	Figure playing conch shell trumpet	This clay figurine depicts a musician playing a conch shell trumpet. There are a few examples of such instruments in Crossley-Holland's collection. The figurine's conch shell appears to have an attached mouthpiece, which suggests that separate mouthpieces might have been used with these instruments, to make playing easier. This figurine also shows the playing position and stance of the musician. The figure wears a cap, ear ornaments, arm rings or bands. The face has been decorated with patterns that might depict a mask, or tattoos. The clay is cream, black and red.	Nayarit, Ixtlán del Rio polychrome	Late pre-classic, shaft tombs
79	Conch shell trumpet	This conch shell has been sawn at the top to allow for a detachable mouthpiece. It is still possible to play this conch, in the position shown in clay figurines of conch shell players of the time: held horizontally with hands either side. The sound produced ranges from approximately C4 to G5: this can be changed by the position of the lips, force of air flow, and by covering the end hole ("stopping"). The incredible carvings include lines, concentric rings, stylized frogs and human faces. The shell has been drilled to allow it to be suspended from a cord.	Jalisco?	ca. 100 CE
80	Conch shell trumpet	This is a conch shell, which would have been used as a trumpet. In its current condition, the mouth hole is too damaged to produce any sound. Crossley-Holland identifies the shell as the species *Tubinella angulatus* Solander. The shell has been engraved with designs in the shape of frogs and two-headed serpents. There are two holes drilled into one side, which would have been used to suspend the conch from a cord to be worn or carried. The shell is a natural off-white colour, with brown and grey areas of discolouration.	Nayarit	ca. 100 CE

81	Conch shell trumpet	This is a conch shell trumpet. There are no finger holes but a variety of pitches can be produced by covering the end of the trumpet, or by varying the shape of the lips. The Western equivalents of the pitches are F 5 to C 6, and the trumpet can produce a range of dynamics from very quiet to very loud. The engravings on the conch feature human heads and reptilian creatures. The species of the shell is the queen conch. This is native to the Caribbean, not west Mexico, suggesting a connection between these sites (for example, for trade).	Michoacán	ca. 100 CE
82	Circle Dance accompanied by Percussion Vessel Player	This sculpture shows a group of eight figures encircling a single player of a vessel which could be a scraper or drum. It is held with the left arm and played with the right hand (possibly holding a beater). The central figure stands next to a mound, possibly a tree stump. The outside figures are alternatively bare-headed and wearing hats. Crossley-Holland speculates that this represents males and females dancing around a central male (hatted) musician. The object has been hand-modelled from clay and painted with cream-coloured slip. It is an intriguing representation of a musical dance scene.	Nayarit	Late pre-classic
83	Vessel rattle: female figurine	This is a clay rattle in the ambiguous form of a female body. There are one or two pellets enclosed which when shaken produce a high-pitched, very quiet rattling sound. The body of the rattle is rounded, with the head attached via a long neck. The arms are bent upwards, touching the shoulders. The appliqued shapes on the front of the body could be interpreted as breasts – this is what Crossley-Holland has used to identify the form as female. The clay is coloured with cream slip with orange-red paint.	Nayarit, Ixtlán del Rio polychrome	ca. 1–400 CE

84	Vessel rattle: figurine	This clay rattle is in the form of a seated figure. There are two pellets which when shaken produce a quiet sound, which Crossley-Holland describes as “earthy”. Curved arms and short legs are attached to the rotund body, and the head of the figure shows painted-on nose and eyes. There are no characteristics which show gender, but the absence of breasts could suggest that the figure is male. The clay has been coloured with red paint, with cream slip.	Nayarit	ca. 1–200 CE
85	Figure playing drum	This ceramic figurine plays a tall cylindrical drum which rests on the ground. The drummer stands with splayed feet, supporting the drum. The decoration of the drum appears to represent a zigzag water symbol. The unusually tall size of the drum reminds Crossley-Holland of the drums used in contemporary Wixárika (Huichol) indigenous culture. The figure’s costume includes a cap, ear ornaments, necklace, and lower body garment. The clay is coloured red, black and white.	Nayarit	Late pre-classic ca. 1–200 CE
86	Figure playing flute	This ceramic figurine shows a seated person playing a tubular flute (pipe). The flute has no finger holes, and is held vertically. Faint black bands decorate the flute. The figure’s costume includes a cap with a horn. This suggests a shaman. Similar horns project from the shoulders, and the ears are very pronounced or are showing ear ornaments. Crossley-Holland poetically describes the eyes as “looking, not of this world, but inwardly”. The clay is cream with orange and black.	Nayarit	Late pre-classic ca. 1–200 CE
87	Flute (tubular) with wide mouthpiece	This ceramic flute has no finger holes, but can produce a range of pitches if the end of the flute is stopped (covered or partially covered) and by varying the breath flow and lip shape. The primary note with no stopping is akin to a Western E flat6, but the following notes can also be produced without too much difficulty: E flat 7, B flat 6, B flat 7, G 7. The mouthpiece is unusually wide for a flute of this size. The clay is plum-coloured, with decorations in white slip and traces of black.	Nayarit, Tomb I (Las Cebollas, Tequilita)	Pre-classic, ca. 1–200 CE

88	Flute (circular tube): dog	This ceramic flute is created from a circular tube and shaped like a dog. Circular (or annular) flutes are rare in West Mexico, but not unknown. There are two finger holes, which are played with the thumbs. In Western terms, its pitches approximate A flat 5, B flat 5, C flat 6, and D flat 6. It is unusual to have four pitches from two finger holes: usually there are three. Crossley-Holland attributes the extra pitch to one finger hole being considerably bigger than the other. The clay has been painted red with white decorations.	Nayarit	ca. 1–200 CE
89	Two-holed Vessel Duct Flute (Ocarina): Large Spined Quadruped	This clay ocarina is shaped like a four-legged animal with spines, tail and two big eyes. The mouthpiece is at the snout, the body of the creature acts as the resonator and there are two finger holes on the underside. Crossley-Holland describes its sound as "hooting" and it can play a range of dynamics from very quiet to very loud. Its approximate Western pitches are F 4, G 4, and B flat 4. The clay is red with white bands and dots on the upper half of the body; the lower half is a buff colour.	Nayarit	ca. 1–200 CE
90	Figure playing curved horn	This clay model shows a figure playing a curved horn with no finger holes. Crossley-Holland suspects it depicts an animal horn. The horn is held up to the player's mouth. The figure is seated, with elbows resting on raised knees. The figure wears a crested cap like a helmet. The clay is orange-red, white and black.	Nayarit	ca. 1–200 CE
91	Figure singing	This is a solid ceramic figurine showing what appears to be a singer. The placement of the hands next to the open mouth suggests chanting, singing, shouting, or reciting. The figure wears earrings, and a cap with two horns, tilted to the right. The clay is a light brick colour, with faint traces of white slip.	Nayarit	ca. 100 BCE–100 CE

92	Figure playing hand drum	This clay figurine is holding a hand drum, positioned under the left arm and played with the palm of the left hand. As it is portable, perhaps this type of drum was used in procession or dance originally. The costume of the performer includes a headband, necklace and anklets. The clay is a brick red colour, painted with white slip.	Nayarit	ca. 100 BCE–100 CE
93	Set of five copper bells	This is a set of five bells, made from copper with pebbles within which create the rattling sound. When shaken, they produce a very quiet sound. Each individual bell produces its own pitch, which creates the series (in approximate Western equivalents): B 4, B 5, D 6, E 6, G 6. Crossley-Holland believes that these pitches are a very accurate reflection of what the original musicians would have heard many centuries ago. In contrast to ceramic instruments, the sound-producing capabilities of copper and stone do not change significantly over time.	Nayarit, probably near Jalisco border	ca. 900–1500 CE
94	Conch shell trumpet	This conch shell has been sliced to create a mouthpiece, thus turning it into a trumpet. It is not possible to play the trumpet due to damage, so we have no information about its sound. This conch has been displayed during the 1950s by a previous owner. Crossley-Holland reports that a note from the exhibition states "Conch shells were blown during an attack in order to frighten the enemy by their weird sound." It is intricately decorated with designs including the zig-zag water symbol. The shell has been coloured black, white, red and yellow.	Nayarit	Post-classic
95	Figure playing rattle and panpipes	This very small figure plays a rattle in the right hand and panpipes in the left. The rattle appears to be shaped like a gourd. The panpipes, although lacking in detail, can be identified from their general shape and the position of the left hand around them. The object is solid, and has been hand-modelled from grey-coloured clay and painted with red and white slip.		1–400 CE

96	Figure playing flute	This standing figure plays a flute. It is not depicted in enough detail to see finger holes or mouthpiece, but the position of the hands suggests that finger holes lie beneath. This would be typical of actual flutes found in the same area. The figure wears ear ornaments, a decorated headdress, and a garment around the waist and genital area. The clay blobs on the shoulders, and similar ones on the arm and ankle bands, probably represent bells. The figure is hollow and hand-modelled from grey clay which has been painted red and white.		1–400 CE
97	Figurine of man playing drum and woman singing	This figurine depicts a man sitting playing a drum, and a woman seated behind him with her hands on his shoulders. Both wear headdresses and necklaces, which feature pellets which might represent bells. Similar pellets cover the shoulders of each. The female body contains a pellet so can act as a rattle. The clay model drum is cylindrical, with a membrane at one end and open at the other. The figurine is made from brown-beige clay. Two holes at the back of each head are vents for the firing process.	Jalisco, Magdalena Basin	Late pre-classic, shaft tombs, ca. 1–400 CE
98	Figure of woman playing rattle	This figure shows a woman holding rattle with her right hand, at about the level of her face. The rattle is spherical and has a handle, which suggests that it is modelled on a gourd (large seed-pod) rattle. Her left hand is held behind her head, which is elongated and displays a prominent nose and large eyes. The breasts are prominent. Her costume includes a hat and knee length skirt, and she wears ear-discs and a nose-ring. The figure was hand-modelled from grey clay, then painted with white slip and a little red pigment.		1–400 CE

99	Vessel rattle: figure wearing mask	This rattle is in the shape of a standing figure wearing a headdress and a mask shaped like a coati (raccoon) head. The band fixing the mask in place rests over the forehead, and ends in ear ornaments. The figure also wears a waistband and bracelets. The body is hollow and contains pellets which make a rattling sound. Crossley-Holland suggests a shamanic connection, due to the animal mask. This rattle is very similar to number 100, and the two could be a male-female pair. The rattle has been hand-modelled from clay and is grey with patches of red.	Jalisco	Late pre-classic, shaft tombs, 1–400 CE
100	Vessel rattle: figure wearing mask	This rattle is in the shape of a sitting figure, with hands to face. The figure wears a headdress and a mask shaped like a coati (raccoon) head. The upper part of the body is hollow, and contains some pellets which rattle quietly when shaken. The figure has a round belly and the suggestion of female genitalia. Crossley-Holland suggests a shamanic connection due to the animal mask. This rattle is very similar to number 99, and the two could be a male-female pair. It has been hand-modelled from grey clay, and shows patches of brownish-red.	Jalisco	Late pre-classic, shaft tombs, ca. 1–400 CE
101	Vessel rattle: dog	This rattle is shaped like a dog, which Crossley-Holland describes as “a benevolent-looking creature”. The dog’s mouth is open, with tongue showing. Part of the body is hollow and contains some pellets which make a quiet rattling sound when shaken. The rattle has been hand-modelled from clay, and is grey in colour with some black patches (possibly because of fire damage during manufacture).	Jalisco	Late pre-classic, shaft tombs, ca. 1–400 CE
102	Vessel rattle: clay gourd	This rattle is ceramic, but mimics the form of the gourd rattles which are depicted in effigies of musicians elsewhere in this collection. There is a long handle, which perhaps imitates the stick handles of real gourd rattles. The body of the rattle has several holes, which act as both sound-holes and firing vents. There are two or three pellets within, which create a quiet rattling sound when shaken. The rattle has been hand-modelled from grey-coloured clay.	Nayarit	Late pre-classic, shaft tombs, ca. 1–400 CE

103	Figure of man playing drum	This model depicts a sitting figure playing a drum. The figure's knees hold the drum in place. One hand rests on the head of the drum while the other is raised, suggesting a frozen moment of performance. This position is unusual in figurines from West Mexico – Crossley-Holland suggests the raised arm has been replaced at some point. The drum is decorated with a diamons pattern, and the figure wears a cap and ear ornaments. The model is hollow, and has been hand-modelled from grey-coloured clay and coloured with red pigment	Jalisco	Late pre-classic, shaft tombs, ca. 1–400 CE
104	Figure playing flute	This figurine shows a flute player, seated with raised knees. The flute is tubular and held vertically (like a pipe) and the position of the player's hands suggest that they are covering finger holes. The flute is being held to the mouth as if being playing. The figure has pronounced kyphosis (hunchback) which indicates a high religious status. The figure wears a headband, ear ornaments, and bands around the upper arms. The figurine has been hand-modelled from grey clay, with traces of red pigment in places.	Jalisco	Late pre-classic, shaft tombs, ca. 1–400 CE
105	Conch shell trumpet (made from clay)	This is a clay model of a conch shell trumpet, of which there are several examples in this collection made from real conch shells. Crossley-Holland marvels at the maker's ability to mimic the whorls and spines of a conch shell. There is no mouthpiece, but a sound-hole at one end: when blown, the trumpet can produce a loud note, with pitches in the range of approximately E flat 4 to F4. The clay has been hand-modelled – making the quality of the model even more admirable – and is black in colour.	Jalisco	Late pre-classic, shaft tombs, ca. 1–400 CE
106	Figure playing rattle and panpipes	This very large figurine shows a man standing, holding a rattle in his right hand and panpipes in his left. He holds the panpipes just beneath his mouth, as if they are being played. His lips are parted, showing his teeth. The figure wears a cap with chinstrap, ear ornaments and nose rings, and a band around his waist. A tunic covers his upper body. The clay has been hand-modelled. It is brown in colour, with white and black pigment over red slip, and black speckles.	Jalisco	Late pre-classic, shaft tombs, ca. 300–500 CE

107	Vessel rattle: dog and incense-holder	This is a rattling object shaped like a dog. There is a pellet (probably a pebble) in its hollow body which produces a very quiet sound when shaken. There are knobbly decorations on its back, which look like the warts of a toad; but all other features point towards a dog. The ornamented bowl on the back was probably used for burning incense, possibly for religious purposes. It has been hand-modelled from clay, which is creamy-brown coloured. There are traces of white, yellow, red and black pigment. There is a faint red-and-white decoration on the inside of the bowl.		
108	Vessel rattle: turtle and incense-holder	This is a rattling object shaped like a turtle. There is a pellet (probably a pebble) in its hollow body which produces a very quiet sound when shaken. There are knobbly decorations on its back, which look like the warts of a toad; but all other features point towards a turtle. The ornamented bowl on the back was probably used for burning incense, possibly for religious purposes. It has been hand-modelled from clay. Its colour is creamy-brown, with black patches due to firing during manufacture, or from later fire damage. There is also some red pigment.	Jalisco	Pre-classic
109	Figure playing double flute	This figurine shows a standing person playing a flute. It is indistinct, but it looks about the width of two tubes joined together: i.e. a double flute. This is corroborated by the position of the hands. The instrument is held vertically, diagonal from the body. There appear to be decorations along the flute which look like fish scales. The figure wears a headdress, ear ornaments, arm bands, and a loincloth. The entire figurine is made from clay, hand-modelled, and is red and cream over grey clay.	Jalisco	

110	Scraper: raccoon	This instrument is a rasp, or scraper, shaped like a coatimundi (a type of raccoon). There is a raised ridge running the length of the creature's backbone. This would be scraped back and forth with a stick, possibly made from a bone or antler, to produce the rasp sound. The creature is decorated with a necklace, suggesting a ceremonial use for the instrument. There are two hole through which a cord can be threaded, allowing the instrument to hand around the player's neck or wrist. It has been hand-modelled from cream-coloured clay, and painted with red pigment.	Jalisco	
111	Whistle (vessel flute): raccoon	This is a whistle, shaped like a coatimundi (a type of raccoon). There are no finger holes, so only one note is produced: this is the approximate equivalent to a western B4. The mouth hole and aperture are at the position of the raccoon's anus, so the creature faces away from the performer when played. The whistle has been hand-modelled from grey clay. It has been covered with cream-coloured slip (except for part of the undercarriage), and red-coloured patterns across the back.	Colima	Pre-classic
112	Figure playing drum	This model shows a seated figure playing a drum. The drum is hourglass-shaped, with a skin at one end. The open end rests on the ground. The player plays it with both hands. There are six fingers on each. The drummer wears a hat and earrings, and a necklace and garment have been added with paint. The figure was hand-modelled from clay, coloured with grey slip then decorated with red pigment over white. The decorations on the drum could represent cords, used to attach the skin to the body of the drum.	Jalisco	ca. 200–400 CE

113	Ocarina (vessel duct flute): human head	This ocarina is in the shape of a head. It could depict the head of the flayed god (Xipe Totec), whose eyes are often portrayed as slits. The ocarina has six finger holes: four underneath and two in the dome of the head. It produces seven pitches, of the approximate Western equivalents B flat 4, B4, C5, C sharp 5, D5, D sharp 5 and E5. The mouthpiece is at the base of the back of the head. When played, the head faces upside down and away from the player. The ocarina has been hand-modelled from dark brown clay.	Jalisco	Late pre-classic, shaft tombs, ca. 250–400 CE
114	Conch shell trumpet (made from clay)	This spiral trumpet is ceramic, but mimics the trumpets made from conch shells common throughout pre-conquest West Mexico. It produces a very loud note, similar to a Western F5. There is no mouthpiece; the end of the "shell" has a hole to blow into. There are two additional holes, through which cord could be threaded so the instrument could be worn around the neck or wrist of the player. The instrument is hollow, and has been hand-modelled cleverly to depict the spirals of a conch. The clay is grey, and has been coloured with white over red pigment.		Late pre-classic, shaft tombs, ca. 250–400 CE
115	Strung rattle: bracelet	This record identifies seven shells, which have been carved into the shape of fish. There are holes in each which allow them to be strung together into a bracelet or necklace. When worn, the shells would click together to make a quiet jingling sound. If the wearer was dancing or playing an instrument like a drum, the shell bracelet itself could be considered a musical instrument. The shells are their natural colour of white and brown.	Nayarit/Colima	
116	Strung rattle: necklace	These shells have been carved into the shapes of various animals: a frog, sea-horses, and a beetle. There are holes in each which allow them to be strung together into a bracelet or necklace. When worn, the shells would click together to make a quiet jingling sound. If the wearer was dancing or playing an instrument like a drum, the shell bracelet itself could be considered a musical instrument. The shells are their natural colours: white, purple and orange.	Nayarit/Colima	

117	Figure of man playing drum	This model shows a seated figure playing a drum. The drum is a very shallow cylindrical shape. The drummer wears a horned headdress, and their mouth is open as if mid-song or chant. The figure has been hand-modelled from clay. It has been painted red and cream over light brown coloured clay.	Jalisco, Teocaltiche	100–250 CE
118	Vessel rattle: ball	This is a clay rattle in the shape of a ball. There are some pellets within (possibly pebbles) which create the soft rattling sound. The rattle has four sound holes, which help to amplify the sound. Figurines depicting players of rattles show ball-rattles being held at the height of the chest. The rattle has been hand-modelled from brown clay. It has been blackened due to the firing process during manufacture, and painted with white slip.		Archaic, possibly La Capacha
119	Whistle (vessel duct flute): reptile	This whistle is shaped like a reptile, possibly a caiman (a small alligator-like creature found in Central and South America). Scales are detailed on its body. There are no finger holes so only one note can be produced. This sounds like a Western B5. However, due to repairs, the whistle mechanism has been replaced, so the original pitch may have been different. The mouth hole is at the end of the creature's tail, so playing position has the reptile facing outwards and away from the player. The whistle has been hand-modelled from clay, and is brown with black speckles.	Colima	Possibly Capacha, 1800–800 BCE
120	Ocarina (vessel duct flute): deer	This ocarina is shaped like a deer. Deer are important part of culture and religion for the Wixáritari (Huichol) of contemporary western Mexico and were significant in ancient culture too. This ocarina has one finger hole and produce two notes as a result: approximate to the Western D5 and F5. By overblowing, the note E flat 5 can also be produced. The mouth piece is a tube attached to the side of the body. The instrument has been hand-modelled from clay, and is dark brown in colour.	Colima	Possibly Capacha, 1800–800 BCE

121	Whistle (vessel flute): dog	This is a whistle in the shape of a dog. There is a single blow hole, at the position of the anus. Inside, there are two separate whistle mechanisms, each comprising a duct and a hollow resonator. This means that two pitches can be produced, akin to a Western G5 and B flat 5. One whistle mechanism has been replaced during a repair, so the B flat may originally have been closer to the other pitch. This would have emphasised the instrument's sound with a beating effect. The instrument has been hand-modelled from clay, and is a light brown colour.		Possibly Capacha, 1800–800 BCE
122	Ocarina (ductless vessel flute): figure	This figure is hollow, and has a hole at its back. This hole seems larger than needed for a firing hole, and a note can easily be produced when it is blown, so Crossley-Holland surmises this is meant to be a musical instrument. Its pitches range from approximately C6 to E6, depending on the pressure of breath and position of lips. The figure wears a headdress and ear ornaments, indicating high religious status. The figure would face outwards from the player. The whistle has been hand-modelled from clay, and is red in colour, with some speckles of grey.		Before 500 BCE
123	Ocarina (vessel duct flute): lizard	This ocarina is shaped like a lizard, but with indistinct features and only two legs (which also act as supports). The mouth piece is in the position of the creature's head. There are four finger holes, so five pitches: approximately the Western C5, E, G, A, and B. There are also two holes through the legs/supports, which could allow the ocarina to be suspended from a cord around the neck or wrist. The ocarina has been hand-modelled from clay, which has been painted with dark brown slip.	Colima	ca. 200 BCE

124	Ocarina (vessel duct flute): lizard	This ocarina is very similar to no.123. It is shaped like a lizard, but with indistinct features and only two legs (which also act as supports). The mouth piece is in the position of the creature's head. There are four finger holes, so five pitches: approximately the Western C5, E, G, A, and B. When played, it would face outwards from the player. The clay has been hand-modelled, and it is brown in colour. In both this ocarina and no.123, if the instrument is inverted, a different animal-like quality appears. Crossley-Holland terms this a "secondary zoomorphic aspect".	Colima	ca. 200 BCE
125	Ocarina (vessel duct flute): frog	This ocarina is in the form of a frog. Its body is hollow, acting as resonator. The mouth piece and mouth hole are in the position of the frog's open mouth. There are four finger holes, which produce the approximate Western pitches of F sharp 6, A sharp 6, C sharp 7, D sharp 7, and E7. A range of dynamics can be played, from very quiet to loud. The ocarina has been hand-modelled from clay, and is dark brown in colour. The head, back, and legs have been decorated with incised designs.	Colima	Late pre-classic ca. 200 BCE
126	Whistle (vessel duct flute): figure	This whistle is in the shape of a figure holding two objects (perhaps a pestle and mortar, or flute and rattle). It has no finger holes so produces one pitch, akin to a Western G6. The mouth piece and resonator are in the figure's head; the rest is solid. The figure's costume comprises a headdress with spines, collar, earrings, bands around the legs, and a tunic. depiction of the eyes is unusual, and suggests a mask. Several features look like feathers, and the headdress could denote the sun's rays, suggesting religious connections. The instrument has been hand-modelled from red-coloured clay.	Colima	Late pre-classic

127	Ocarina (vessel duct flute): figure playing flute	This whistle is in the shape of a figure playing a whistle held in both hands. The body and legs are solid. The head is hollow and contains the resonator and mouth piece. There are no finger holes so one pitch is produced: approximately a Western D flat 6 (this can be raised slightly with force of breath). The figure faces outwards in playing position. The figure wears a hat, skirt and belt. Percussive decorations are depicted as hanging from this belt. The whistle has been hand-modelled from clay, and is light brown with black pigmentation or discolouration.	Colima	Late pre-classic
128	Vessel rattle and whistle: figure playing whistle and rattles	This instrument is a whistle and rattle. It is in the shape of a figure which itself plays two rattles, held under the arm and attached to the back, and whistle, held at the mouth. The head contains the mouth piece and resonator of the actual whistle. The belly is hollow and contains some pellets which rattle when shaken. The stylised female features (round rattles-as-breasts and pregnant belly) are in contrast with the large phallic belt attachment. The figure also wears a headdress with protruding horns. The instrument has been hand-modelled from clay, painted with red slip and black pigment.	Colima	Late pre-classic
129	Strung rattle: shell bracelets	These bracelets or anklets have been sliced from shell. They are their natural cream colour. They are the approximate shape of the arm- and leg-bands depicted on figurines of dancers. Presumably, several of these rings would be worn, and would click together in time to the wearer's movements. If worn by a dancer or musician, the effect would be an accompanying percussion to the music.		Probably post-classic

130	Whistle (vessel duct flute): figure playing percussion and singing	This whistle is shaped like a figure playing a percussion instrument. The figure's head and torso are hollow and contain the whistle mechanism. The mouth piece is in the back of the head, so the figure faces outwards. There are no finger holes so only one pitch, approximately a Western F7. The percussion instrument depicted comprises a vessel held in one arm; the other holds a mallet, reaching across to strike the vessel. The figure's mouth is open, perhaps in song. The figure wears a headdress, ear ornaments, skirt, and cloak. The clay is light brown and has been hand-modelled.	Colima	Late pre-classic
131	Whistle (vessel duct flute): figure playing drum	This whistle is shaped like a figure playing a percussion instrument. The figure's head and torso are hollow and contain the whistle mechanism. The mouth piece is in the back of the head, so the figure faces outwards. There are no finger holes so only one pitch, approximately a Western D6. The percussion instrument depicted comprises a vessel held in one arm; the other holds a mallet, reaching across to strike the vessel. The figure's mouth is open, perhaps in song. The figure wears a headdress and loincloth with tail-flaps. The clay is light brown and has been hand-modelled.	Colima	Late pre-classic
132	Figure playing drum	This model shows a seated figure playing a hollow vessel like a drum. The figure sits atop the vessel, and plays one end with both hands. The head of the vessel is convex, not flat like a drum skin. It could be a large pot or vase, turned on its side and into a percussion instrument. The figure has pronounced facial features, and wears arm bands, a headdress with chin strap and crest, and a necklace with pendants. It is solid, and has been hand-modelled from clay. It is a faded red colour.	Colima	200 BCE–500 CE

133	Figure playing drum	This model shows a seated figure playing a drum. The instrument is cylindrical, and is open at one end. The other is covered with a skin, which is being played with both hands. The figure's legs clasp the drum, and one foot supports it from the front. The figure has pronounced facial features, and wears a nose ring, a headdress, ear ornaments, and a necklace. It is solid, and has been hand-modelled from clay. It is grey in colour, with white pigment.	Colima	Late pre-classic
134	Figure wearing strung rattles (shell bracelets)	This figurine shows a person wearing bracelets. They appear to be depictions of the shell bracelets, of which this collection has several examples. The bracelets are worn on the lower part of the arm, between the wrist and elbows. There are seven on each arm. They are loose enough to click together, making a sound, with the movements of the wearer. The figure also wears a necklace, ear ornaments, a headdress, and a broad belt. Their position is reclining on and against a canopy. The figure has been hand-modelled from clay, and is brick red in colour.	Colima	Late pre-classic
135	Whistle (vessel duct flute) figurine of dancer with rattle	This whistle is in the form of a figure holding a rattle in its right hand and a effigy bird in its left. The figure is positioned mid-dance, indicated by the position of its arms and legs. The whistle has no finger holes, and can produce a loud note at the approximate pitch of a Western C sharp. Other pitches can be produced with varying breath pressures. The figure wears ear ornaments, a headdress, a loincloth, and a cape in the shape of a bird's fan tail. It has been hand-modelled from red clay, coloured with darker red slip.	Colima, Armería	Late pre-classic
136	Whistle (vessel duct flute) figurine of dancer with rattles	This whistle is in the form of a figure wearing a sahumador on its back. A sahumador is a pot in which inflammable materials burn and issue smoke. The figure also holds two rattles, and is depicted mid-dance: these features suggest a ceremonial dance with music. The whistle, which is inside the figure's head and hat, sounds approximately as a Western E flat 7. The figure wears a hat, nose ring, ear ornaments, a necklace, and a skirt. The model has been hand-modelled from clay.	Colima	Late pre-classic - shaft-tomb

137	Vessel rattle: figurine of pregnant woman	This rattle is in the form of a seated woman, with pregnant belly and defined genitals. The legs wrap around the side of her belly and her arms cross her chest. The figure's belly is hollow, and a few pellets are enclosed. These "seeds" in the pregnant belly suggest a connection with fertility. When, shaken, they produce a quiet rattling. The figure wears a hat, ear ornaments, and bands around the upper arms. It has been hand-modelled from clay, and is its natural light brown colour without any additional pigmentation.	Colima	Late pre-classic
138	Vessel rattle: figurine of pregnant woman	This rattle is in the form of a seated woman, with pregnant belly and defined genitals. The legs wrap around the side of her belly and her arms cross her chest. The figure's belly is hollow, and a few pellets are enclosed. These "seeds" in the pregnant belly suggest a connection with fertility. When, shaken, they produce a quiet rattling. The figure wears a hat, ear ornaments, and bands around the upper arms. It has been hand-modelled from clay. It is brown, orange and yellow in colour, with some darker areas of discolouration.	Colima	Late pre-classic
139	Vessel rattle: deer	This rattle is shaped like a deer. One or two pebbles inside its hollow body create the rattling sound when the object is shaken. Deer are important part of culture and religion for the Wixáritari (Huichol) of contemporary western Mexico and were significant in ancient culture too. The rattle is made from clay, hand-modelled in two parts then joined. It is light brown in colour, with white and red pigmentation and some brown discolouration.	Colima	Late pre-classic

140	Vessel rattle: clay gourd	This rattle, although made from clay, mimics the appearance of a gourd. Although there are no archaeological remains of actual gourd rattles, this clay reproduction suggests that they were made from this material. Pebbles are enclosed in the hollow body of the rattle, while the handle is solid. When shaken, they click together to sound a quiet rattling. There are four rows of six holes on the body of the rattle, which help to amplify the sound. The rattle has been hand-modelled from clay. It is light brick red in colour, with some grey discolouration.	Colima	Late pre-classic
141	Whistle (vessel duct flute): seated figurine	This whistle is in the shape of a seated figure. The whistle is in the upper torso and head of the figure. There are no finger holes. It produces a pitch that approximates a Western E 7. Two flat objects rest on the figure's knee. These are probably a mano and metlatl: a Mesoamerican pestle and mortar, used to grind corn. Alternatively, the serrated surface of one object suggest a scraper and beater. The figure wears a headdress, earrings and necklace. It has been hand-modelled from clay, and is ochre in colour, with darker patches of discolouration.	Colima	Of the shaft tombs
142	Scraper (bone)	This is a fragment of a bone. It has been carved with eleven notches, in order for it to be played as a rasp (scraper) when rubbed with a stick, antler, pebble, or another bone. The hollow of the bone acts as a resonator, to amplify the sound slightly; even so, it produces only a quiet sound.	Colima, Los Ortices	Late pre-classic
143	Ocarina (vessel duct flute) and scraper: iguana	This is an ocarina in the shape of an iguana. There are raised spines on the creature's back which act as a scraper when rubbed back and forth with a stick. The mouth hole of the ocarina is in the position of the iguana's mouth. There are four finger holes. The pitches produced correspond to the approximate Western E flat 4, F, G, A flat and B flat. The instrument has been hand-modelled from clay. It is reddish-brown in colour, with red, white and black pigment. There are engraved zig-zag designs on each side.	Colima	Late pre-classic

144	Figurine of large drum with two drummers	This figurine shows two standing drummers, either side of a large drum. Their hands rest on the rim. Both figures wear headdresses but no other garments. One figure is more detailed and smoothly-finished than the other, which is relatively rough. The drum is broader than it is tall, and rests on the ground. The model has been hand-modelled from clay, and is brick red in colour.	Colima, Armería	Late pre-classic
145	Whistle (vessel duct flute): figurine playing drum	This figurine shows a seated drummer playing a cylindrical drum. The figure's head is hollow, and contains a whistle. The mouthpiece is at the back of the headdress. This produces a pitch approximating a Western C7, but E flat may be produced by overblowing. The dynamics range from very quiet to extremely loud. The drum effigy is gripped between its player's legs. The bottom of the drum is hollow. There is one skin covering the other end, upon which the player's hands rest. The figure has been hand-modelled from clay, and is a faded brick red colour.	Colima, Armería	Of the shaft tombs
146	Whistle (vessel duct flute): figurine playing drum	This figurine shows a seated drummer playing a cylindrical drum. The top of the figure's head is hollow, and contains a whistle, of which the mouth hole is at the back of the elaborate headdress. This produces a pitch approximating a Western D flat 7. The dynamics range from quiet to extremely loud. The drum effigy is gripped between its player's legs. The bottom of the drum is hollow. There is one skin covering the other end, upon which the player's hands rest. The model has been hand-modelled from clay, and is a faded brick red colour with black patches.	Colima, Armería	

147	Whistle (vessel duct flute): figurine playing drum	This figurine shows a seated drummer playing a wide frame drum. Part of the figure's head is hollow, and contains a whistle, of which the mouth hole is at the top of the headdress. This produces a pitch approximating a Western D flat 7. The dynamics range from quiet to extremely loud. The drum effigy is gripped between its player's legs. The bottom of the drum is hollow. There is one skin covering the other end, upon which the player's hands rest. The model has been hand-modelled from clay, and is a faded brick red colour with traces of yellow.	Colima	Late pre-classic
148	Whistle (vessel duct flute): figurine playing flute	This standing figure is depicted as playing a flute. There is an actual whistle in the figure's hollow head. The mouth hole is in the headdress. The figure also wears a tunic and leg bands. The flute depicted has three finger holes, but the actual whistle has none so only produces one note. This is at the approximate pitch of a Western C7. The figure holds the flute, rather than playing it. The instrument has been hand-modelled from clay, and is brick red in colour, with black pigment.		Late pre-classic/early classic
149	Flute (tubular) decorated with mask of parrot's head	This is a flute which is held vertically when played. There are four finger holes, and five pitches: these correspond to the approximate Western pitches of D flat 5, D, E, F, and G flat. Crossley-Holland describes the instrument's sound as "gentle and veiled". The top of the flute is decorated with a face that looks like a bird mask, due to the beak-like nose and circular eyes. The crossed bands would attach the mask to the wearer's head. The flute has been hand-modelled from clay, possible using a stick to shape the tube. It is dark brown in colour.		Late pre-classic

150	Flute (tubular) decorated with bird-like mask	This is a cylindrical flute with a flattened, wide mouthpiece. There are four finger holes, which produce the approximate Western pitches of B flat 4, B, C5, C sharp 5, and D. The top of the flute is decorated with a face wearing a bird-like mask with beaked nose and circular eyes. The mask has a chin strap, and the headdress merges into the mouthpiece of the flute. The flute has been hand-modelled from clay, possible using a stick to shape the tube. It is dark brown in colour.		Late pre-classic
151	Flute (tubular) decorated with bird-like mask	This is a cylindrical flute with a flattened, wide mouthpiece. There are four finger holes, which produce pitches approximate to the Western G sharp 5, A, A sharp, C6 and C sharp6. (Variations can be produced using different combinations of fingering.)The top of the flute is decorated with a face wearing a bird-like mask with beaked nose and circular eyes. The head wears a headdress with chin strap, which melds into the mouthpiece. The flute has been hand-modelled from clay, possible using a stick to shape the tube. It is brick red with white patches.	Colima	200 BCE–500 CE
152	Flute (tubular) decorated with small bird	This cylindrical flute is decorated with a 3D model of a small bird. The flute has a round mouthpiece and four finger holes. It can produce five pitches, which correspond approximately to the Western F sharp 5, G sharp, A, B and C sharp 6. The bird rests about halfway along the flute, above the finger holes. Its tail and crest are clearly depicted, and the wings curve as if in flight. The bird faces away from the flute's player. The clay has been hand-modelled from light brown clay, and covered with red pigment.		Late pre-classic
153	Flute (tubular) decorated with lizard	This cylindrical flute is decorated with a 3D model of a lizard. The flute has four finger holes and can produce five pitches, which correspond approximately to the Western F5, F sharp, G sharp, A sharp, and C6. The lizard is situated at the end of the flute near the mouthpiece, facing the player. The clay has been hand-modelled from clay, probably over a stick to create the hollow tube. It is black and dark brown in colour.		Late pre-classic

154	Flute (tubular) with "snake head" mouthpiece	This cylindrical flute has a mouthpiece which resembles a snake's head when viewed from the side: a frequent feature of flutes from this area. The flute has four finger holes, and can produce the approximate Western pitches of F5, F sharp, G, G sharp and A. Crossley-Holland describes the sound as "mellow, though with a 'frog'". The flute has been hand-modelled from red clay and covered with red pigment. The end of the flute shows some white discolouration, due to age.		200 BCE–500 CE
155	Flute (tubular) decorated with snake	This cylindrical flute has a flattened mouthpiece, four finger holes, and a 3D decoration of a snake. The flute produces the approximate Western pitches of F sharp 5, F sharp, G, A, A sharp and C6. Figurines depicting similar flutes show a playing position pointing straight out in front of the player. The flute has been hand-modelled from clay and is dark brown/black in colour.	Colima	200 BCE–500 CE
156	Flute (tubular) decorated with snake	This cylindrical flute has a mouthpiece which resembles a snake's head when viewed from the side: a frequent feature of flutes from this area. It also has a 3D decoration of a snake undulating along the tube. The flute has four finger holes, and can produce the approximate Western pitches of D5, D sharp 4, F5, F sharp and G. The flute has been hand-modelled from clay and is dark brown and black in colour.		Late pre-classic
157	Flute (tubular) with "hobnail" decoration	This cylindrical flute has a flattened mouthpiece and four finger holes. Four ovals of clay have been applied to either side of the flute; Crossley-Holland terms these decorations "hobnail". The flute and produced the approximate Western pitches of A sharp 4, B, C5, C sharp and D in one test and C5, C sharp, D, D sharp and F at another time. The flute has been hand-modelled from clay and is dark brown/black in colour.		Late pre-classic

158	Flute (tubular) with "hobnail" decoration	This cylindrical flute has a flattened mouthpiece and four finger holes. Four ovals of clay have been applied to either side of the flute; Crossley-Holland terms these decorations “hobnail”. The flute produces the approximate Western pitches of G4, G sharp, Am A sharp and B. Crossley-Holland describes the sound as “a rich clear tone with superb vibrant quality”. It has been hand-modelled from clay, and is black and dark brown in colour.	Colima	ca. 200 BCE–500 CE
159	Flute (tubular) with "hobnail" decoration	This cylindrical flute has a flattened mouthpiece and four finger holes. Four ovals of clay have been applied to either side of the flute; Crossley-Holland terms these decorations “hobnail”. The flute produces the approximate Western pitches of B, C, C sharp, D and E. Crossley-Holland describes the sound as “round with an added buzz – possibly due to ceramic debris left in the tube”. It has been hand-modelled from clay, and is brown and red in colour. There is an area of black discolouration, possibly due to smoke damage.	Colima	250 BCE–400 CE
160	Flute (tubular) with "hobnail" decoration	This cylindrical flute has a flattened mouthpiece and four finger holes. Five ovals of clay have been applied to either side of the flute; Crossley-Holland terms these decorations “hobnail”. The flute produces the approximate Western pitches of ????? Crossley-Holland describes the sound as “full…but somewhat breathy”. It has been hand-modelled from clay, and is dark brown in colour, with some white patina due to its age.	Colima	200 BCE–500 CE
161	Flute (tubular) with "hobnail" decoration: fragment	This is a fragment of a cylindrical flute. There are the remains of an oval pad on one side: this suggests it could originally have been similar to the other tubular flutes with “hobnail” decoration, as seen in nos. 157-160. As this is only a fragment, no measurements of the sound can be made. The fragment is of a light-brown coloured clay, with a grey area.		Pre-classic

162	Double flute (two tubular duct flutes, joined) with bird decorations	This is a double flute with a “snake head” mouthpiece, and a 3D decoration of a bird on each tube, facing the player. Although there is one mouthpiece, there are two separate ducts in each tube, which produce two distinct pitches. These are approximately a Western F sharp and G. As the pitches are so close, when sounded together, they produce a beating, pulsing effect. The flute has been hand-modelled in two parts, probably around sticks to get the correct shape. The two tubes were then fused together. The light brown clay has been covered with red paint.	Colima	Pre-classic
163	Double flute (two tubular duct flutes, joined) with "snake head" mouthpiece	This is double flute with a “snake head” mouthpiece. Although there is one mouthpiece, there are two separate ducts in each tube, and four finger holes along each. The pitches of one tube are approximately D4, D sharp, E, F and G. Those of the other are very slightly higher. As the pitches are so close, when sounded together, they produce a beating, pulsing effect. The flute has been hand-modelled in two parts, probably around sticks to get the correct shape. The two tubes were then fused together with more clay. It is dark brown and black in colour.		Late pre-classic
164	Double flute (two tubular duct flutes, joined) with snake decoration	This is a double flute, incomplete due to damage. There is a decoration adorning one of the tubes: this is a snake, or perhaps a tadpole. There may originally have been a matching decoration on the other tube, but no trace survives. It is not possible to play the flute, so no information about pitch is available. The instrument has been hand modelled from clay, with the two tubes created separately then fused together via a clay “bridge”. It has an unusual colour scheme of coral, purple, white and brown. This is probably due to fire damage.		Pre-classic

165	Double flute (two tubular duct flutes, joined) with bird decorations	This is double flute with 3D decorations of a bird on each tube. Although there is one mouthpiece, there are two separate ducts in each tube, with four finger holes on each. These sound the approximate Western pitches of A4, A sharp, B, C5 and C sharp for one side, the other producing the same series approximately a semitone higher. As the pitches are so close, they produce a beating effect when played together. The flute has been hand-modelled in two parts, joined with a bridge of clay. Red pigment covers the light brown clay, with brown and white patina.	Colima	c. 250 BCE–400 CE
166	Double flute (two tubular duct flutes, joined) with lizard decorations	This is a double flute, incomplete due to damage. Decorations adorn each tube. These are shaped like lizards, or perhaps winged serpents. The mouthpiece is the shape of a snake's head. There are three finger holes on each tube, but originally there were probably four. It is not possible to play the flute, so no information about pitch is available. The instrument has been hand modelled from clay, with the two tubes created separately then fused together via a clay "bridge". The clay is brick red and brown, with red pigment.		Pre-classic
167	Double flute (two tubular duct flutes, joined) with stopped ends	This is a small double flute, comprising two tubes which have both been stopped (blocked). There is a beaked mouthpiece. There are no finger holes, but there are two channels which can be threaded with a cord to suspend the instrument around the player's neck or wrist. The different tubes produce slightly different pitches: one slightly sharper than a Western G, one slightly flatter. As the pitches are so close, they produce a beating effect when played together. The flute has been hand-modelled from light brown clay and covered with yellow slip.		Of the shaft tombs

168	Whistle (vessel duct flute): human head with fish tail	This is a whistle in the form of a human head, with a mouthpiece shaped like a fish tail. The whistle is hollow, and has no finger holes. The clearest pitch that it produces approximates a Western B flat 6, but E flat 6 to G can also be made, depending on the pressure of air and the embouchure (mouth shape). Crossley-Holland describes the sound as "penetrating". The human-fish combination suggests a religious figure. The whistle has been hand-modelled from clay, and is yellow and grey in colour.	Colima	Late pre-classic
169	Whistle (vessel duct flute): figure under canopy	This whistle is in the shape of a figure seated under a canopy. The figure wears a headdress, ear ornaments and nose ring. A semi-circular fan rises from behind the canopy. This is decorated to look like feathers. The whistle is contained within the upper part of the canopy, and this fan structure. Its pitch is around a Western C7 to D7 (depending on air pressure and mouth shape). It has been handmade from light brown clay, in two pieces which were then joined. There are traces of red pigment and black discolouration from the firing process.	Colima	Late pre-classic, shaft tombs
170	Whistle (vessel duct flute): figure holding large pot	This is a whistle in the shape of a figure holding a large vessel: probably an incensario (incense-holder). The whistle is contained within the figure's head and headdress. The pitch which it produces is around a Western B6. Crossley-Holland describes the sound as "breathy". The figure's mouth is open, with a beaky nose that suggests a bird mask. The whistle has been hand-modelled from light brown clay, and shows some white age-patina.	Colima	

171	Whistle (vessel duct flute): figure with shield	This whistle is in the form of a figure posing behind a large shield, and wearing a helmet, suggesting a warrior. The figure is naked; the warrior is clearly male. The whistle is contained within the upper part of the figure's head, with the mouthpiece at his crown. The figure faces outwards its player. The note produced by the whistle is approximately a Western B flat 6. Crossley-Holland describes its tone as "rich and penetrating…a clear ringing sound". The figure has been hand-modelled from clay, and is dark red in colour, with some black discolouration.	Colima, Armería	
172	Whistle (vessel duct flute): figure with slingshot	This whistle is in the form of a figure about to fire a slingshot. The whistle lies in the head of the figure, with the mouthpiece at the top of the elaborately-decorated headdress. It produces a note akin to a Western E6. The figure wears a bird mask and bird costume, including feather-like protrusions from the waistband. The figure has been hand-modelled from light brown clay, painted red and black.	Colima	
173	Whistle (vessel duct flute): figure with tree	This whistle is in the form of a figure holding a club. A tree, with a thick central trunk and four branches, grows from the figure's shoulders. The whistle is containing in the head, with the mouth hole at the top of the headdress. The figure also wears a bird mask, collar, skirt, and flaps at the position of a tail. The whistle produces a shrill note at the approximate pitch of a Western E6. The instrument has been hand-modelled from clay, and is light brown in colour, with patches of black.	Colima	Of the shaft tombs
174	Whistle (vessel duct flute): owl	This whistle is in the shape of an owl, or a human wearing an owl costume, or a supernatural man-owl composite. The face and wings indicate an owl, but the feet are those found on human figures from Colima, rather than birds. The whistle produces a note approximating a Western A4, but that can be raised to a C5 by changing the air pressure. Crossley-Holland aptly describes the tone as "cooing". The clay has been hand-modelled, and is light brown in colour. There is some black discolouration, and brown and white patina.	Colima	Late pre-classic

175	Whistle (vessel duct flute): bird (or human in bird costume)	This is a whistle in the shape of a bird, or possibly a human dressed as a bird. There are indications that the bird features are a costume: crest could be a headdress, the tail an attachment, and the collar and skirt could be garments. The mouthpiece of the whistle is in the tailpiece, so the bird would face away from its player. The note produced is approximate to a Western G6. The instrument has been hand-modelled from clay. It is light brown in colour, with traces of yellow and pink, and some brown discolouration.		Late pre-classic
176	Whistle (vessel duct flute): figure in bird costume	This is a whistle in the shape of a bird or, more probably, a human dressed as a bird. The mouthpiece of the whistle is in the tailpiece. There are no wings, and a long crest stretches down the figure's back. The body is hollow and acts as the resonator to the whistle. The note produced is approximate to a Western E flat 7. It is described by Crossley-Holland as "shrill". The instrument has been hand-modelled from clay. It is brick red in colour, with a patch of grey discolouration.		
177	Whistle (vessel duct flute): figure in bird costume	This whistle is shaped like a human head on a tripod of two legs and a tail. There is a large fan on the figure's back. These suggest a costume depicting a human-bird transformation. The mouthpiece is at the end of the tail. There is some damage to the instrument, so it no longer plays a note. The placing of the aperture (hole which allows air to escape) and resonator (chamber in which air circulates) are in the positions typical of bird whistles, not humans: at the anus and in the body, rather than in the head.		Late pre-classic

178	Whistle (vessel duct flute): figure in bird costume	This whistle is shaped like a peacock, with a large fantail. The band at the neck suggests a performer wearing a peacock costume. The whistle is situated at the tail of the figure. The whistle sounds a piercing note similar to a Western A flat 7. The placing of the aperture (hole which allows air to escape) and resonator (chamber in which air circulates) are in the positions typical of bird whistles, not humans: at the anus and in the body, rather than in the head. The figure has been hand-modelled from light brown clay, and painted with black patterns.	Colima	Late pre-classic
179	Whistle (vessel duct flute): figure wearing shark mask	This whistle is in the form of a figure holding a large fish aloft, covering his entire head. It probably depicts a shark mask or headdress. This might represent a supernatural shark/human transformation, or a shark devouring a human. Either way, it seems to have a religious association. Apart from the headdress, the figure wears only a skirt with belt. The whistle is situated in the fish: the mouthpiece on the fish's back like a fin. The whistle produces a note akin to a Western F6. It was hand-modelled from brick-red clay. There are some black speckles.	Colima	200 BCE–500 CE
180	Whistle (vessel duct flute): dancer	This whistle is in the shape of a figure, with legs apart; probably mid-dance. The arms are damaged, as is part of the headdress. The figure wears a necklace, earrings, and a waist band with phallus attached (now broken). The whistle is contained within the small area of the head. The mouth hole is situated at the crown of the figure's head. There is a small loop containing the duct: a small tube carrying air from the mouth hole to the resonator. Its pitch is similar to a Western A7. The figure has been hand-modelled from red clay.	Colima	200 BCE–500 CE

181	Whistle (vessel duct flute): dancer	This whistle is in the shape of a figure standing with legs apart; probably mid-dance. The left arm rests above the round belly, suggesting pregnancy. The right arm has been broken off, but was probably in a similar position. The figure wears a waistband from which flaps hang, and a cone-shaped object like a phallus. The mouth hole of the whistle is situated at the crown of the figure's head, and the hollow body acts as resonator. Its pitch is similar to a Western E flat 6. The figure has been hand-modelled from red clay.		Pre-classic
182	Whistle (vessel duct flute): figure with crossed arms	This standing figure contains a whistle in its head and upper body. Its hands are clasped together under its chin, and its legs splayed apart, as if mid-dance. The mouth hole of the whistle is at the top of figure's headdress. It produces a shrill note whose pitch approximates a Western E flat 6. The figure also wears a waistband with hanging flaps, and a shawl suspended from earrings. The figure has been hand-modelled from coral-coloured clay.	Colima	
183	Whistle (vessel duct flute): figure with bird tail	This standing figure contains a whistle in the head and upper body. The arms are held behind its back, the hands grasping tail-like flaps attached to the figure's waistband. The figure also wears a headdress, ear ornaments, and a necklace. The mouth hole of the whistle lies in the top of the figure's head. It produces a shrill note approximate to a Western C7. It is light orange in colour, and has been hand-modelled from clay.	Colima	
184	Whistle (vessel duct flute): figure wearing mask. One of four	This whistle is in the shape of a figure, standing with legs apart. The arms are alongside the body. The figure wears a headdress, with feathers. From this, a flap hangs down the figure's back. There is also a necklace with a large oval pendant attached. The whistle is in the head and body of the figure, with the mouth hole in the top of the headdress. The note produced is in the region of a Western E flat 7. The figure has been hand-modelled from light brown clay. There are also traces of red, yellow, and black pigment.	Colima	ca. 100 CE

185	Whistle (vessel duct flute): figure wearing mask. One of four	This whistle is in the shape of a figure, standing with legs apart. The arms rest on the hips. The figure wears a headdress with a crest. There is also a necklace with a mask of a face attached, that hangs over the chest. The whistle is in the head and body of the figure, with the mouth hole in the top of the headdress. The note produced approximates a Western C7. The figure has been hand-modelled from light brown clay. There are also traces of red, yellow, and black pigment.	Colima	ca. 100 CE
186	Whistle (vessel duct flute): figure wearing mask. One of four	This whistle is in the shape of a figure, standing with legs apart and arms in front of the jaw. The figure wears an elaborate headdress. There is also a necklace comprising several large discs. There is also a skirt, from which two tail-like flaps hang. The whistle is in the head and body of the figure, with the mouth hole in the top of the headdress. The note produced approximates a Western F7. The figure has been hand-modelled from light brown clay. There are also traces of red and black pigment.	Colima	ca. 100 CE
187	Whistle (vessel duct flute): figure wearing mask. One of four	This whistle is in the shape of a figure, standing with legs apart and arms just below the chin. The figure wears a headdress with wings, arm bands, collar, and skirt from which two tail-like flaps hang. The whistle is in the head and body of the figure, with the mouth hole in the top of the headdress. The note produced approximates a Western E flat 7. The figure has been hand-modelled from light brown clay. There are also traces of black and red pigment.	Colima	ca. 100 CE
188	Whistle (vessel duct flute): dog	This is a whistle in the form of a dog. It lies with its body curled up, and upturned tail, and hind leg in the air. There are no finger holes, so only one pitch: this is approximate a Western E6. The mouth hole is a narrow slit at the dog's mouth. The whistle has been hand-modelled from light brown clay. It has been painted with pink pigment, and there are slight traces of yellow.		200 BCE–500 CE

189	Whistle (vessel duct flute): anteater	This whistle is in the form of an animal, possibly an anteater. It has a long, thin head, long ears, and a long tail. There are some engraved bands on the back and sides of the body. The mouthpiece is at the end of the creature's snout. The whistle produces a single pitch, at the approximate Western pitch of B flat 5. It has been hand-modelled from clay, and is brown in colour.	Colima	Of the shaft tombs
190	Whistle (vessel duct flute): armadillo	This is a whistle shaped like an armadillo. The mouthpiece is the flat tail, with a small oval in the end, so the whistle faces up and away from its player. It produces a pitch that approximates a Western B5. The whistle has been hand-modelled from clay, and is brick red in colour, with additional reddish-brown pigment. There are two semi-circular rings around the upper part of the body.	Colima	Of the shaft tombs
191	Whistle (vessel duct flute): bat	This whistle is in the form of a bat. It is seated, with wings outstretched. The mouth hole of the whistle is in the middle of the edge of the wing span, so the bat faces away from the player. The whistle produces a note similar to a Western G5. It has been hand-modelled from light brown clay, with yellow and red pigment. It has been very much eroded, but the form of the bat is still clear.	Colima	Late pre-classic
192	Whistle (vessel duct flute): two-headed eagle	This is a whistle in the shape of a two-headed eagle. Both heads have crests. The whistle is in the tail and body of the bird: the mouthpiece is the flattened tail with a slit at the end. The whistle produces a note which is an approximate Western C sharp 6. Crossley-Holland describes the sound as "cooing". The clay has been hand-modelled, and is grey on one side and a faded brick red on the other.	Colima	Of the shaft tombs

193	Whistle (vessel duct flute): bird	This whistle is in the form of a bird with some human features. Its tail contains the mouthpiece for the whistle, so the bird faces away from its player. The whistle produces a note approximating a Western B6. The bird wears a headdress with a crest, and the wings are folded back and look like arms. The whistle has been hand-modelled from clay, and is brown in colour with some black discolouration from age.	Colima	
194	Whistle (vessel duct flute): bird	This whistle is in the form of a bird with a fantail, standing on its two legs with tail. The tail contains the mouthpiece and whistle. It produces a note that approximates a Western G sharp 6. The bird faces away from its player. It has been hand-modelled from clay, and is brick red in colour, with traces of orange pigment.	Colima	
195	Whistle (vessel duct flute): bird	This whistle is in the form of a bird standing on its two legs and resting on its tail. There are no wings, but the textured surface of the back may indicate feathers. The flattened tail contains the mouthpiece, and the round body acts as the resonator. It produces a note that approximates a Western B flat 6. The bird faces away from its player. It has been hand-modelled from clay. It is brown in colour, with some darker patina due to age.	Colima	Late pre-classic
196	Whistle (vessel duct flute): bird	This whistle is in the form of a bird standing on its two legs and resting on its tail. It has a crest on its head, and the wings are broad bands to either side of its back. The end of the tail acts as the mouthpiece. It produces a note that approximates a Western F5. The bird faces away from its player. It has been hand-modelled from light brown clay, and covered with yellow slip.	Colima	Late pre-classic

197	Ocarina (vessel duct flute): bird	This ocarina is in the shape of a bird, with head and neck raised and wings outstretched. The wings are engraved to look like feathers. The tail contains the whistle mechanism and mouthpiece. There is one finger hole, which is in the position where it could be comfortably covered with the player's forefinger. Two pitches can be produced: approximate to the Western B flat 6 and D7. The ocarina has been hand-modelled from clay, and is a faded red colour with some brown discolouration.	Colima	
198	Ocarina (vessel duct flute): scorpion	This ocarina is in the form of a scorpion, with its tail curving upwards. The mouthpiece is attached to the side of its body. There is one finger hole, on the opposite side of the body to the mouthpiece. The notes produced are approximate to the Western E flat 6 and G flat 6. Crossley-Holland describes the sound as a "gentle piping". The ocarina has been hand-modelled from clay. It is light brown in colour with red and black paint in alternate bands along the tail.	Colima	Of the shaft tombs
199	Ocarina (vessel duct flute): human head	This ocarina is shaped like a head, with a headdress and triangular ears. The two finger holes are in the position of eyes. The mouthpiece is in the neck and the aperture (through which air escapes when the ocarina is played) forms the mouth. The pitches are approximately the Western C sharp 5, D5, D sharp and E. Usually, two finger holes produce three pitches. Here, one finger hole is larger than the other, possibly due to damage, which results in an additional pitch. The ocarina has been hand-modelled from clay. It is light brown with pink and white pigment.	Colima	Of the shaft tombs
200	Ocarina (vessel duct flute): figure with slingshot	This ocarina is in the form of a standing figure, holding a slingshot. The figure wears a cap, large fantail, and skirt. The mouthpiece is at the top of the cap, so the figure faces away from the player. There are two finger holes. The pitches produced range from the Western F5 to A flat 5. The ocarina has been hand-modelled from light brown clay, then painted with red pigment and with speckles of black.	Colima	Of the shaft tombs

201	Ocarina (vessel duct flute): dog	This ocarina is in the shape of a dog, sitting. The body is hollow, which allows the air to circulate. The dog's snout is also the ocarina's mouthpiece, so the dog faces the player. There are two finger holes. The pitches produced are approximate to the Western notes C6, D and E flat. There is a mound on the back of its head, which has a channel allowing a cord to suspend the instrument from the player's neck. The ocarina has been hand-modelled from brown clay.		Of the shaft tombs
202	Ocarina (vessel duct flute): dog	This ocarina is in the shape of a standing dog with upright ears. The body is hollow, which allows the air to circulate. The mouth hole is on top of the dog's head, between its ears. There are two finger holes. There are three pitches: one slightly flatter than a Western E6, one slightly sharper, and one approximate to F sharp. The ocarina has been hand-modelled from brick red clay, with grey patina and traces of red pigment.	Colima	Of the shaft tombs
203	Ocarina (vessel duct flute): anteater	This is an ocarina in the shape of an animal which is probably an anteater. The mouthpiece is also the creature's head, with the hole at the end of its snout. There are two finger holes. The ocarina produces approximately the Western pitches C5, D and E. There are two channels through each front leg; these allow the ocarina to be suspended from a cord, around the player's neck or wrist. The instrument has been hand-modelled from clay. It has been painted brown, over the lighter natural brown of the clay.		Of the shaft tombs
204	Ocarina (vessel duct flute): paca (large rodent)	This ocarina is in the shape of a four-legged animal, probably a large rodent found in Central America called the paca. The hollow body of the creature acts as a resonator for the ocarina, and as it is large, the notes produced are lower in pitch than the more common small ocarinas. There are two finger holes, producing approximately B3, C sharp 4 and D sharp 4 (in Western terms). The mouthpiece is the paca's tai. The instrument has been hand-modelled from clay. It is brick red in colour, with some traces of black and white.	Colima	Of the shaft tombs

205	Ocarina (vessel duct flute): mammal	This is an ocarina in the shape of an animal with four legs, large ears, and a tail. The mouthpiece is in the tail. There are two finger holes. The ocarina can produce a very loud sound, with the approximate Western pitches of A5, A sharp 5 and B5. The ocarina has been hand-modelled from light brown clay, then covered with red slip and patches of brown pigment.		Of the shaft tombs
206	Ocarina (vessel duct flute): bird	This ocarina is in the shape of a standing bird with a crest (like a cock's). It is an unusual bird, in that it has four legs. The mouthpiece is in the tail. There are two finger holes, on the bird's back. The ocarina produces pitches equivalent to the Western E5, G and A. It has been hand-modelled from light brown clay, with brown pigment and black stripes along the back.	Colima	Of the shaft tombs
207	Ocarina (vessel duct flute): bird	This is an ocarina in the shape of a bird with a crest; possibly a road-runner. It stands on a tripod of its two legs and wide, flat tail. Its wings are outspread. The mouthpiece is in the bird's tail. There are two finger holes, one on either side of the bird's back. The pitches produced are equivalent to the Western E flat 6, F6, and G flat 6. The ocarina has been hand-modelled from light brown clay.	Colima	Of the shaft tombs
208	Ocarina (vessel duct flute): bird	This is an ocarina in the shape of a bird with a crest; possibly a road-runner. There are no wings depicted. The crest extends over the bird's back, and contain the two finger holes. The mouthpiece is in the bird's tail. The pitches produced are equivalent to the Western G6, A6 and B6. The ocarina has been hand-modelled from clay and is brick red in colour.		Of the shaft tombs
209	Ocarina (vessel duct flute): bird with outstretched wings	This ocarina is in the form of a bird with outstretched wings. There is a bump at the back of the head, which could represent a crest. The beak is slightly open, as if in song. The mouthpiece of the ocarina is at the end of the tail. There are two finger holes, one either side of the bird's back. The ocarina produces three notes, at the approximate Western pitches of G flat 5, A flat, and B flat.		Of the shaft tombs

210	Ocarina (vessel duct flute): turtle	This ocarina is in the shape of a turtle. Its head is slightly unusual, as it is shaped to form the mouthpiece. There are two finger holes, on either side of the turtle's back. The ocarina produces the approximate Western pitches of B flat 6, D7 and F7. It has been hand-modelled from clay and is light brown in colour, with a red band down the back.		Of the shaft tombs
211	Ocarina (vessel duct flute): serpent	This is an ocarina in the shape of a snake. The tail is partly missing. The mouthpiece of the ocarina is at the serpent's mouth. There are two small finger holes on either side of the back of the creature's head. The ocarina produces three pitches, which sound like the Western a6, B6 and C7. The instrument has been hand-modelled from light brown clay, which has been covered with yellow pigment.	Colima	Of the shaft tombs
212	Ocarina (vessel duct flute): crab	This small ocarina is in the shape of a crab. The mouthpiece of the ocarina protrudes from the back of the crab. There are two finger holes on either side of the upper surface of the creature's body. The ocarina produces pitches around a Western D7. The instrument has been hand-modelled from light brown clay, with grey and orange colours which may be due to damage.	Colima	Of the shaft tombs
213	Ocarina (vessel duct flute): human head	This ocarina is in the shape of a human face. Notches on the chin may represent a beard. There is a projection from the top of its headdress which holds the mouthpiece: this means the head faces away from the player. There are four finger holes, two either side of the face. Five pitches can be produced, which sound like the Western B flat 5, C6, D flat, D and E flat or E (depending on whether the right or left hand finger holes are uncovered). The instrument has been hand-modelled from brown clay.	Colima	Of the shaft tombs

214	Ocarina (vessel duct flute): bird under canopy	This ocarina is in the shape of a bird with a canopy rising from its back, which gives the impression of a throne. The mouthpiece is in the tail of the bird. There are four finger holes, on the back of the bird. The ocarina is slightly damaged, so the pitches produced may not be similar to the original. With a repair, the notes produced are approximately B,D, E, F sharp and G.. The ocarina has been hand-modelled from brown clay, and features zig zag and diamond patterns on the back of the canopy.		Of the shaft tombs
215	Ocarina (vessel duct flute): human head	This ocarina is in the shape of a human head with an open mouth. The mouthpiece is formed from a protrusion at the base of the back of the head, meaning the face points away from the player. There are six finger holes: two on the brow, and four underneath the head. The ocarina's pitches which sound approximate to the Western G4, A, B, C5, C sharp, D and D sharp. The instrument has been hand-modelled from clay. It is grey in colour, with some red areas.	Colima	Late post-classic (?)
216	Ocarina (vessel duct flute): human head	This ocarina is in the shape of a human head with an open mouth. There is a projection from the top of the head which holds the mouthpiece: this means the head faces away from the player.. There are six finger holes: two on the brow, and four on the back of the head. The ocarina's pitches which sound approximate to the Western B flat 4,C5, D flat, D, E flat, F and G flat. The instrument has been hand-modelled from light brown clay and painted red.	Colima	Late pre-classic
217	Double whistle (two vessel duct flutes, joined together): testes in scrotum	This double flute is shaped like a pair of testicles. There are two air ducts – one in each teste. The mouth piece is at the severed neck of the testicles, and serves both whistles. There are no finger holes. Each testicle produces a different pitch: one similar to a Western F sharp 5, the other D sharp 5.	Colima	Of the shaft tombs

218	Whistle (vessel duct flute): figure playing conch shell	This is a whistle in the form of a musician playing a conch shell trumpet. There are a few examples of such instruments in Crossley-Holland's collection. This figurine shows the playing position and stance of the musician: legs apart, and both hands either side of the trumpet. The figure wears a hat, and a belt with flaps like a skirt. The whistle is in the figure's head. It can produce a very loud and shrill note, at the approximate pitch of a Western E7. It has been hand-modelled from red clay and coloured with red pigment.	Colima	Of the shaft tombs
219	Figure playing conch shell trumpet	This model shows a seated figure holding a conch shell, presumably a musician with conch shell trumpet. The conch shell is very large in relation to the figure. There are a few examples of actual conch shell trumpets in Crossley-Holland's collection, as well as clay versions. The figure wears a cap made of a headband and a fan-shaped crest, ear ornaments, arm bands, and a belt. The facial features are well-defined. The figurine has been hand-modelled from brown clay.	Colima, Armería	ca. 200 BCE–500 CE
220	Conch shell trumpet (made from clay)	This spiral trumpet is ceramic, but mimics trumpets made from conch shells. It is brown and purplish-red in colour. There is a mouthpiece built in to the end of the "shell". It can produce a wide range of dynamics. Its pitch is approximate to a Western G4, although this probably would have been lower in pitch when the instrument was whole. Crossley-Holland points out that the spirals of the shell wind to the left, which is very unusual for conch shells. There are some parts of the world where left-leaning conch shells are very sacred, for example, in Tibet.	Colima	Of the shaft tombs
221	Conch shell trumpet (made from clay)	This spiral trumpet is ceramic, but mimics trumpets made from conch shells, of which there are several examples in Crossley-Holland's collection. There is a mouthpiece built in to the end of the "shell", and one finger hole. It does not produce any notes, as it is blocked with earth. It is brick red in colour, with traces of cream and black (either patina or pigment). It has been hand-modelled, and is undecorated.	Colima	Of the shaft tombs

222	Figure playing drum	This figurine shows a seated drummer, with hands resting on a cylindrical drum. The drum stands on the ground, supported by the drummer's feet. It has one open end, with the other end covered with the skin. The drummer's costume includes a tall hat, which looks like a bundle of reeds. From this, a cord hangs down the back of the figure. The drummer also wears earrings, a nose ring, shoulder ornaments and leg bands. The figure has been hand-modelled from light brown clay.		Of the shaft tombs
223	Double flute (two tubular duct flutes, joined) with mask	This is a double flute decorated with a human head. The two tubes imitate the figure's legs. Although there is one mouthpiece, there are two separate ducts in each tube, which produce two distinct pitches. Each flute has two finger holes. The left hand flute produces the approximate pitches of F5, F sharp and G; the right, F sharp, G and G sharp. The flute has been hand-modelled in two parts, probably around sticks to get the correct shape. The two tubes were then fused together. The light brown clay has been covered with yellow and white paint.	Colima	Classic
224	Double flute (two tubular duct flutes, joined) with mask	This is a double flute decorated with a human head and arms. The hands hold a round object to the mouth (possibly a whistle), but this part of the flute has been added as a repair, so this may not have been there originally. There is one mouthpiece. Each flute has two finger holes. The left hand flute produces the approximate Western pitches of C sharp 6 and D sharp; the right, D sharp and E. The flute has been hand-modelled in two parts which were then fused together. The red clay has been covered with orange pigment.	Colima	Classic

225	Double flute (two tubular duct flutes, joined) with mask	This is a double flute in the form of a human figure. The two tubes of the flutes represent the figure's legs, and a head and arms are attached. Two horns protrude from the head, and these contain the mouthpiece. There are three finger holes on each tube. The flute produces a loud and piercing note. The left-hand tube produces the approximate pitches of B5, C6 and C sharp 6; the right, B5, C sharp 6 and D sharp. The flute has been hand-modelled, possibly using sticks as formers. The clay is brick red, covered with white slip.	Colima	Classic (?)
226	Double flute (two tubular duct flutes, joined) with mask	This is a double flute in the form of a human figure, wearing a mask. The mouthpiece lies at the top of the head. There are four finger holes on each tube, with an additional hole to the side of each. The left tube produces the approximate Western pitches of A flat6, A, B flat, C and D flat; the right, approximately a tone higher. The pitches of each tube are similar, so a beating effect occurs. The two tubes have been hand-modelled, possibly using sticks as formers, then fused together. The clay is brick red, covered with yellow slip.	Colima	Late classic or early post-classic
227	Whistle (vessel duct flute): turtle	This whistle is in the shape of a turtle. It has round eyes, and its mouth is slightly open and contains the mouthpiece of the whistle. There are no finger holes, so only one pitch is produced: this is approximately a Western G6. There is a hole through the front right leg of the turtle. Presumably, this is so that a cord can be passed through to loop around the player's neck. The other front leg is damaged but probably had the same hole. The whistle has been hand-modelled from light brown clay, and coloured with yellow pigment.		Classic (?)

228	Whistle (vessel duct flute): frog	This whistle is in the shape of a frog. It has a triangular head, and large round eyes. There are no finger holes, so only one pitch is produced: this is approximately a Western A6. The body of the frog is hollow, and acts as the whistle's resonator. The mouth hole is at the position of the frog's mouth. There is a ridge along the creature's back, probably mimicking a frog's markings. The whistle has been hand-modelled from light brown clay, and coloured with yellow pigment.		Classic
229	Whistle (vessel duct flute): frog	This whistle is in the shape of a frog. There are no finger holes, so only one pitch is produced: this is approximately a Western F sharp 6. Part of the frog's body is hollow, and acts as the whistle's resonator. The mouth hole is at the position of the frog's mouth. There is a ridge along the creature's back, probably mimicking a frog's markings. There is also a triangular tail, and wing-like triangular attachments on either side of the body. The whistle has been hand-modelled from brick red clay, and has patches of white earth.	Colima	Classic
230	Ocarina (vessel duct flute): frog	This is an ocarina in the shape of a frog in sitting position. There are two finger holes, one to either side of the back. The pitches produced are approximate to the Western E6, F sharp and G. Crossley-Holland describes the sound as "excessively breathy". The mouthpiece of the ocarina is at the frog's mouth. Each front leg of the frog is pierced, to allow a cord to be threaded through so the ocarina can be hung around the player's neck or wrist. The ocarina has been hand-modelled from brown clay.	Colima	Classic
231	Ocarina (vessel duct flute): turtle (or turtle-man)	This ocarina is in the shape of a turtle. There are also human attributes (the arms and face) so it is more likely to be a person wearing a turtle costume. There are four finger holes, two on either side of the back. The mouth hole is in the turtle's tail. The pitches produced are approximately E flat 4, F, G, A flat and B flat. A gentler airflow produces the series C4, D E flat, F and G. The ocarina has been hand-modelled from brown clay, with red and white zigzag designs painted on the shell and the chest.		Classic

232	Strung rattle: copper bracelet	This collection of 53 copper bells could have been used as a musical instrument. If suspended on a cord, they could be worn around the wrist or ankle, and would strike each other when shaken to produce a jingling sound. The figurines of musicians and dancers in this collection often show arm bands, bracelets and anklets; it is possible that the jingling sound was intended to accompany the dancer's or musician's movements. The copper has been shaped like shells, probably using wax casts.	Colima	Post-classic
233	Vessel rattle: clay gourd	This is a clay rattle, shaped to look like a gourd (a dried seed pod.) There are several other examples of clay versions of natural objects in this collection, for example shells and canes. There is one pebble (or lump of clay) inside the hollow body, which creates the rattling sound when shaken. There are two holes which help to amplify the sound. The rattle has been hand-modelled from clay, and is dark brown in colour.		Post-classic
234	Flute (tubular) decorated with snake	This flute has three finger holes and produces the approximate Western pitches of F sharp, a sharper F sharp, G and a sharp G. The finger holes are placed at the very end of the flute, and are very small. It is difficult to cover each of them without the others. Crossley-Holland speculates that the finger holes could have been used by quickly running a finger up and down them. This produces an undulating sound – which could be an audible representation of the snake decoration which undulates its way along the flute. The instrument has been hand-modelled from grey-brown clay.	Colima	Probably post-classic
235	Figure playing drum	This clay figurine depicts a standing person playing a drum. The drum is cylindrical, with one open end, and a skin at the other end. This membrane is unusual in that it is concave – most drum skins are stretched flat. The figure's hands rest on the drum skin, in playing position. The drummer wears arm bands, earrings, a nose ring, and a tall hat. The figure has been hand-modelled from clay. It is light brown with traces of red pigment.	Jalisco, Tuxcacuesco region.	ca. 250 BCE–500 CE

236	Figure playing drum	This figurine shows a seated person with hands on a vessel which appears to be a drum. The base is open, and there is a covering on the upper side which is convex with a hole, like a lid, or membrane. The player grips the instrument between their knees. The figure wears a hat with a decoration, earrings, a necklace, arm rings, and a waistband with flaps attached. The mouth is open, perhaps suggesting singing. The figurine has been hand-modelled from clay. It is light brown in colour, with areas of red slip.	Jalisco	250 BCE–250 CE
237	Figure of dancer wearing strung rattle	This figurine depicts a male figure, wearing a hat with a projecting horn, ear rings, and a necklace. The head has bird-like features. Along with the costume, this suggests a shaman. The position of the figure is evocative of a dance: the arms are outstretched and knees bent. The necklace appears to be made of shells. There are several examples of necklace or bracelet beads in this collection which could have been strung together to create a sound-producing necklace, such as the one worn by this dancer. The figurine has been hand-modelled from light brown clay, then painted red.	Jalisco	250 BCE–250 CE
238	Strung rattle: bead bracelet	This is a collection of beads made from shell (possibly shell-like secretions made by a type of worm which lives in the sea). There are seven. They may have been collected in order to be strung together to make a bracelet, anklet or necklace. If worn by a musician or dancer, the shells would make a gentle rattling sound with the wearer's movements. The beads are white in colour, with some brown patina.		
239	Strung rattle: shell bracelet	This is a collection of beads made from shells. They were probably collected in order to be strung together to make a bracelet, anklet or necklace. If worn by a musician or dancer, the shells would make a gentle rattling sound with the wearer's movements. There are several examples of figurines in Crossley-Holland's collection which show arm bands, necklaces, bracelets or anklets made up of beads. These beads are their natural shell colour, with some brown patina.		Pre-classic

240	Vessel rattle: bowl on tripod	This is a ceramic bowl, supported on three legs. Each support suggests the shape of an animal head. They are hollow, and contain several pebbles or lumps of clay, which cause a rattling sound when the bowl is shaken. The bowl has been decorated with patterns including concentric circles and zig zags. The instrument has been hand-modelled from grey-coloured clay. It has been painted white, red, light brown and yellow.		1400 CE or later
241	Figure playing turtle shell	This figurine shows a person standing, holding a turtle shell under one arm and hitting or rubbing it with the other hand. In this way, the turtle shell is being used as a percussion instrument. The figure wears a turban, earrings and arm rings. The figurine has been hand-modelled from clay. It is grey in colour, with some black areas which may be due to fire damage.	Jalisco	250 BCE–500 CE
242	Figure playing drum	This figurine shows a cylindrical drum resting on the ground, being gripped by the player's knees. The base of the drum is open, and there is a skin on the other end. The player's hands rest on this membrane. The figure wears a large headdress with three horns. The back of the headdress shows the face of a bat. The figurine has been hand-modelled form clay. It is red in colour, with some black and white areas of discolouration.	South Jalisco	Of the shaft tombs
243	Figure playing drum	This figurine shows a seated person playing a drum. The drum rests between the player's knees. It has an open end at the base, and a skin on the other, on which the player's hands rest. There is a hole middle of the shell of the drum, suggesting that it is a log. The drummer wears a necklace, and a hat which has decorations that could represent bells. The figurine has been hand-modelled from clay and is orange-beige in colour.	Jalisco	Early classic

244	Figure playing drum	This figurine shows a standing male (with prominent genitalia) holding a drum under his left arm. His right arm crosses his body to rest on or strike the drum's skin. The drum has one membrane: the other end is open. There is a hole halfway down the drum's shell. The drummer wears a headdress, from which a plait descends along his back almost to waist level. The figurine has been hand-modelled from light brown clay, and there are areas of yellow pigment.	South Jalisco	Late pre-classic
245	Whistle (vessel duct flute): figure playing drum	This is a whistle in the form of a seated drummer. The figure shows kyphosis (curvature of the spine or "hunchback"), which was associated with sacredness. The whistle lies in the figure's head, and the mouth hole is at the back of its headdress. It produces a pitch similar to the Western E flat to F. The model of the drum is cylindrical, and gripped between the player's knees. The membrane is on the upper surface of the drum, with the player's hands resting atop. The figurine has been hand-modelled from clay. It is brown with red patches.		Of the shaft tombs
246	Figure playing whistle	This figurine shows a person standing, holding their hands to their lower lip. They are perhaps playing a whistle or ocarina, but this is unseen. The figure wears a skirt with criss-cross patterns. There is also a headdress with long parts draping from it, which may represent hair. The figure has been hand-modelled from clay. It is brown-grey in colour.	Jalisco	250 BCE–500 CE
247	Whistle (vessel duct flute): bat	This is a whistle in the shape of a bat. It is seated, with its wings outstretched. There are no finger holes so only one pitch can be produced. This is similar to a Western B flat 5. However, differences in embouchure (lip position) and airflow can raise the pitch to approximately a C6. The mouth hole is in the middle of the edge of the wing, at the rear of the bat. The whistle has been hand-modelled from clay. It is light brown-grey in colour.	Jalisco, Autlán	250 BCE–500 CE

248	Ocarina (vessel duct flute): human figure	This ocarina is shaped like a human-like figure. The figure squats on its two legs. The mouthpiece of the ocarina is at the top of the figure, where the head would be. The head is actually beneath this, near to the chest. There are two finger holes, which are oblong-shaped. There is one on either side of the back of the lower body. The notes produced are similar to the Western pitches D flat 5, E flat and F. The ocarina has been hand-modelled from brown clay, then decorated with orange pigment.	South Jalisco, Autlán-Tuxcacuesco	Late pre-classic, 250 BCE–500 CE
249	Whistle (vessel duct flute): dancer	This whistle is in the shape of a standing figure with legs apart, and arms outstretched, as if in dance. There is a whistle in the head and body of the figure. The mouthpiece is at the top of the figure's hat. The whistle produces a pitch similar to a Western A6. Crossley-Holland describes the sound as "penetrating". The figure wears a very pronounced phallus as part of a costume. The whistle has been hand-modelled from light brown clay, then painted with red and white pigment.	South Jalisco?	Of the shaft tombs
250	Strung rattle: shell necklace	These shells have been carved and shaped, probably to hang from a cord as a necklace or bracelet. There are holes on each, to allow the cord to pass through. There are also decorations depicting the South American coati (a type of raccoon). If worn by a musician or dancer, the shells would make a gentle rattling sound with the wearer's movements. The beads are cream, red and orange in colour.		ca. 300–700 CE
251	Double flute (two tubular duct flutes, joined) with "snake head" mouthpiece	This is double flute with a "snake head" mouthpiece. Although there is one mouthpiece, there are two separate ducts in each tube, and four finger holes along each. The pitches of one tube are approximately D, D sharp, E, F and F sharp. Those of the other are very slightly higher. As the pitches are so close, when sounded together, they produce a beating, pulsing effect. The flute has been hand-modelled in two parts, probably around sticks to get the correct shape. The two tubes were then fused together with more clay. It is orange, with some black discolouration.	Jalisco, San Marcos	Late pre-classic

252	Double flute (two tubular duct flutes, joined) with "snake head" mouthpiece	This is double flute with a “snake head” mouthpiece. There is one mouthpiece, but two separate ducts in each tube, and four finger holes along each. The pitches of the left-hand tube are approximately D5, D sharp, E, F and G; those of the right, C5, C sharp, D, E, and F sharp. As the pitches are so close, when sounded together, they produce a pulsing effect. The flute has been hand-modelled in two parts, probably shaped around sticks. The two tubes were then fused together with clay bridges. It is red in colour, with areas of dark brown.	Jalisco	200 BCE–500 CE
253	Vessel rattle: seated female figure	This is a rattle in the shape of a seated female figure. The figure’s belly is hollow, and contains some pebbles or lumps of clay which create a quiet rattling sound when shaken. There is a hole at the position of the navel, which helps to amplify the sound. The female genitalia are very pronounced, leading Crossley-Holland to suggest its connection to fertility rites. The rattle has been hand-modelled from grey clay then covered with yellow slip.	Jalisco	250 BCE–500 CE
254	Flute (tubular) decorated with mask	This flute is decorated with a masked face near the mouthpiece. This adornment comprises comprises a headdress with feathers, a chin strap, earrings, and a beaked nose like a bird’s – suggesting a bird mask. The flute has four finger holes, in the lower half of its length. By covering them fully or partially, in different positions, the following approximate Western pitches can be produced: E4, C sharp 5, E5, F, F sharp, G, G sharp, A and A sharp. The flute has been hand-modelled from clay and is dark brown in colour.	Jalisco	200 BCE–500 CE
255	Flute (tubular) with "snake head" mouthpiece	This is a flute with four finger holes. Its mouthpiece is shaped in a way that looks like a snake’s head, according to Crossley-Holland. There are some remnants of earth inside the tube; nevertheless, notes can still be produced. In Western terms, the pitches approximate B4, C5, C sharp, a slightly flat D and a slightly sharp D. The flute has been hand-modelled from clay. It is dark brown in colour. The tube is somewhat curved, which probably happened during the firing process.	Jalisco	200 BCE–500 CE

256	Flute (tubular) decorated with dog mask	This flute has two finger holes at its lower end. The pitches produced are approximate to the Western C5, A, and B flat. Higher pitches can be produced by increasing the air pressure. The upper surface, near the mouthpiece, is decorated with a dog's head. This comprises a snout and large ears. The ears have earrings attached, which leads Crossley-Holland to believe it represents a mask rather than an actual dog's head. The flute has been hand-modelled from clay. It is grey with areas of white patina.	Jalisco	ca. 1000–1200 CE
257	Flute (tubular): cane	This flute has four finger holes. It produces the approximate pitches of F5, F sharp, G, A and A sharp. Crossley-Holland suggests that it has been modelled on a flute made from a length of cane. Most flutes have a mouthpiece; this one has simply a hole at the end of its tube, as if a cane had been sawn across. Cane flutes could have existed, but have not survived as archaeological finds since their material is degradable. This flute has been hand-modelled from clay, and is black in colour.		200 BCE–500 CE
258	Flute (tubular): cane	This flute has four finger holes. It produces the approximate pitches of F5, F sharp, G, A and A sharp. Crossley-Holland suggests that it has been modelled on a flute made from a length of cane. Most flutes have a mouthpiece; this one has simply a hole at the end of its tube, as if a cane had been sawn across. Cane flutes could have existed, but have not survived as archaeological finds since their material is degradable. This flute has been hand-modelled from clay, and is black in colour. It is almost identical to PCH256, but smaller.		Pre-classic

259	Double flute (two tubular duct flutes, joined): fish	This is a double flute, which four finger holes on each tube. The right-hand tube is obstructed with earth, so only the left tube sounds. It produces the approximate Western pitches of F sharp 5, a very sharp F sharp, G, G sharp and A. The single mouthpiece suggests a fish tail, and below this there are six blobs of clay running along each tube. The flute has been hand-modelled from clay, possibly using a stick as a former. The tubes are joined along their whole length. The grey clay has been painted with red slip and white bands.	Michoacán	Of the shaft tombs
260	Whistle (vessel duct flute): seated figure	This whistle is shaped like a seated figure. Its knees are drawn up, and arms rest upon them, wrapped around the chest and neck. The body is hollow, and acts as the resonator for the whistle. The figure wears a headband and earrings. The mouthpiece is at the top of the head. The pitch it produces is like a Western D7, but pitches ranging to about a G6 can be produced with gentler airflow. The instrument has been hand-modelled from grey-coloured clay.		Of the shaft tombs
261	Whistle (vessel duct flute): spherical	This whistle is in the shape of a sphere, with a tube attached containing the whistle mouthpiece and duct. The hollow sphere acts as the resonator. The whistle produces a note which Crossley-Holland describes as “piercing”. Its pitch is around a Western G7. The whistle has been hand-modelled from clay, and is brick red in colour. It is probably part of a pair or set, along with PCH262.	Michoacán	
262	Whistle (vessel duct flute): ovoid	This is a whistle in the shape of an elongated sphere (like an almond). There is a tube attached which contains the mouthpiece and duct. The hollow body acts as the whistle’s resonator. The whistle produces a note which Crossley-Holland describes as “shrill and piercing”. Its pitch is around a Western B flat 7. The whistle has been hand-modelled from clay, and is brick red in colour. It is probably part of a pair or set, with PCH261.	Michoacán	

263	Ocarina (vessel duct flute): human head	This ocarina is in the shape of a head and neck, with indistinct features. The two finger holes suggest eyes, there is a lump in the position of the nose, and there is an opening in place of a mouth which acts as the ocarina's aperture (to allow air to escape). The mouthpiece is at the lower end of the neck. The pitches produced are approximate to the Western G5, B5 and D6. The ocarina has been hand-modelled from clay, and is light pink-brown in colour.	Michoacán	Late pre-classic
264	Ocarina (vessel duct flute): human head	This ocarina is in the shape of a head and neck, with indistinct features. The two finger holes suggest eyes, there is a lump in the position of the nose, and there is an opening in place of a mouth which acts as the ocarina's aperture (to allow air to escape). The mouthpiece is at the lower end of the neck. The pitches produced are approximate to the Western E flat 6, F and G. The ocarina has been hand-modelled from clay, and is brick red in colour, with some black patina.	Michoacán	Late pre-classic
265	Ocarina (vessel duct flute): human head	This ocarina is in the shape of a head and neck, with indistinct features. The two finger holes suggest eyes, there is a lump in the position of the nose, and there is an opening in place of a mouth which acts as the ocarina's aperture (to allow air to escape). The two handles on either side could represent ears. The mouthpiece is at the lower end of the neck. The pitches produced are approximate to the Western F5, A flat and B flat. The ocarina has been hand-modelled from clay, and is brown-grey in colour.	Colima?	Of the shaft tombs
266	Ocarina (vessel duct flute): testes in scrotum	This ocarina is in the shape of a pair of testicles. The interior is a single hollow chamber, and the mouthpiece is at the narrowest end. There are four finger holes, two on either side of the upper surface near to the mouthpiece. The pitches which can be produced are approximate to the Wester B5, C sharp 6, D sharp, F and F sharp. The ocarina has been hand-modelled from light brown clay.	Michoacán	Of the shaft tombs

267	Ocarina (vessel duct flute): mollusc	This ceramic ocarina is in the shape of a mollusc. It is one of several examples in this collection of clay objects made to mimic shells (for example, clay conch shells). The mouthpiece is in a projection between the two halves of the shell. The ocarina has four finger holes, and produces the approximate Western pitches of D flat 6, E flat, F, G and A flat. It has been hand-modelled from grey clay, then covered with red slip.	Colima?	
268	Flute (tubular)	This tubular flute has been decorated with oval knobs of clay. The mouthpiece looks somewhat like a stylised fish head. The oval pieces with scored lines could represent fish spines. The flute has three finger holes. It produces pitches which are similar to the Western F5, F sharp, G sharp and A. The flute has been hand-modelled from red clay, and has areas of grey patina. Two bands, etched into the clay, decorate the top of the tube.		Late pre-classic
269	Whistle (vessel duct flute): bird	This whistle has been damaged, but still makes a sound. It is spherical, and has three tubes joined to it, which could represent the wings and tail of a bird. The mouthpiece of the whistle is in the tail. The whistle can produce a range of pitches, depending on the speed and intensity of airflow and the shape of the player's lips; the approximate Western pitch of C sharp is the clearest. The whistle has been hand-modelled from dark brown clay.	Nayarit	Pre-classic, 300 BCE–100 CE
270	Ocarina (vessel duct flute): masked head	This ocarina is in the shape of a head. The eyes are represented by lines, and the head wears a hat with a horn. The holes through the ears allow the ocarina to be strung on a cord. Behind the head, there is another face with hollow eyes (the two finger holes) and open mouth (which acts as the aperture for the ocarina). The ocarina produces pitches that approximate the Western G5, A and B. Crossley-Holland describes its sound as "hooting". The ocarina has been made in a mould from brown clay, then painted with red pigment.	Colima	150–750 CE, probably 500–700 CE

271	Castanets (concussion clappers): shells	These shells were two halves of the same mollusc. Two holes have been drilled on each shell, which could allow them to be strung on a cord. Crossley-Holland speculates that they could have been played like castanets. The two shells could be clashed together to produce a percussive sound. The shells are their natural colour, but there are some areas of brown discolouration due to age.		600–1500 CE
272	Strung rattle: shell necklace	This is a collection of beads made from shells. They were probably collected in order to be strung together to make a bracelet, anklet or necklace. If worn by a musician or dancer, the shells would make a gentle rattling sound with the wearer's movements. There are several examples of figurines in Crossley-Holland's collection which show arm bands, necklaces, bracelets or anklets made up of beads. These beads are their natural shell colour, with some brown patina.	Jalisco	Post-classic?
273	Strung rattle: notched shells	These two shells have had channels bored along their lengths. They have been carved with notches (or the notches naturally occur) which means they can be scraped together to make a percussion instrument of a rasp or scraper. Alternatively, the shells could have been strung on a cord around the neck of a dancer or musician, to create a rattling sound with the wearer's movements. The shells are their natural colour.	Jalisco	Post-classic?
274	Strung rattles: copper beads	This collection of copper bells could have been used as a musical instrument. One has a clapper inside. If suspended on a cord, they could be worn around the wrist or ankle, and would strike each other when shaken to produce a jingling sound. The figurines of musicians and dancers in this collection often show arm bands, bracelets and anklets; it is possible that the jingling sound was intended to accompany the dancer's or musician's movements. The copper has been shaped like shells, probably using wax casts. The bells are the colour of verdigris.	Jalisco	Post-classic

275	Bone scraper	This is a bone rasp, or scraper. The notches along the bone, when scraped with a stick, produce a loud, sharp percussive sound. There are several figurines in this collection which depict musicians playing scrapers in this way. The bone has been cut and hollowed, exposing the marrow cavity. The bone is its natural colour, much lightened and weathered over time.	Jalisco	Probably post-classic
276	Flute (tubular) decorated with frog mask	This flute has four finger holes, arranged in two rows of two. This is an unusual arrangement for a cylindrical flute – finger holes usually lie in a single vertical row. The finger holes have little effect on the pitch of the flute, which is around a Western G6. The flute is decorated with a head and the forelegs of a lizard or frog. The mouthpiece is shaped to represent the creature's mouth. The flute has been hand-modelled from red-brown clay, possibly using a stick as a former.	Colima?	Post-classic(?)
277	Vessel rattle: bird	This rattle is spherical, with clay projections representing wings and tail. Another piece of clay beneath the bird's head acts as a handle. The body is hollow, and contains a few pebbles which produce the rattling sound when shaken. The rattle has been hand-modelled from light brown clay. It has been decorated with red and cream slip. Red bands encircle the body, and there is another across the bird's head.	Guanajuato, Chupícuaro	
278	Vessel rattle: pellet bell	This Is a vessel rattle formed from a hollow clay sphere containing a few pebbles, which make the rattling sound when shaken. There is a slot which acts as a sound hole (amplifying the sound) and two other holes, which allow the rattle to be hung on a cord. It may have been worn by a dancer or musician, to sound along with the movements of the wearer. There are several figurines showing costumes featuring rattles, so this could be an actual example of such a rattle. It has been hand-modelled from clay, and is grey in colour.	Guanajuato, Chupícuaro	ca. 900 CE

279	Vessel rattle: bowl on tripod	This is a ceramic bowl, supported on three legs. Each support has three slits, which act as sound holes. The feet are hollow, and contain several pebbles or lumps of clay, which cause a rattling sound when the bowl is shaken. The bowl has been decorated with patterns of stripes and diamonds. The instrument has been hand-modelled from clay. It is red, with brown and cream patterns.		ca. 400–300 BCE
280	Vessel rattle: bowl on tripod	This is a ceramic bowl, supported on three legs. Each support has six holes, which act as sound holes (amplifying the sound). The feet are hollow, and contain several pebbles or lumps of clay, which cause a rattling sound when the bowl is shaken. The bowl has been decorated with patterns of stripes and diamonds. The instrument has been hand-modelled from clay. It is red, with brown and cream patterns.	Guanajuato, Chupícuaro	300 BCE–1 CE
281	Bone scraper (fragment)	This is a fragment of a bone rasp (scraper), a percussion instrument which is scraped with a stick. There are several figurines in this collection which depict musicians playing scrapers in this way. The bone has aged to a dark brown colour. It has been shaped to a point at one end, and is engraved with patterns on one side. There are eight notches which create the ridges that produce the scraping sound when rubbed.		
282	Ocarina (vessel duct flute): headless turtle	This ocarina is in the shape of a hollow egg with four legs. These, and the rounded back, suggest the form of a turtle. The mouthpiece of the ocarina is in the position of the turtle's neck. There are four finger holes on the top of its back. The pitches produced are approximately the Western C6, E flat, F and F sharp. The two holes in the front legs allow the ocarina to be hung on a cord. The instrument has been hand-modelled from clay. It is brown in colour, with patterns of diamonds and circles scored into the top.	Guanajuato, Chupícuaro	Late pre-classic, 300 BCE–1 CE

283	Ocarina (vessel duct flute): headless turtle	This ocarina is in the shape of a hollow egg with four legs. These suggest the form of a turtle. The mouthpiece of the ocarina is in the position of the turtle's neck. There are four finger holes on the top of its back. The pitches produced are approximately the Western G4, B flat 4, C5, D5 and E flat. The two holes in the front legs allow the ocarina to be hung on a cord. The instrument has been hand-modelled from clay. It is red-brown in colour, with patterns scored into the top.		Late pre-classic
284	Ocarina (vessel duct flute): headless turtle	This ocarina is in the shape of a hollow egg with four small legs. These suggest the form of a turtle. The mouthpiece of the ocarina is in the position of the turtle's neck. There are four finger holes on the top of its back. The pitches produced are approximately the Western G4, B flat 4, C5, D5 and E flat. The two holes in the front legs allow the ocarina to be hung on a cord. The instrument has been hand-modelled from clay. It is brown in colour, with patterns scored into the top.		Late pre-classic
285	Ocarina (vessel duct flute): headless frog	This ocarina is in the shape of a hollow egg with four small legs. These suggest the form of a frog. The mouthpiece of the ocarina replaces the creature's head. There are four finger holes on the top of its back. The pitches produced are approximately the Western E flat 6, F, G, A flat and B flat.. The two holes in the front legs allow the ocarina to be hung on a cord. The instrument has been hand-modelled from clay. It is brown in colour, with patterns scored into the top.	Guanajuato, Chupícuaro	Late pre-classic, 300 BCE–1 CE
286	Vessel rattle: clay gourd	This rattle is made from brown clay but mimics the appearance of a gourd. Although there are no archaeological remains of actual gourd rattles, this clay reproduction suggests that they were made from this material. Similarly, clay versions of conch shells have been found (as well as actual conch shell trumpets). This rattle has a handle with a loop, to allow it to be worn on a cord. The body is hollow and contains several pebbles, which make the rattle sound.	Michoacán, Lerma-Cuitzeo	Late pre-classic

287	Ocarina (vessel duct flute): human with bird features	This ocarina is egg-shaped, and has human and birdlike features. The tail acts as the mouthpiece, and there are two legs. There are also arms and a head, with a pointed beaky nose. The eyes are almond-shaped. Above them, a headdress rises, decorated with rows of dots. There are also earrings and a necklace. There are two finger holes, one on each side of the back. The pitches that the ocarina produces are the approximate Western pitches of C6, C sharp and D. The ocarina has been hand-modelled from clay, with red, yellow and white pigment.	Michoacán, Queréndaro	Pre-classic or classic?
288	Ocarina (vessel duct flute): headless frog	This ocarina is shaped like a turtle or frog, with indistinct features, no head, and four legs. It has four finger holes, two to either side of the bird's back. The mouthpiece is at the end of the tail. There are also two holes which allow the ocarina to be hung on a cord. Its pitches are approximate to the Western C, D, E falt, E and F. The ocarina has been hand-modelled from brown-coloured clay.	Michoacán, Queréndaro	Late pre-classic 500 BCE–1 CE
289	Ocarina (vessel duct flute): headless bird	This ocarina is in the shape of a bird with indistinct features and no head. The mouthpiece is at the position of the neck. There are four finger holes, two on either side of the bird's back. There are also two holes which allow the ocarina to be hung on a cord. The pitches it produces are approximate to the Western G6, B flat 6, C7, C sharp 7 and D sharp 7. The ocarina has been hand-modelled from black-coloured clay.	Michoacán, Queréndaro	Late pre-classic
290	Vessel rattle: ball	This Is a vessel rattle formed from a hollow clay sphere containing a few pebbles, which make the rattling sound when shaken. There are eight holes which help to amplify this sound. The rattle may have been worn by a dancer or musician, to sound along with the movements of the wearer. There are several figurines in this collection showing costumes featuring rattles such as these. This rattle has been hand-modelled from brick-red clay and engraved with decorative lines.		Probably post-classic, after 900 CE

291	Whistle (vessel duct flute): frog	This is a whistle in the form of a frog. It produces the approximate Western pitch of A5. The frog's four legs each have a hole, which allow the whistle to be hung from a cord and worn by the player. The mouthpiece is at the back of the frog's head. If turned upside down, the whistle takes the form of a snouted animal. It has been hand-modelled from dark brown clay.	Michoacán	Late pre-classic
292	Whistle (vessel duct flute): dog's head	This ocarina is shaped like the head of a dog. The ears are prominent, and it has a snout. The mouthpiece is at the position of the dog's mouth. Two of the finger holes form the eyes. The other two finger holes are further above these. The ocarina produces the approximate pitches of G5, G sharp, A, B and C6. The instrument has been hand-modelled from dark brown clay. When it is turned upside down, it takes the form of another snouted creature.	Michoacán	Late pre-classic
293	Strung rattle: shell bracelet (fragment)	This bracelet has been cut from a shell. It probably would have been worn on the upper arm and if strung together with other shells, would strike together making a faint clinking sound. Alternatively, they could have been decorative amulets worn by musicians, as depicted in figurines. The umbo (highest projection) of each shell has been carved into the shape of a parrot-like head. It is its natural shell colour.		
294	Flute (tubular), fragment	This is a fragment of a flute. Only one finger hole survives, but the shape and size of the fragment suggests it originally probably had four finger holes. The damage to the flute means it no longer produces any sound. Even if it did, the incomplete length would sound pitches very different to the original flute. It has been hand-modelled from brown clay, possibly using a stick as a former. There are traces of red pigment.		900–1100 CE

295	Ocarina (vessel duct flute): mammal head	This ocarina is in the shape of an animal head. Two different "faces" can be seen, depending on the angle at which it is viewed. From the player's perspective, there is a long head with snout, suggesting an anteater. The mouthpiece is at the end of this snout. From the other side, it has a broader shape, like a bear's. There are two finger holes, which are in the position of the bear's eyes. The pitches produced are the approximate Western equivalents of A flat6, B flat 6, and C7. The ocarina has been hand-modelled from brown clay.	Michoacán, Cojumatlán	600–900 CE
296	Double ocarina (two vessel duct flutes, joined together internally): bird	This ocarina is made up of two connecting spheres. The overall shape is of a bird: the head has an open beak. There are three finger holes, and these produce the approximate Western pitches of C5, E flat, F, A flat and B flat. The ocarina has been hand-modelled from beige clay. It has engraved designs on the upper sphere (the head), which are emphasised in white. It has been painted red-brown, and there is some black discolouration on the lower sphere.	Michoacán, Lake Chapala	Classic, 500–800 CE
297	Ocarina (vessel duct flute): human with bird features	This ocarina is in the shape of a seated figure. Damage has made some features indistinct: the legs and part of the arms have broken off. The figure wears a headdress and earrings. There are two finger holes, towards the back of the figure. The pitches that the ocarina produces are equivalent to the Western C sharp 7, D and E. However, the flute mechanism has been slightly damaged, so these pitches may not be similar to the original. The flute has been hand-modelled from clay. It is red-brown in colour, with traces of white.	Michoacán, Lake Chapala	ca. 1000–1100 CE
298	Vessel rattle: clay gourd	This rattle is made from brown clay but mimics the appearance of a gourd. Although there are no archaeological remains of actual gourd rattles, this clay reproduction suggests that they were made from this material. This rattle has a handle with a hole at the end to allow it to be worn on a cord. The body is hollow and contains several pebbles, which make the rattle sound. There are ten holes, in rows, around the body, which help to amplify the sound.	Michoacán?	ca. 900–1100 CE

299	Vessel rattle with bird's head decoration	This rattle is egg-shaped, and decorated with the head of a bird. This consists of eyes, a beak and a crest. There is a channel which allows the rattle to be strung on a cord so it can be worn or carried. There is one pebble inside the body, which creates the sound when the rattle is shaken. There is a slit on the bottom of the body, which acts as a sound hole, helping to amplify the sound.	Jalisco	Post-classic
300	Vessel rattle: copper	These two copper bells have pellets inside and a loop to allow them to be hung from a cord. They could be worn around the wrist or ankle, and would strike each other when shaken to produce a jingling sound. The figurines of musicians and dancers in this collection often show arm bands, bracelets and anklets; it is possible that the jingling sound was intended to accompany the dancer's or musician's movements. The copper has probably been shaped using wax casts, to the form of a shell. The bells are the colour of verdigris.	Jalisco, Lake Chapala	900–1100 CE
301	Ocarina (vessel duct flute): bird	This ocarina is in the form of a bird, but the head and tail are missing due to damage. There are no wings. Instead of legs, the ocarina perches on a horizontal ridge. There are four finger holes, two on either side of the body. The ocarina produces the approximate Western pitches of D flat 6, E flat, F, G and A flat. Its mouthpiece would probably have been in the tail. The ocarina has been hand-modelled from clay and is brick red in colour, with black discolouration on one side.	Michoacán	Post-classic
302	Ocarina (vessel duct flute): headless bird	This ocarina is shaped like a bird. There are indistinct features: a head with crest, and a horizontal ridge in place of legs. This has two channels which allow the instrument to be hung on a cord. The mouthpiece is the bird's tail. If the ocarina is turned upside down, it appears to represent a snouted animal. The ocarina has four finger holes, two either side of the body. It produces the approximate Western pitches of F6, G, A, B and C7. The ocarina has been hand-modelled from light brown clay.	Michoacán/Jalisco, Lake Chapala	Late post-classic

303	Ocarina (vessel duct flute): bird	This ocarina is in the form of a bird, but without wings or legs. The head is represented by a featureless lump. The mouthpiece is the tail of the bird. There are four finger holes, two on either side of the body. The ocarina produces the approximate Western pitches of D6, D sharp, E, F sharp and G. The ocarina has been hand-modelled from grey-coloured clay.	Jalisco	ca. 1400–1540 CE
304	Ocarina (vessel duct flute): headless bird	This ocarina is in the shape of a bird, but it is very indistinct and consists of a body and tail only. Underneath the body are two channels, which allow the instrument to be hung on a cord. The tail contains the mouthpiece for the ocarina. There are four finger holes, two on either side of the body. Its pitches are equivalent to the Western D6, G, F sharp, A and halfway between C sharp and D. The ocarina has been hand-modelled from light brown clay.	Michoacán/Jalisco, Lake Chapala	
305	Ocarina (annular duct flute)	This is a flute, formed of a cylinder shaped into a ring. There is a tube projecting from its side which forms the mouthpiece. There are four finger holes. The pitches produced are equivalent to the Western E flat 6, A flat, B flat, D flat 7 and E flat 7. The flute has been hand-modelled from clay and is various shades of red in colour.		Post-classic (?)
306	Ocarina (vessel duct flute): turtle	This ocarina is in the shape of a turtle. The tail curls to the body in a loop. The head is indistinct, but two small eyes indicate that there is a head, unlike some ocarinas in this collection. The head and neck form the mouthpiece for the ocarina. There are four finger holes: two on either side of the turtle's back, and two on its underbelly. The ocarina's pitches are approximate to the Western G5, A5, B5, C sharp 6, and D6. The instrument has been hand-modelled from light brown clay, and coloured with red slip.	Michoacán, Purépero?	Post-classic

307	Flute (tubular) decorated with monkey mask	This flute has upon it a decoration of a figure, near to the mouthpiece. The figure faces away from the flute's player. It is probably a monkey, with long pointed ears, circular eyes, and a pair of arms which bend to rest on the upper surface of the flute. The flute has four finger holes. The approximate Western pitches that are produced are B4, D5, E5, G5 and A5. The flute has been hand-modelled from brown clay, and shows some white patina.	Michoacán, south of Lake Pátzcuaro	Late post-classic, after 1300 CE
308	Flute (tubular) decorated with bird-like mask	This flute bears the decoration of a bird or bird mask on its upper half. This consists of a head with beak and large eyes, and wings to either side of the flute. There are four finger holes. Unusually, there is no mouthpiece – simply a hole. The Western equivalents of this flute's pitches are C5, D, E, G and A. The flute has been hand-modelled from clay. It is black, white and brown in colour, with some discolouration due to its age.	Michoacán, south of Lake Pátzcuaro	Late post-classic, after 1300 CE
309	Flute (tubular) decorated with bird	This flute is decorated with a figure wearing a bird mask. This consists of a long beak and large eyes. The figure's arms bend to rest on the upper surface of the flute. There is a mouthpiece formed by an applied loop of clay, and four finger holes. The flute has been slightly damaged at some point, but still produces a sound at the approximate pitches of C5, F5, G5, A5 and C6. The instrument has been hand-modelled from clay. It is brown in colour, with some white patina.	Michoacán, south of Lake Pátzcuaro, Uruapan?	After 1300 CE
310	Vessel rattle: seated figure	This is a rattle in the form of a seated figure. The figures tongue sticks out, and the hands are placed in the lap. The figure has an engraved line on the head, which could represent a hair parting, and wears earrings. The body is hollow and contains some pebbles or pieces of clay which create the rattling sound when shaken. The instrument has been hand-modelled from clay. It is black in colour, with flecks of brown on the head.	Michoacán, south of Lake Pátzcuaro	

311	Whistle (vessel duct flute): figure of head with limbs	This whistle is in the form of a figure, consisting of a face, arms and legs. The extended arms suggest a dancer, and the lack of a body suggests a deity. The figure wears a hat, which contains the mouthpiece. The whistle produces the approximate pitch of a Western A6. The whistle has been hand-modelled from light brown clay, and covered with red slip.	Michoacán, area of Lake Pátzcuaro	Post-classic
312	Strung rattle: copper and stone necklace	This collection of beads and stones was like to have been a necklace. The copper beads have been formed using wax, and have a loop by which they can be strung together. They are the colour of verdigris. The stones are grey and green in colour. One long stone could be a type of jade. The stones have been pierced to make a hole through which a cord could be threaded. If worn as a necklace, the beads and bells would strike each other when shaken to produce a jingling sound.	Michoacán	Post-classic
313	Vessel rattle: reptile head	This copper bell suggests the shape of a reptilian head, when viewed from the side. The bell would have been hung from a chain, of which four rings survive. These are attached to the bell by a semi-circular loop. The bell is hollow, and would probably have originally contained a pellet. There is a sound hole, to help amplify the rattling sound. The bell is the colour of verdigris.	Michoacán	ca. 1000–1200 CE
314	Vessel rattle: incense-holder	This is a ceramic bowl, supported on two legs and decorated with two animal heads. These have been bored with holes, probably to allow it to be strung on a cord. Each support has hollow feet, and contain pebbles or lumps of clay which cause a rattling sound when the bowl is shaken. Holes underneath the feet help to amplify this sound. The instrument has been hand-modelled from clay and painted red with black bands.	Michoacán	ca. 1000–1200 CE

315	Flute (tubular) decorated with human head and torso	This flute is decorated with a human figure, facing away from the player, with detailed facial features. The figure wears a nose ornament, earrings, a headdress, and a collar. The arms are bent and rest upon the upper surface. The flute has been decorated with engraved patterns and it rests on two supports. Its end flares into a bell. There are four finger holes, and the approximate Western pitches produced are D5, E, F sharp, G sharp and A sharp. The flute has been hand-modelled from clay and has been coloured with various pigments, including red, cream, brown and yellow.	Michoacán	Early post-classic, 1000–1200 CE
316	Whistle (vessel duct flute): the god Tlaloc	This whistle is in the form of a head, possibly the rain-god Tlaloc. The head wears a headdress, earrings, and a mouth ornament. The mouthpiece is at the position of the neck. The pitch is equivalent to the Western D5, but several pitches lower and higher than this can be produced by changing the speed and intensity of the airflow. The whistle has been made using a mould, unlike most ceramic instruments in this collection. It has been made from a courser clay than the other objects in the collection, too.	Michoacán near the border of Mexico. D.F.	Post-classic
317	Ocarina (vessel duct flute): the god Tlaloc	This ocarina is in the shape of a head with legs. The eyes, formed of concentric circles, suggest a connection to the rain god Tlaloc. There is a pointed nose, and a mouth which is represented by lines of teeth. There are lines on the head, suggesting hair or a headdress. The mouthpiece is at the top of the head. There is one finger hole, in the centre of the back. The pitches are equivalent to the Western E and F sharp 7. Crossley-Holland describes the tone as “shrill and clear”. The ocarina has been hand-modelled from black clay.		ca. 1000–1200 CE

318	Vessel rattle: female figurine	This rattle is in the form of a standing figure, which can be identified as female due to the breasts and type of skirt. She wears earrings and a necklace. The figure's head is hollow, and contains a pebble which creates the rattling sound when shaken. There is a sound hole in the top of the figure's head, which helps to amplify the sound. Her face is almost triangular, and features narrow eyes and a mouth with bared teeth. The figurine has been made from clay, and is light brown with white, red, and blue pigments.	Michoacán, style of region of Apatzingán	ca. 1000–1200 CE
319	Ocarina (vessel duct flute): dog	This ocarina is in the shape of a dog, possibly a coyote. The dog's tail acts as the ocarina's mouthpiece. There are two finger holes, one on either side of the neck. The pitches that it produces are similar to the Western A flat 6, B flat 6, and C7. The ocarina has been hand-modelled from clay. It is black in colour and has been decorated with engraved lines: straight and parallel, zigzagging, and in waves.		Post-classic, ca. 900 CE
320	Ocarina (vessel duct flute): turtle	This ocarina is a similar shape to a spindle whorl (a disc which augments the speed of a spindle). It is reminiscent of the form of a turtle. It could have been a spindle whorl originally, then repurposed as an ocarina. There are two finger holes, one each on the upper and lower surfaces. The pitches produced are equivalent to the Western A5, C sharp 6, D6 and E6. Usually, ocarinas with two holes produce three pitches, but here the different sizes of the holes mean an additional pitch can be produced. The ocarina has been hand-modelled from grey-brown clay.	Michoacán, style of region of Apatzingán	Post-classic
321	Strung rattle: shell bracelet	These shells have been carved and shaped, probably to hang from a cord as a necklace or bracelet. There are holes on each, to allow the cord to pass through. There are also decorations depicting the South American coati (a type of raccoon). If worn by a musician or dancer, the shells would make a gentle rattling sound with the wearer's movements. The beads are cream, red and brown in colour.		Late classic/ early post-classic

322	Stone scraper	This block of stone has thirteen notches along it, which create ridges. When scraped with a stick or another stone, this would produce the scraping rasp sound. There are also examples of bone scrapers in this collection. This stone has been shaped, drilled, engraved and polished. It is grey-brown in colour. There are two depressions at one end of the scraper, which could represent eyes.	Northwest Guerrero, the lower Balsas basin	Pre-classic
323	Whistle (vessel duct flute): dog	This whistle is in the form of a standing dog. Its body is hollow, and acts as a resonating chamber for the whistle. The pitch is at the approximate Western pitch of F sharp. Crossley-Holland describes its tone as "piercing". The mouth hole of the whistle is in the position of the dog's anus, below its upturned tail. The whistle has been hand-modelled from clay, and is grey-brown in colour.	Guerrero, Balsas basin	Late pre-classic/early classic
324	Ocarina (vessel duct flute): bird	This ocarina was probably originally shaped like a bird, but one end has broken off, and the remaining part much eroded. There is a tube, like a tail, which encloses the mouthpiece of the ocarina. There is one finger hole, on the lower side of the body. There has been some damage to the mechanism, but notes can be produced which probably approximate the originals. In Western terms, these are D6 and F6. The ocarina has been hand-modelled from clay. It is grey in colour, with traces of red pigment.		
325	Ocarina (vessel duct flute): figure	This ocarina has the indistinct form of a human figure. There is a featureless head, two arms which circle to the sides of the body, and a single leg. The lack of a body suggests a connection with a deity. The mouth hole is in the centre of the figure's head, so the figure faces away from the player. There are two finger holes, placed to either side of the figure's chest. The ocarina produces the approximate Western pitches of C5, D and E. The ocarina has been hand-modelled from clay. It is red with grey patina.		Classic (?)

326	Conch shell trumpet	This conch shell has been sawn at the top to allow for a detachable mouthpiece. However, the mouthpiece was probably made from a degradable material, like wood, so does not survive. The instrument cannot currently be played without a mouthpiece, so there is no information about its pitch. There is a hole near the top of the shell, through which a cord can be threaded to attach to the player's wrist, or round their neck. The conch is its natural shell colour.	Guerrero	
327	Obsidian scraper	This flat block of stone has been engraved with five notches, which create a series of ridges. When scraped with a stick, this creates a percussive rasping sound. There are also examples of bone scrapers in this collection, as well as figurines depicting musicians playing similar instruments. The stone is obsidian, of a dark green colour. It has been shaped and polished.	Guerrero, Balsas basin	Pre-classic
328	Vessel rattle with looped handle	This rattle is in the shape of a gourd (seed pod). Although there are no archaeological remains of actual gourd rattles, this clay reproduction suggests that they did exist. The rattle has a handle with a loop at the end, so it can be threaded onto a cord and hung around the player's wrist or neck (or attached to clothing). Pebbles enclosed in the hollow body create the rattling sound. The rattle has been hand-modelled from clay. It is red in colour, with areas of black discolouration.	Jalisco, Cojumatlán	ca. 600–1100 CE
329	Whistle (vessel duct flute): bird with human face	This whistle is in the form of a bird standing on two legs, with the bald head and bearded face of a man. Crossley-Holland suggests that it is an example of indigenous instrument-making after the Spanish invasion, as it appears to mimic or caricature a Spanish conquistador. The mouthpiece is in the end of the tail. The whistle produces a pitch which is around a Western C sharp 5. Crossley-Holland describes the tone as "cooing". It has been hand-modelled from clay, and is grey in colour, with black, red and white pigment.	Jalisco, Lake Chapala	1523–1600 CE

Appendix 2: Crossley-Holland's style zones

This appendix sets out the style zones that Crossley-Holland used, with a list of all PCH items from each zone.[1] Where photographs are available, selected examples are shown. No photographs are available for zones V and XIII.

All photographs by Susan Rawcliffe, courtesy Bangor University.

[1] As described in the Guide to the Documentation, held at Bangor University Crossley-Holland Archive, Box F59.

I. North and Central Sinaloa

Guasave, post-classic: PCH 1-2
Yerbalito or La Quinta: PCH 3-8
Other: PCH 9

Figure 60: PCH 1-2, shell bracelets

Figure 61: PCH 4-8, whistle fragments

Figure 62: PCH 9, flute (coiled snake)

II. Sinaloa and Nayarit

South Sinaloa, north Nayarit, coastal and south-central lowland Nayarit
Chametla: PCH 10
Early Amapa: PCH 11-14
Late Amapa: PCH 15-21
Other: PCH 22-27

Figure 63: PCH 13, ocarina and rattle

Figure 64: PCH 19, hand drum

Figure 65: PCH 15, shell bracelet

Figure 66: PCH 27, whistle (bird)

III. Nayarit

South Nayarit highlands and adjoining borders of north Jalisco
Archaic phase: PCH 28-30
San Sebastian phase: PCH 31-47
Early Ixtlán del Rio phase: PCH 48-81
"Chinesca" style: PCH 82-90
Late formative highland phase: PCH 91-92
Post-classic period: PCH 93-94

Figure 67: PCH 48-49, figures playing scraper (left) and holding a bowl (right)

Figure 68: PCH 52, 62, 63, figures playing whistle and rattle (left) and drums (centre, right)

Figure 69: PCH 71-74, ocarinas shaped like animals

Figure 70: PCH 79, conch shell trumpet

Figure 71: PCH 78, figure playing conch shell trumpet

Figure 72: PCH 82, group circle round percussion player

IV. Jalisco

Northern central Jalisco and the borders of the Nayarit highlands
Ameca phase: PCH 95-105
El Arenal phase: PCH 106
San Juanito (Antonio Escobedo) style: PCH 107-109
Cuspala style: PCH 110-111
Guadalajara style: PCH 112-114
Other (Hacienda de Guadalupe and Etzatlán): PCH 115-116

Figure 73: PCH 105, conch shell trumpet (made from clay)

Figure 74: PCH 114, conch shell trumpet (made from clay)

V. Zacatecas

Vicinity of Teocaltiche, north Jalisco
PCH 117

VI. Colima

Archaic phases: PCH 118-122
Chupícuaro horizon: PCH 123-125
Period of the shaft tombs: PCH 126-221
Coahuayana valley style: PCH 222
Classic period: PCH 223-231
Post-classic period: PCH 232-234

Figure 75: PCH 119, whistle (reptile)

Figure 76: PCH 120, ocarina (deer)

Figure 77: PCH 121, whistle (dog)

Figure 78: PCH 126, whistle (figurine)

Figure 79: PCH 128, whistle and rattle (figurine)

Figure 80: PCH 162, double flute

Figure 81: PCH 198, ocarina (scorpion)

Figure 82: PCH 217, double whistle (testicles)

VII. Jalisco-Colima

Southern Jalisco
Autlán-Tuxcacuesco-Zapotitlan area: PCH 235-248
Tamazula-Tuxpan-Zapotlan area (style of Pihuamo): PCH 249
Sayula-Zacoalco style: PCH 250-252
Other: PCH 253-256

Figure 83: PCH 247, whistle (bat)

Figure 84: PCH 251, double flute

Figure 85: PCH 254, flute with face

VIII. Michoacán-Colima

The style of the shaft tomb cultures in the Tierra Caliente of southwestern Michoacán
PCH 257-267

Figure 86: PCH 257, flute

Figure 87: PCH 258, flute

IX. Coastal Jalisco and Colima

Morett style: PCH 268-270
Other: PCH 271-276

Figure 88: PCH 268, flute

Figure 89: PCH 270, ocarina (head)

Figure 90: PCH 276, flute

X. Lerma-Cuitzeo

The middle River Lerma in southern Guanajuato and the Lake Cuitzeo area in adjoining northern Michoacán
Chupícuaro style: PCH 277-285
Querendaro style: PCH 286-289
Other: PCH 290-292

Figure 91: PCH 282-5, 288-9, 292, ocarinas (animal shapes)

XI. Chapala

Chapala lake basin and adjoining areas of Michoacán
Cojumatlán style: PCH 293-295
Cenegla swamp style: PCH 296
Mazapan style: PCH 297
Other: PCH 298-304

Figure 92: PCH 296, double ocarina (bird)

XII. Michoacán Highlands

Zamora valley style: PCH 305-306
Uruapan style: PCH 307-309
Lake Pátzcuaro: PCH 310-311
Other: PCH 312-317

Figure 93: PCH 307, flute with monkey decoration

Figure 94: PCH 308, flute with bird decoration

Figure 95: PCH 309, flute with bird decoration

Figure 96: PCH 315, flute with human figure

XIII. The Tepelcatepec Basin

Western Tierra Caliente, Michoacán
PCH 318-320

XIV: The Balsas Basin

The area of the middle and lower River Balsas in western and northern Guerrero, and the adjoining borders of Michoacán
Lower and middle Balsas style: PCH 321-326
Mezcala culture style: 327

Figure 97: PCH 327 (L) and 322 (R), stone scrapers

Figure 98: PCH 325, ocarina

XV. The Syncretistic Style

Of the early historical period: ca. 1523-1600 CE
PCH 328-329

Figure 99: PCH 328, rattle

Figure 100: PCH 329, whistle (bird with human face)

Appendix 3: Hornbostel-Sachs classifications, modified by Crossley-Holland

The grey rows show the information from Hornbostel-Sachs Systematik, which uses the Dewey Decimal system of classification. The version which I have used for reference is the translation by Baines and Wachsmann, published by the Galpin Society in 1961.[2] The fundamental categories are 1: Idiophones; 2: Membranophones; 3: Chordophones; and 4: Aerophones. These are defined by the sound-producing properties of the instruments. For idiophones, the instrument itself produces the sound; membranophones, a stretched membrane; chordophones, a vibrating string; and aerophones, the vibrating air. Category 3, chordophones, are not represented by the PCH collection, or in fact anywhere in Mexico before the Spanish invasion.

The cells in white are taken from Crossley-Holland's Guide to the Documentation (held at Bangor University Crossley-Holland Archive, Box F59). The first column shows the numerical code taken from the Hornbostel-Sachs classes, which Crossley-Holland copied from the Systematik, adding his modifications when necessary. The modifications in this column are shown in brackets. The next column shows the name of each division of the classification, modelled on the language of the Hornbostel-Sachs systems but again with Crossley-Holland's own additions. To the right of this column I have included Crossley-Holland's invented subdivisions, which seem to be based on the classes A, B, C, etc., then 1, 2, 3, which are divided further by using a, b, c, and then i, ii, iii. However, Crossley-Holland does not provide a key to the codes. He states in the introduction to his system that these subdivisions '[embrace] additional parameters at many levels, e.g. finer organological details, number of finger-holes, materials of manufacture, and a host of other aspects.' The numbers and letters that he uses to signify these subdivisions are not applied consistently – so, for example, A. does not always designate material.

The next column shows how many examples are to be found in the PCH collection, and whether they are in the form of the actual instrument, or of an effigy: the depiction of that instrument as shown in the form of a figurine. The total frequencies for each category are displayed in the grey row. Finally, the PCH item numbers are given for reference.

[2] 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.

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
111	Idiophones struck directly. The player himself executes the movement of striking; whether by mechanical intermediate devices, beaters, keyboards, or by pulling ropes, etc., is immaterial; it is definitive that the player can apply clearly defined individual strokes and that the instrument itself is equipped for this kind of percussion.		Total: 12	
111.141	Concussion vessels or vessel clappers (natural)	a. bivalve shell castanets	1 instrument	271
111.1(5)	Concussion rings (or bands)	a. leg 'disks' (shell; worn by dancers and musicians)	1 instrument 1 effigy	129 126
111.221	Percussion plaques (individual)	a. oblong plaque of (?) wood (struck with mallet)	1 effigy	130
111.231	Percussion tubes (individual)	a. without lamellae i. turtle-shell (struck with antler, shell, stick)	2 effigies	54, 82
111.242.11(1)	Percussion vessels (individual)	– resting bells: mouth facing upwards b. bowl on hollow pedestal (on ground; with hands)	1 effigy	235
111.242.11(2)	Percussion vessels (individual)	– mouth facing downwards a. inverted vessel (on ground; with hands)	2 effigies	132, 236
		b. plaque over hollow "log"	1 effigy	133
111.242.11(3)	Percussion vessels (individual): held	a. pot or gourd (with hands or mallet)	1 effigy	131
		b. mortar (with pestle)	1 effigy	126
112	Indirectly struck idiophones. The player himself does not go through the movement of striking; percussion results indirectly through some other movement by the player. The intention of the instrument is to yield clusters of sounds or noises, and not to let individual strokes to be perceived.		Total: 90	

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
112.111	Strung rattles	A. of solid objects 2. suspended around body part		
		a. beads (stone, slate, shell) or plaques (shell)	4 instruments 1 effigy	115, 116, 238, 272 237
		b. blade tinklers (stone, shell) and crescentic tinklers (shell)	3 instruments 1 effigy	250, 273, 321 127
		c. multiple bracelets (shell, fossil shell)	4 instruments 1 effigy	1, 2, 239, 293 134
		B. of hollow objects without clappers 1. of univalve shell tinklers	3 instruments	15, 22, 23
		C. of hollow objects with free clappers 1. of pellet-bells b. of copper	1 instrument	232
		D. of mixed elements and materials (e.g. copper bells and stone beads)	1 instrument	312
112.112	Stick rattles: rattling objects strung on stick or ring	a. pellet bells strung on rings	1 instrument	274
112.13(1)	Vessel rattles (individual)	A. self-contained, or as part of biomorph 1. closed		
		a. of gourd, clay	29 instruments 8 effigies	3, 11, 16-18, 56, 83, 84, 99-102, 118, 128, 137-144, 253, 277, 286, 290, 298, 310, 318, 328 53, 55, 95, 97, 98, 106, 135, 136

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
		2. slotted: pellet-bells		
		a. of clay	4 instruments	12, 25, 278, 299
		b. metal ii. with suspension ring/loop	1 instrument	300
		c. with suspension loop and strung on chain	1 instrument	313
		B. as part of larger object 1. closed		
		a. in spindle-whorl	1 instrument	233
112.13(2)	Sets of vessel rattles	A. self-contained (hand-rattles) 2. joined		
		b. on cord	1 effigy	128
		B. rattling vessels		
		1. with 1 resonator	2 instruments	107, 108
		2. with 2 resonators	1 instrument	314
		3. with 3 resonators	3 instruments	240, 279, 280
		4. with 5 resonators	1 instrument	33
		C. as part of worn object 1. closed		
		a. two rattles on collar or band	1 instrument	57
		2. slotted		
		b. pellet-bells (indefinite number) on garment	1 instrument	96
		c. “tuned” set	1 instrument	93
112.211	Scraped sticks without resonator	a. rasps of horn (antler), stone, word, clay	2 instruments	110 (clay), 327 (stone)

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
112.212	Scraped sticks with resonator	a. with attached resonator (gourd or pot)	1 effigy	32
112.2(x1)	Scraped boards (or plaques) without resonator		1 effigy	
112.2(x2)	Scraped boards (or plaques) with resonator	a. wooden rasp with hollow shell activator = moving resonator	1 effigy	48
112.2(y)	Scraped blocks	a. of stone	1 instrument	322
112.22(1)	Scraped tubes (with integral resonator)	a. individual i. self-contained (bone)	3 instruments	142, 275, 281
		b. sets ii. pair of rasps (shell) rubbed together	1 instrument	272
112.22(2)	Scraped tubes with additional (secondary), non-integral resonator	b. bone rasp with (shell activator as) moving secondary resonator	1 instrument (2 items)	58, 59
112.23	Scraped vessels	b. hollow biomorphic figurines with notched backbones or crests	3 instruments	46, 110, 143
133	Friction vessels		Total: 3	
133.1	Friction vessels (individual)	a. of turtle-shell (rubbed with antler or thumb)	3 instruments	60, 61, 241
211	Single-skin cylindrical drums. The drum has only one usable membrane. In some African drums a second skin forms part of the lacing device and is not used for beating, and hence does not count as a membrane in the present sense.		Total: 26	
211.211.1	Cylindrical drums with single skin and open end	A. vertical (or near; on ground or leg, over knee or between knees; or joined to player's body with a band). Played with hands (or rarely) mallet. 1. unfooted		
		a. round or oval	15 effigies	50, 62, 63, 64, 65, 67, 85, 103, 114, 115, 116, 117, 222, 242, 243

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
		B. horizontal (or near), round 1. under arm; portable (played with one hand or pebble)	1 effigy	244
		2. on knee or thigh; portable (with one hand)	1 effigy	66
		3. on ground, with supports; ridden by player (played with one hand or two hands)	2 effigies	34, 35
211.211.2	Cylindrical drums with single skin and closed end; vertical	a. without pedestals	1 effigy	245
211.24(1.1)	Hourglass-shaped (or waisted) drums with single skin and open end/on ground (played with hands)	a. 'square', unfooted	1 effigy	223
211.25(1.1)	Conical drums with single skin and open end	a. retro-subconical, vertical (or near); on ground or legs (with hands)	1 effigy	97
211.25(1.2)	Conical drums with single skin and closed end (retroconical)	a. horizontal (or near); portable, under arm (with one hand)	1 effigy	92
211.26(1.1)	Goblet-shaped drums with single skin and open end	a. hand-drums (various forms)	2 effigies	10, 19
211.311	Frame-drums with single skin (without handle)	a. vertical, on ground; or near vertical, between knees (with hands)	1 effigy	147
421	Edge instruments or flutes. A narrow stream of air is directed against an edge.		Total: 225	
421.111.11	Open single end-blown flutes without duct, (?) without finger holes		1 instrument 1 effigy	99 96
421.111.12	Open single end-blown flutes without duct, with finger holes	a. with notch and 4 finger holes (bone)	1 instrument	26

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
421.112.21	Stopped panpipes in raft form	a. with 3 tubes	1 effigy	106
		b. with 5 tubes	1 effigy	95
		c. with 6 tubes	1 effigy	52
421.13	Vessel flutes without duct; cross-blown	a. monoglobular, without finger holes	1 instrument	111
		b. biglobular, with 3 finger holes (1 in proximal sphere, 2 in distal sphere); with lip rest	1 instrument	296
421.221.11	Open (tubular) flutes with internal duct, without finger holes		1 instrument 2 effigies	87 86, 104
421.221.12	Open (tubular) flutes with internal duct, with finger holes	I. without flared bell or specialized mouthpiece projection A. with finger holes relatively close and distally placed 1. with cylindrical bore		
		a. straight iii. with 3 finger holes (with beaked mouthpiece) (with unbeaked mouthpiece)	2 instruments 1 effigy	234, 268 148
		iv. with 4 finger holes (with unbeaked mouthpiece) (with beaked mouthpiece)	3 instruments 13 instruments	152, 257, 258 149-151, 153-160, 254, 255, 161, 294
		B. with finger holes relatively extended and more centrally placed 1. with cylindrical bore		
		a. straight ii. with 4 finger holes	3 instruments	307-309

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
		C. with finger-holes towards opposite ends of resonator		
		i. with 4 finger holes in 2 equal parallel rows	1 instrument	276
		II. with flared bell and with finger holes relatively extended 1. with cylindrical bore		
		b. with 4 finger holes	1 instrument	315
421.221.3(2)1	Stopped tubular flute with internal duct, with finger holes; with stopped lower end	a. with cylindrical bore (with slight taper at end), in spiral form, with 2 finger holes, proximally placed	1 instrument	9
421.221.(1+2+3)2(x)	Tubular flute with internal duct, with lower end differential (according to the use of finger holes) and with free piston	a. with cylindrical bore, straight, with 2 finger holes (on opposite sides of a loop)	1 instrument	256
421.221.(x2)	Annular flutes (with cylindrical bore) with internal duct and with finger holes	a. with 2 finger holes (ventral)	1 instrument	88
		b. with 4 finger holes (2 dorsal, 2 ventral)	1 instrument	305

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
421.221.41	Vessel flutes with internal duct, without finger holes	a. independent, or with biomorphic aspect i. independent	2 instruments	260, 261
		ii. with biomorph's body or body part serving as resonator (humans and anthropomorphs)	36 instruments 3 effigies	122, 126, 128, 130, 131, 135, 136, 141, 145-147, 168-187, 249, 260, 311, 316, 329 128, 224, 246
		(zoomorphs)	23 instruments 1 effigy	20, 21, 68, 119, 188-196, 218, 227, 228, 247, 261, 262, 269, 270,291 127
		iii. with spherical resonator embedded in biomorph	5 instruments	4-8
421.221.41-61	Vessel flutes with internal duct, without finger holes; with rigid air reservoir	a. with embedded sphere as resonator	1 instrument	323
421.221.41(x)	Vessel flutes with internal duct, without finger holes; with free piston action (=piston whistles)		1 instrument	27

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
421.221.42	Vessel flutes with internal ducts, with finger holes ("Ocarinas")	a. with 1 finger hole	5 instruments	120, 197, 198, 317, 324
		b. with 2 finger holes i. without register changer (humans and anthropomorphs)	10 instruments	37, 231, 248, 263, 264, 271, 287, 295, 297, 325
		(zoomorphs)	34 instruments	38-46, 70-76, 89, 199-212, 230, 319, 230
		(composites)	2 instruments	69, 265
		c. with 4 finger holes (humans)	1 instrument	213
		(zoomorphs)	22 instruments	28-30, 123-125, 143, 214, 266, 267, 282-285, 288, 289, 292, 301-304, 306
		d. with 6 finger holes	3 instruments	113, 215, 216
421.221.(5.1)	Vessel flute with two internal ducts, with 2 finger holes	a. with 2 separate mouthpieces (for a single shared resonator) played by 2 different performers	1 instrument	77
421.222.11	Sets of open (equilength tubular) flutes with internal ducts, without finger holes: double flutes (of cylindrical bore, straight)		1 instrument 1 effigy	162 109

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
421.222.12	Sets of open (equilength tubular) flutes with internal ducts, with finger holes: double flutes (of cylindrical bore, straight)	A. with finger holes relatively close and distally placed 1. with frontal, rear, or lateral apertures		
		a. with 4 + 4 finger holes	3 instruments	165, 166, 259
		2. with rear apertures and (usually) false bells (all with Tlaloc mask adorno, or comparable)		
		b. with 2 + 2 finger holes	2 instruments	223, 224
		c. with 3 + 3 finger holes	1 instrument	225
		d. with 4 + 4 finger holes ii. with 1 + 1 tuning holes	1 instrument	226
421.222.(41)	Sets of vessel flutes with internal ducts, without finger holes	b. as a unit with a single mouthpiece i. without air reservoir	1 instrument	217
		ii. with rigid air reservoir [421.222.(41)-61]	1 instrument	121
423	Trumpets. The air-stream passes through the player's vibrating lips, so gaining intermittent access to the air column which is to be made to vibrate.		Total: 14	
423.111.1	End-blown (spiral trumpets) conches without mouthpiece	A. without finger holes 1. shell	4 instruments 2 effigies	79-81, 94 218, 219
		2. clay	2 instruments	105, 114
423.111.2	End-blown (spiral trumpets) conches with mouthpiece	A. shell, with detachable mouthpiece, without finger holes	1 instrument 1 effigy	326 78
		B. clay, with integral mouthpiece 1. without finger holes	2 instruments	47, 220
		2. with finger holes a. with 1 finger hole	1 instrument	221

Classification number	Classification name and additional information		Frequency in PCH collection	PCH item numbers
423.121.21	End-blown (curved) horns, without (detachable) mouthpiece		1 effigy	90
Composite instruments			Total: 3	
421.221.42	4-holed vessel duct flute	N.B. also drum effigy	1 instrument	13
112.13(1)	Vessel rattle			
421.221.41	Vessel duct flute (no holes)		1 instrument	128
112.13(1)	Vessel rattle			
421.221.42	4-holed vessel duct flute		1 instrument	143
112.23	Vessel scraper			