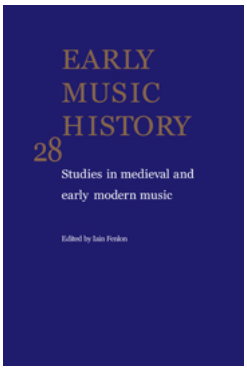

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Musical commodities frequently accompanied European explorers, soldiers, merchants and missionaries who travelled to Asia in the early modern period. During this time, numerous theoretical treatises and musical scores – both printed and manuscript – were disseminated throughout Asia. This article examines the dissemination and use of European musical works in early modern China, Japan and the Philippines, before identifying the titles of scores and treatises so far known to have been present in these territories. In order to measure the relative success of European missionaries in transplanting music to early modern Asia, it then takes as case studies the local production of three significant sources of European music during the seventeenth century: (1) the earliest example of printed European music from Asia, produced by the Jesuit press at Nagasaki in 1605; (2) a Chinese treatise on European music that was commissioned by the Kangxi Emperor in 1713 and printed the following decade; and (3) a 116-page manuscript treatise, compiled by an unidentified Jesuit in late seventeenth-century Manila, which synthesises the most current European music theory as well as commenting on local musical practices.

Musical commodities regularly accompanied European explorers, soldiers, merchants and missionaries who travelled to Asia in the early modern period. Among these objects were European music books – theoretical treatises and music scores in printed and manuscript form – that were disseminated throughout Asia as a consequence of the colonial, diplomatic, commercial and religious activities of European nations. These texts, once transported to their new locations, became indispensable resources for Europeans working in trading centres, religious and diplomatic missions, and educational institutions. The performance and teaching of European music acted as a means for intercultural communication, an aid for religious conversion, an essential component of Christian worship and a mediator in the diffusion of European intellectual culture. But at the same time, the study and practice of European music in early modern Asia relied on regular importation of commodities such as books and instruments, the attraction of local patronage and the fostering of local talent.

I would like to thank Oxford University Press for permitting me to weave into this article a small passage from my forthcoming book *Colonial Counterpoint: Music in Early Modern Manila.*

Musicological interest in the processes of the book trade within early modern Europe itself has recently given rise to fascinating studies of how print technology and regional networks influenced the dissemination and use of significant musical works.[1] Further attention has been devoted to the circulation of notated musical commodities between Europe and the Americas, but the African and Asian contexts of this phenomenon remain fields that are, as yet, virtually untilled. In this essay I address this lacuna in part by examining the dissemination and use of European musical scores and treatises (both printed and manuscript) in a territorial triangulation that was of utmost importance to European commercial, diplomatic and religious interests in the early modern period: China, Japan and the Philippines. In doing so, I will identify the titles of works so far known to have been present in these territories. In order to measure the relative success of Europeans in transplanting their music to the 'Extreme Orient', I will also consider the production in Asia of three significant sources of European music during the seventeenth century. Each case was influenced by the dissemination and use of European theoretical treatises and music scores. The first is the earliest example of printed European music from Asia, produced by the Jesuit press at Nagasaki in 1605, while the second is a Chinese treatise on European music that was commissioned by the Kangxi Emperor in 1713 and printed in the following decade. The third is a 116-page manuscript treatise, compiled by an unidentified Jesuit in late seventeenth-century Manila, which synthesises the most current European music theory as well as commenting on local musical practices. By examinating these sources and treating aspects of the early modern book trade in a global context, I hope to contribute to the current understanding of the worldwide dissemination of European musical culture, and the material and intellectual characteristics of music globalisation.

NETWORKS OF DISSEMINATION

European musical commodities arrived in early modern Asia from two directions and via multiple channels of transmission. Spanish imperial trade routes in the Western hemisphere extended from Mexico to the Philippines, via Guam (the largest of the Mariana Islands), while the Portuguese commercial network rounded the coasts of Africa via the colonies of Angola and Mozambique, before heading across the Indian Ocean and reaching the entrepôts of Goa, Malacca, Macau, and Nagasaki. Two lines of demarcation, established by the treaties of Tordesillas and Zaragoza in 1494 and 1529 respectively, separated Spanish and Portuguese spheres of

[1] See, for example, the essays in Iain Fenlon and Tess Knighton (eds.), *Early Music Printing and Publishing in the Iberian World* (Kassel, 2006).

imperial interests by means of virtual longitudinal borders that ran through the Americas and Asia. The Philippines, China and Japan lay close to the seam of these imagined hemispheres. The maritime trade routes of other European trading companies provided the means by which France, England and Holland also sought to expand commercial opportunities in Asia and establish diplomatic relations with local rulers.

As in Latin America, functionaries of the Roman Catholic Church followed in the wake of Iberian political, military and commercial expansion into Asia. The 'royal patronage' (*patronato real* or *padroado real*) that the pope bestowed on the monarchs of Spain and Portugal enabled these heads of state to govern Church matters through Iberian political structures, without constant recourse to Rome. France was another Roman Catholic nation that had direct religious influence on Asia; the Société de Missions Étrangères, established in 1658–63, sent missionaries to regions that lay within the borders of territories now known as Thailand, Vietnam, Cambodia and southern China.[2] Representatives of religious congregations that were responsible directly to Rome also travelled to Asia: these included members of the Congregatio de Propaganda Fide and the Congregatio Missionis (the latter being known as Lazarists). To a large extent they relied on Iberian and French ships for their transportation. In this first wave of European expansion to East and West, evangelisation remained the domain of Roman Catholic nations (English and Dutch expeditions, on the other hand, rarely carried religious functionaries, apart from chaplains who administered to the expeditioners themselves), and the globalising reach of missionary work left a lasting legacy of religious converts and institutions.

Music was a seminal part of evangelistic endeavours, from initial contact with indigenous peoples to the establishment of major churches on a similar scale to those of Europe. Portuguese missionaries, for instance, introduced European musical practices to local populations at several enclaves located on their trade route from Lisbon to Nagasaki. Although forms of oral and rote transmission can easily account for the diffusion of *cantigas* (not to mention the sea-shanties and instrumental techniques

[2] French Jesuits also travelled to these lands, and music went with them. Simon de la Loubère, a French envoy who accompanied a Jesuit delegation to Thailand in 1687, recounted that '[t]he King of *Siam*, without shewing himself, heard several Airs of our *Opera* on the Violin, and it was told us that he did not think them of a movement grave enough'. Simon de La Loubère, *A New Historical Relation of the Kingdom of Siam by Monsieur De La Loubere, Envoy Extraordinary from the French King, to the King of Siam, in the Years 1687 and 1688*, trans. A. P. Gen. R. S. S. (London, 1693), p. 68. Given the monopoly on opera that Jean-Baptiste Lully held in France until his death in 1687, it is exceedingly likely that some of the European music played to Phra Narai, King of Siam, was by this composer. But it remains unknown whether these 'Airs' were performed from memory or from printed or manuscript scores.

associated with popular music-making that were transmitted by sailors), the performance of complex polyphonic repertoire usually relied on the use of notated sources, thus necessitating the transportation of sheet music and the musical expertise required to transform script into sound. But in spite of the extensive documentation of evangelistic activity in Portugal's eastern empire, the titles of only a few pieces of sacred repertoire known and performed along these trade routes can be located in archival sources. For instance, a missionary writing from the Angolan capital of Luanda in the late sixteenth century described the performance by indigenous musicians of Cristobál de Morales's *Missa cortilla* and his motet *Andreas Christi famulus*, as well as Francisco Guerrero's hymn *Pange lingua*.[3] Similarly, in 1663 the Italian traveller Joseph di Santa Maria (Giuseppe Sebastiani) recorded his amazement at hearing an unspecified work for seven choirs by Giacomo Carissimi in the Basilica do Bom Jesus in Goa, India, implying in this account that local Konkani musicians took part in the work's performance.[4] The scores of European compositions such as these, transported to Africa and India, thus enabled the long-distance reproduction of sacred musical performances. They embodied a type of

[3] 'Os negros caõtaõ [*sic*] toda a missa pequena de Morales e o motete de Saõto André a simco e huã Pamge limgua de Guerreyro.' Letter from Paulo Dias de Novais, 'Desta vila de Saõ Paulo aos 23 dagosto de [1]578', in *Monumenta missionaria africana: Africa ocidental*, ed. António Brásio, 15 vols. (Lisbon, 1952–88), iv, p. 302. The performance of the works by Morales is discussed in Robert Murrell Stevenson and Alejandro Enrique Planchart, 'Morales, Cristóbal de', *The New Grove Dictionary of Music and Musicians*, ed. Stanley Sadie, 2nd edn. (London, 2001) (hereafter *New Grove II*), xvii, p. 87, but the erroneous date of 1583 is given.

[4] 'Godei più volte in quella Città con occasioni di Feste assai belle Musiche, particolarmente in quella di S. Ignatio, che si celebrò à sette Chori con suavissime Sinfonie nella Casa Professa de' Padri della Compagnia, ove si trova il Corpo di San Francesco Xaverio; e dicendo, che mi pareva di stare in Roma, mi fù risposto, che non m'ingannava, perche la compositione era del famoso Carissimi portata in quelle Parti. Non può credersi quanto rieschino nella Musica quei Canarini, come ci si esercitino, e con quanta facilità.

Non v'è Aldea, ò Villaggio di Christiani, che non habbia nella Chiesa Organo, Arpa, e Viola, & un buon Coro de Musici cantandovisi nelle Feste, e ne' Sabbati, Vesperi, Messe, e Litanie, e con molto concorso, e devotione. Vergogna di molti Luoghi grossi, e d'alcune Città d'Italia, e di tutta l'Europa, ove non si celebra nè pure una Festa con solennità, ò pompa veruna.

Sono in Goa trè Seminarii, ne' quali, oltre la Musica, s'attende pure alle lettere sotto la Disciplina de' PP. Franciscani, Agostiniani, e Gesuiti, quali alcune volte l'anno disendono publiche Conclusioni, & io per animarli, v'assistei [*sic*], & argomentai più volte.' Giuseppe di S. Maria, *Seconda speditione all'Indie Orientali* (Venice, 1683), bk. 3, p. 105. The letter was written in 1663 but was published twenty years later. An English translation is in Victor Anand Coelho, 'Connecting Histories: Portuguese Music in Renaissance Goa', in C. Borges, SJ and Helmut Feldmann (eds.), *Goa and Portugal: Their Cultural Links* (Xavier Centre of Historical Research Series, 7; New Delhi, 1997), p. 144. For additional studies of Portuguese music in colonial Goa, see also Ian Woodfield, *English Musicians in the Age of Exploration* (Stuvysant, NY, 1995), pp. 219–29; Victor Anand Coelho, 'Kapsberger's "Apotheosis" of Francis Xavier (1622) and the Conquering of India', in R. Dellamora and D. Fischlin (eds.), *The Work of Opera: Genre, Nationhood, and Sexual Difference* (New York, 1997), pp. 27–47; and 'Music in New Worlds', in John Butt and Tim Carter (eds.), *The Cambridge History of Seventeenth-Century Music* (Cambridge, 2005), pp. 88–110.

physical connection between non-European musicians and European composers. The presence of European music scores and treatises still further afield, however – in East and Southeast Asia – would represent an even more significant connection across much larger distances.

MUSIC SCORES AND TREATISES

European books transported to early modern China, Japan and the Philippines generally fell into three main categories: books that were personal possessions, books that were commodities for trade and books that were intended for institutional use. (A few books that were diplomatic or ceremonial gifts make up a small fourth category.) From the beginning of Roman Catholic missionary work in East and Southeast Asia, collections of plainchant and polyphony were imported to the Philippines, Japan and China. Some extant copies of music scores and treatises – printed and manuscript alike – can be found in surviving collections of early modern European books held in Asian cities, while bibliographical references to additional titles can be gleaned from catalogues, inventories and correspondence. Many musical sources are listed in inventories of institutions or wills of individuals, but in documents such as these a generic description is often given in lieu of any more specific information. For example, the first collection of European books taken by the Jesuits to Japan in 1556 included 'Hum livro de canto chão' ('a book of plainchant') and 'Outro de canto d'orgão' ('another [book] of polyphony').[5] Similarly, the earliest known set of music books to arrive in Manila, with the first bishop Domingo de Salazar, OP, included '4 libros de canto' ('four choirbooks') and '12 libros yntonatorios y procesionarios' ('twelve books of chant intonations and processionals'), without any further information.[6] Some decades later, in Manila, the bookseller Pedro de Zúñiga (d. 1608) included in his wares 'pasionarios de canto llano' ('plainchant [settings of the] Passion'), 'un juego de motetes de guerrero' ('a volume of motets by [Francisco] Guerrero') and 'un juego de motetes de madrigal' ('a volume of motets [in the form] of madrigals' or 'a volume of motets by

[5] Jesús López Gay, SJ, 'La primera biblioteca de los Jesuítas en el Japón (1556): Su contenido y su influencia', *Monumenta Nipponica*, 15/3–4 (1959–60), p. 355; *Documenta Indica III (1553–1557)*, ed. Joseph Wicki, SJ (Rome, 1954), pp. 204–5.

[6] See Robert William Harold Castleton, 'The Life and Works of Domingo de Salazar, O.P. (1512–1594)' (Ph.D. thesis, University of London, 1974), pp. 288, 306. See also William John Summers, 'Music in the Cathedral: Some Historical Vignettes', in Ruperto C. Santos, STL (ed.), *Manila Cathedral: Basilica of the Immaculate Conception* (Manila, 1997), p. 153. The bookseller who provided the music books (at a cost of 1,100 reales) has been identified as Blas de Robles. See María Gembero Ustárroz, 'Circulación de libros de música entre España y América (1492–1650): Notas para su estudio', in Fenlon and Knighton (eds.), *Early Music Printing*, p. 154.

"Madrigal"').[7] The volume of motets by Francisco Guerrero could be one of three opuses published in Venice: *Motetta* (1570), *Mottecta, liber secundus* (1589) or *Motecta* (1597).[8] However, the descriptions of the other musical sources in the will defy identification. The term 'madrigal' was certainly used for certain genres in Spain, predominantly by Catalonian composers, but 'motetes de madrigal' could refer to works written by a composer whose nickname was 'madrigal'.[9] Equally, it could refer loosely to a volume of sacred music with vernacular texts. Meanwhile, 'pasionarios de canto llano' is a fairly ambiguous description, and a large number of such works available at the time could fit the bill.

Aside from music scores themselves, several European treatises on music theory and practice were known to have been imported to early modern Manila. The earliest example comes from the inventory of a private library that was shipped from Acapulco (Mexico) to Manila in 1583; this lists an *Arte de canto llano* by an unnamed theorist.[10] Extant copies of other treatises are still held in the Central Library of the University of Santo Tomás, Manila. While it is likely that these works arrived in the Philippines during the early modern period, it is difficult to determine the exact dates of their transmission. Amongst these works can be found the first book of Juan Bermudo's *Declaración de instrumentos* (1549), Pietro Cerone's *El melopeo y maestro* (1613), an incomplete copy of the first volume of Athanasius Kircher's *Musurgia universalis* (1650), and a 1779 reprint of Jean le Rond d'Alembert's *Elémens de musique théorique et pratique suivant les principes de M. Rameau*. Another significant treatise, Andrés Lorente's *El porqué de la música* (1672; 2nd edn. 1699), is listed in a mid-eighteenth-century library inventory of the Augustinian convent in Intramuros.[11] Although the inventory does not provide any more information than the author and title, we can assume that either the first or second edition was imported not long after its publication, and

[7] Antonio García-Abásolo, 'The Private Environment of the Spaniards in the Philippines', *Philippine Studies*, 44 (1996), p. 365.

[8] See William John Summers, 'Listening for Historic Manila: Music and Rejoicing in an International City', *Budhi: A Journal of Ideas and Culture*, 2 (1998), p. 203, and Robert Murrell Stevenson, 'Guerrero, Francisco', *New Grove II*, x, p. 502.

[9] I am grateful to Iain Fenlon for his suggestion of this hypothesis. Joan Brudieu, whose collection entitled *De los madrigales* was published in Barcelona in 1585, seems a possible candidate.

[10] The library belonged to a Spanish gentleman who was possibly named Trebiña or Treviño. See Irving A. Leonard, 'One Man's Library, Manila, 1583', *Hispanic Review*, 15 (1947), pp. 84–100 at 84–5, 90, 99; id., *Books of the Brave: Being an Account of Books and of Men in the Spanish Conquest and Settlement of the Sixteenth-Century New World* (Berkeley, 1992), p. 234; Summers, 'Listening for Historic Manila', p. 207.

[11] 'Inventarium Generale Omnium Librorum huius Bibliothecae Conventus Divi Pauli Manilensis Ord. Eremitaru[m] S. P. N. August. in ha[e]c Provintia SS Nominis IESU Philippinarum', 1754–62, LLIU, Philippine MSS II. The treatise by Lorente is listed under *caxon* 6, *estante* 2.

evidently before the mid-eighteenth century. It may have been used during the late seventeenth and early eighteenth centuries by several notable indigenous musicians in this convent, who were organists, composers and *maestros de coro*.

The intervals between the publication dates of these treatises are relatively regular. If we extrapolate from patterns of book trade between Spain and Latin America, it can be surmised that each of these works arrived while it held currency in the prevailing trends of European theory and practice, rather than as an antiquarian work within a larger collection. Of course, when entire libraries were shipped, they may have contained some more dated works. But given the high cost of printed books in the first place, and the trouble in subjecting them to inquisitorial censorship before their transportation halfway around the world, it is likely that only the newest and most useful works were taken. The published music treatises known to have been in Manila reflect local familiarity with regular developments in European music theory.[12] Manuscript copies from Europe and Mexico also made their way across the Pacific to the Philippines and China, although titles are not specified.[13] Treatises on European music were subsequently composed in the Philippines, including at least two in indigenous languages.[14] These works, now lost, probably drew on major published treatises as their models. But although they were written in local languages for local people, they promoted the musical

[12] A surprising absence, based on our knowledge of popular music treatises in Latin America, is Pablo Nassarre's *Escuela música* of 1723–4. This work is likely to have been present in Manila, although no tangible evidence has yet emerged.

[13] One individual who transmitted works in this way was a Franciscan missionary from Valencia named Franciso Péris de la Concepción. Arriving in Manila via Mexico in 1671, he spent seventeen years in mainland China and Macau, and another thirteen in Manila. A biography written shortly after his death reveals that while he was in Mexico, en route to Asia, he 'searched out teachers and requested from them papers [that is, copies of treatises], not only for singing, but also the art and rules for the composition of many hymns and Psalms in musical metre'. In *Sinica Franciscana*, ed. Anastasius van den Wyngaert *et al.* (Claras Aquas: Collegium s. Bonaventurae, 1929–61), vii, p. 1024. Although we do not know the identities of the treatises and compositions he copied, it seems that they would have provided theoretical foundations for his use of music in evangelisation. In Manila, this missionary composed motets for four voices, but these works are unfortunately lost. See D. R. M. Irving, *Colonial Counterpoint: Music in Early Modern Manila* (New York and Oxford: Oxford University Press, forthcoming).

[14] In 1727, a Franciscan named José de la Virgen wrote a treatise in the Bicolano dialect entitled *Arte del Canto Gregoriano*, according to Eusebio Gómez Platero, *Catálogo biográfico de los religiosos franciscanos de la provincia de San Gregorio Magno de Filipinas desde 1577 en que llegaron los primeros á Manila hasta los de nuestros días* (Manila, 1880), p. 473. In 1888, the Filipino priest José María Zamora published a *Breve explicación de los principios elementales de la música en idioma Tagalog*, as we see listed by Trinidad Hermenegildo Pardo de Tavera in *Biblioteca filipina: ó sea, Catálogo razonado de todos los impresos, tanto insulares como extranjeros, relativos á la historia, la etnografía, la lingüística, la botánica, la fauna, la flora, la geología, la hidrografía, la geografía, la legislación, etc., de las islas Filipinas, de Joló y Marianas* (Washington, DC, 1903), p. 437, no. 2839.

theory and practice that had been introduced by the Spanish colonialists and adopted by the hispanised Filipino population.[15]

Of all the treatises imported to Manila, the most significant was undoubtedly the *Musurgia universalis* by Kircher. It is for this treatise that there survives detailed information about its transmission to the Philippines. In the mid-1650s, Kircher received in Rome an unexpected letter from Manila, capital of the distant Philippine Islands. It was from one of his former students, a 24-year-old Neapolitan named Giovanni Montiel:

> I am so obliged to Your Reverence not only for the great kindness with which Your Reverence treated me in Rome, but also for the instruction that Your Reverence gives me all day in these remote parts of the world by means of your books – which are no less esteemed here than [they are] in Europe. [So] it would be [a sign of] great ingratitude not to write to Your Reverence. . . . Here in Manila I am studying the fourth year of theology, and I see for myself the many marvels that Your Reverence recounts in his books. I have been the first to bring one of these, that is, the Musurgia, to the Indies, and I do not doubt that it will be of great usefulness to the Fathers of the missions, where music is taught publicly. Father Ignatio Monti Germano, Rector of Silan[g], wants to read it, and I will send it to him shortly.[16]

Montiel's description of the arrival of Kircher's *Musurgia universalis* in the Philippines – just four years after its publication in Rome – is illuminating; it reveals the ready reception of the local Jesuit community to current works on music theory, and suggests that other compendia were greeted with similar interest. In the Philippine missions, where music was indeed 'taught publicly', the *Musurgia universalis*, containing information on music theory, history, ethnography, organology, composition and performance, would have been considered a vital tool.[17]

[15] There is no evidence for a divergent theory of Western music formulated in the colonial Philippines.

[16] 'È tanto l'obligo che hò a V[ostra] R[everenza] non solamente per la gran carità, che VR usò meco in Roma, ma anche per l'insegnanza che VR tutto il giorno mi dà in queste ultime parti de mondo co' suoi libri, non meno stimati qui, che in Europa, che sarebbe grande ingratitudine il non scrivere a VR . . . Qui in Manila stò studiando il quarto anno de Theologia, e veggo con l'occhi molte maraviglie, che VR racconta ne suoi libri; de quali uno, cioe la Musurgia, io sono stato il primo che l'hò portato nell'Indie, e non dubbito che sarà di molto utile ai Padri delle missioni, dove s'insegna la musica publicamente; Il P. Ignatio Monti Germano Rettore di Silàn desidera leggerlo, e fra poco glielo mandarò.' Giovanni Montèl [Montiel], Letter to Athanasius Kircher, 15 July 1654, Archivio della Pontificia Università Gregoriana, Rome, APUG 567, fol. 155^{r}. (Kircher's correspondence can be viewed online at <http://archimede.imss.fi.it/kircher/index.html>.)

[17] But Montiel would have been dead by the time Kircher received this letter. In late 1655, the young Jesuit had been sent on a mission to the Muslim court of Simuay, in the south of the archipelago, possibly with the aim of impressing the Sultan Kudurat with his skills in astronomy and mathematics. Following brief and disastrous negotiations, Montiel and his companion were assassinated just two days after their arrival. See J. S. Arcilla, SJ, 'Montiel, Juan de', *Diccionario histórico de la Compañía de Jesús: Biográfico-temático*, ed. Charles E. O'Neill and Joaquín

We should not forget that of all the theoretical works on music published during the early modern period, Kircher's *Musurgia universalis* enjoyed a breadth of worldwide distribution that was practically unprecedented. The extent of its diffusion was due primarily to the effectiveness of transmission channels operating within the global network of the Society of Jesus. Fifteen hundred copies were printed, and according to John Fletcher, three hundred of these 'were distributed among the Jesuit fathers come to Rome for the election of a new General, a coincidence ensuring world-wide dispersion of the text' in Africa, Asia and America. The cardinals, officials and colleges of the Jesuit provinces of Austria and Flanders all received copies, whilst the colleges of Brussels, Leuven and Antwerp each received two apiece. 'Fifty further copies were sent . . . to the Emperor and Archduke in Vienna, twenty-five to England, fifteen to Spain (twelve to Ferrara); of the remainder, 250 were distributed in Italy . . . The remaining 700 copies Kircher placed at the disposal of the publishing house.'[18] One Francisco Ximenez in Mexico sent twenty-five pounds of cocoa and some chillies to Rome in exchange for a copy, and in 1654, the Jesuit Amatus de Chezaud asked Alexandre de Rhodes to bring a copy to Syria.[19] In 1656, the Jesuit Albert d'Orville, leaving Lisbon for China (where he arrived in 1659), took some twelve copies with him.[20]

Several copies of the *Musurgia* are known to have survived to the twentieth century in China. These are listed in a catalogue of the Beitang Library, which was compiled in 1949 by the Lazarist missionary H. Verhaeren.[21] The Beitang Library, a collection of around 5,500 European books and an unknown number of Chinese volumes, was formed through incremental accumulation by the Jesuits in Beijing from the beginning of the mission there in 1601 until the end of the eighteenth century. It subsequently passed through the ownership of Orthodox mission and the Lazarist fathers, and not long after Verhaeren made his catalogue it

María Domínguez (Rome and Madrid, 2001), iii, p. 2733. There is also an account of this embassy in Horacio de la Costa, *The Jesuits in the Philippines, 1581–1768* (Cambridge, Mass., 1961), pp. 448–9.

[18] John Fletcher, 'Athanasius Kircher and the Distribution of his Books', *The Library*, 5th ser. 23/2 (1968), pp. 112–13.

[19] John Fletcher, 'Athanasius Kircher and his "Musurgia universalis" (1650)', *Musicology* [Australia], 7 (1982), pp. 76, 79.

[20] Albert d'Orville, SJ, letter to Kircher, dated Lisbon, 18 Oct. 1656, Archivio della Pontificia Università Gregoriana, Rome, APUG 658, fol. 73^{r}. See also Catherine Jami, 'Tomé Pereira (1645–1708), Clockmaker, Musician and Interpreter at the Kangxi Court: Portuguese Interests and the Transmission of Science', in Luís Saraiva and Catherine Jami (eds.), *The Jesuits, the Padroado and East Asian Science (1552–1773)* (Singapore and Hackensack, NJ, 2008), p. 191.

[21] Hubert Germain Verhaeren, *Catalogue de la Bibliothèque du Pé-t'ang / Mission catholique des lazaristes à Pékin* (Paris, 1969). This catalogue includes the titles of many mathematical treatises, some of which discuss music to a small degree (in terms of intervallic proportions and harmonic ratios). I do not extend the scope of this present study to consider mathematical treatises.

became property of the state. All its contents are now reputed to form part of the collection of the National Library in Beijing. Alongside three copies of Kircher's *Musurgia universalis*,[22] the catalogue lists a copy of the *Discorso sopra la musica antica e moderna* by Girolamo Mei (Venice, 1602),[23] as well as a set of the complete works of Gioseffo Zarlino, *De tutte l'opere del R. M. Gioseffo Zarlino da Chioggia* (Venice, 1588–9).[24] French and German theoretical texts include Jean-Jacques Rousseau's *Projet concernant de nouveaux signes pour la musique, lu par l'Auteur à l'Académie des Sciences le 22 Août 1742* (Geneva, 1742),[25] and *Tentamen novae theoriae musicae ex certissimis harmoniae principiis dilucide expositae* by Leonhard Euler (St Petersburg, 1739).[26] Instrumental music is represented by Arcangelo Corelli's *Sonate à tre, due violini e violone col basso per l'organo* (Amsterdam, n.d.),[27] and a manuscript volume of *Sonate a violino col basso del Nepridi, Opera terza*, by the Lazarist missionary Paolo Felipe Theodorico Pedrini (1671–1746).[28] Books containing music intended for purposes of religious indoctrination include the Jesuit Diego Ledesma's *Modo per insegnar la dottrina christiana* (Rome, 1573).[29] Printed vocal music is also present: the catalogue lists Giovenale Ancina's anthology of three-part *laudi* by late sixteenth-century composers, *Tempio armonico della Beatissima Vergine* (Rome, 1599), which was published as a set of three partbooks.[30] This last collection may have been taken to Beijing by an early modern Jesuit, where its music may have been performed in religious devotions.[31]

[22] *Ibid.*, cols. 564–5, nos. 1921–3.
[23] *Ibid.*, col. 980, no. 3364.
[24] *Ibid.*, col. 1026, no. 3542.
[25] *Ibid.*, col. 169, no. 624.
[26] *Ibid.*, col. 456, no. 1568.
[27] *Ibid.*, col. 950, no. 3251. Pedrini wrote from Beijing on 4 Mar. 1711 requesting his brethren in Rome to send printed works by Corelli and some works by 'Bononcino' – presumably Giovanni Bononcini *fils* (1670–1747) ('le opere di Arcangelo Corelli di buona stampa con alcune di Bononcino'). See Peter C. Allsop and Joyce Lindorff, 'Teodorico Pedrini: The Music and Letters of an 18th-Century Missionary in China', *Vincentian Heritage*, 27/2 (2008), 43–59. The works by Corelli conserved in the Beitang Library may have arrived as a result of this request, but there is no evidence of the arrival of works by Bononcini.
[28] Verhaeren, *Catalogue de la Bibliothèque du Pé-t'ang*, cols. 988–9, no. 3397. The sonatas of Pedrini were most likely composed *in situ*, and the bound volume appears to have been produced as a presentation copy for the Kangxi Emperor. See Joyce Lindorff, 'Missionaries, Keyboards and Musical Exchange in the Ming and Qing Courts', *Early Music*, 32 (2004), pp. 409–10.
[29] Verhaeren, *Catalogue de la Bibliothèque du Pé-t'ang*, col. 972, no. 3331. On the use of Ledesma's *Modo per insegnar* in evangelisation, see T. Frank Kennedy, SJ, 'Some Unusual Genres of Sacred Music in the Early Modern Period: The Catechism as a Musical Event in the Late Renaissance – Jesuits and "Our Way of Proceeding"', in Kathleen M. Comerford and Hilmar M. Pabel (eds.), *Early Modern Catholicism: Essays in Honour of John W. O'Malley, S.J.* (Toronto, Buffalo and London, 2001), pp. 268–70.
[30] Verhaeren, *Catalogue de la Bibliothèque du Pé-t'ang*, col. 924, no. 3147.
[31] Jean-Christophe Frisch and François Picard have proposed that the works in this collection may have been used as the basis for setting Chinese texts – such as those composed by Matteo

The Portuguese colony of Macau, established in 1557 on the south coast of China, boasted a number of religious institutions with well-stocked libraries in the early modern period by the fathers and their converts. An early seventeenth-century catalogue of one such library, which may have been consulted by missionaries destined for mainland China and Japan, includes the titles of a significant number of publications containing music. We see listings such as Giovanni Domenico Guidetti's *Directorium chori ad usum Sacrosanctæ Basilic[a]e Vaticanæ* (Rome, 1582), books of mass and Magnificat settings by the Portuguese composer Duarte Lobo (1565–1646), and many other choirbooks and liturgical books besides. The rather cryptic references to works by Duarte Lobo have been identified by Noël Golvers as *Missarum IV. V. VI et VIII Vocibus* (Antwerp, 1621) and *Cantica B[eatae] Mariae Virginis, vulgo Magnificat* (Antwerp, 1608). According to Golvers, other significant works that formed part of this collection were *Litaniae Sanctorum cum Hymnis, Precibus, et Orationibus* (Lisbon: P. Crasbeeck, 1619); Pedro Navarro's *Manuale Chori secundum Usum Ordinis Fratrum Minorum* (Salamanca: G. Foquel, 1586); and Pedro Ruyz Alcoholado's *Ceremonial Romano para missas cantadas y rezadas* (Alcalá, 1589). Meanwhile, the unidentifiable entries in the catalogue include listings such as 'Tres libros de coro de solfa grandes, ass[im] hum antifonario Romano' ('three large choirbooks with solfa [notation], as well as a Roman antiphonary').[32] Although the antiphonary was most likely a printed source, the 'three large choirbooks' could have existed in either manuscript or printed form. All of these items were most likely imported to Macau from Europe, via Goa, together with other objects required for the celebration of the Roman Catholic liturgy.

LOCAL PRODUCTION

Given that there was a steady stream of European travellers making their way to the East during the early modern period, it is perhaps unsurprising that a small number of European music scores and treatises on European music were produced locally in Asia at this time. As in Europe, they were handwritten or created through the use of new printing technology.[33]

Ricci soon after his arrival at the imperial court in 1601, *Xiqin quyi bazhang* (*Eight songs for a Western string instrument*) – to European music, simply by using the technique of paraphrase.

[32] Noël Golvers, 'The Library Catalogue of Diogo Valente's Book Collection in Macao (1633): A Philological and Bibliographical Analysis', *Bulletin of Portuguese-Japanese Studies*, 13 (2006), pp. 17, 38–41.

[33] We should remember, of course, that music printing was nothing new for Asia: Chinese music notation had been printed since at least the thirteenth century, long before the first woodblock printing of European plainchant in 1473 and Ottaviano Petrucci's printing of his collection *Harmonice musices odhecaton* with movable type in 1501. The technology for printing on paper

Once European colonial settlements had been established in the Americas and in Asia, printing presses were amongst the most important technologies that accompanied colonists; they were also important tools of social control and were instrumental in disseminating religious texts amongst the local population. The first European printed book in Mexico was produced in 1539, eighteen years after the fall of Tenochtitlán, and at least 220 books appeared before the end of the sixteenth century. Thirteen of these contained European music notation, and the earliest example dates from 1556.[34] The Portuguese began to operate their extra-European presses at Goa in 1557, Macau in 1588, and Nagasaki in 1590.[35] The Spanish crossed the Pacific in 1565 to commence their conquest of the Philippines, and six years later in 1571 established Manila as their colonial capital. This city developed into an important centre for trade with China, and became a crucial commercial link between Asia and the Americas. Printing in Manila began in 1593, with the production of works in Spanish, Latin, Tagalog and Chinese. By the seventeenth century there were three printing presses in the city.[36]

But of all the Iberian presses in early modern Asia, only one produced any printed examples of European music notation. This was the Jesuit press at Nagasaki, which had been brought there from Europe (via Goa and Macau) in 1590. In 1605, it produced a major publication for the use of clerics in Japan: the *Manuale ad sacramenta Ecclesiæ ministranda*.[37]

with ink was in fact discovered in China during the reign of Empress Wu in the seventh century; it developed there over succeeding centuries. See T. H. Barrett, *The Woman who Discovered Printing* (New Haven and London, 2008). We should also acknowledge that many techniques for making paper had their origins in China.

[34] Robert Murrell Stevenson, *Music in Aztec & Inca Territory* (Berkeley and Los Angeles, 1968), pp. 172–3.

[35] It is interesting to note that while printing in the Portuguese colonial empire was restricted to eastern settlements for several centuries (Nagasaki always remained under Japanese political control, but was nevertheless one of the most important commercial centres of the Portuguese trade routes), there was no printing in Brazil until 1808. See José Marques de Melo, *História social da imprensa: Fatores socioculturais que retardaram a implantação da imprensa no Brasil* (Porto Alegre, Brazil, 2003).

[36] Xylographic and typographic methods were used, and Chinese craftsmen present in the city proved to excel in this art. They easily eclipsed the skills of Spanish printers and undercut their prices. Most works published by the presses in Manila were related to religious matters, and were printed in European and Asian languages. Chinese characters and Filipino *baybayin* (the precolonial script that was derived from Sanskrit) were printed from woodblocks and typefaces that were produced specially. Chinese and Filipino printers, engravers and artists all contributed to these publications. Although song texts, poetry and dramatic works (with significant musical components) were printed in many languages, no music in staff notation emerged from Manila's presses until the mid-nineteenth century.

[37] *Manuale ad sacramenta Ecclesiæ ministranda. D. Ludouici Cerqueira Japonensis episcopi ad usum sui cleri ordinatum*, ed. Luiz de Cerqueira (Nangasaquij [Nagasaki]: In Collegio Iaponico Societatis Iesu, 1605). Waterhouse claims that there are ten recorded copies of this publication, but adds that not all of them may be extant. David B. Waterhouse, 'Southern Barbarian Music in Japan', in

Containing 435 pages, with neumatic plainchant notated on one-tenth of them, this book was the only volume produced by the Jesuit press of Nagasaki to be printed in both red and black ink.[38] In this volume, seventeen chants appear over forty-three pages; the first eleven are antiphons and responsories for the Office of the Dead, while the final six are chants for the reception of prelates.[39] Neumes in black ink are printed over red lines. Eta Harich-Schneider has noted that the manner of printing neumes in 'clusters from three to six or more notes . . . proves that the Western music teachers adapted their methods to the Japanese frame of mind and that Gregorian chant was learned melisma by melisma, just like *shōmyō* and vocal court music'.[40] It is clear that the chants printed in the *Manuale* were intended to be sung by priests using the book.[41] A number of models that could have influenced the production of the *Manuale* have been proposed; David B. Waterhouse has noted that the type of proportional notation used was first introduced in Guidetti's *Directorium chori* (which, as we saw previously, was a volume that was present in Macau in the early seventeenth century).[42] Tatsuo Minagawa has compared the *Manuale ad sacramenta* with approximately forty similar ecclesiastical manuals from Italy, Spain and Mexico, and has concluded that it was a unique publication modelled on Spanish editions, with some allusion to Italian works.[43] Its primary historical significance, however, lies in the fact that it is indisputably the earliest example of European music notation printed in Asia.

Another example comes from China more than a century later. But rather than being intended for liturgical use, this printed notation forms

Salwa El-Shawan Castelo-Branco (ed.), *Portugal and the World: The Encounter of Cultures in Music* (Lisbon, 1997), p. 366. At least two copies appear to be held in the United Kingdom: one in the British Library (C.52.c.12), the other in the Bodleian Library, Oxford (Arch. B e.22).

[38] Michael Cooper *et al.* (eds.), *The Southern Barbarians: The First Europeans in Japan* (Tokyo and Palo Alto, Calif., 1971), p. 88. For a full description of *Manuale*'s contents, see Sir Ernest Mason Satow, *The Jesuit Mission Press in Japan, 1591–1610* ([London], 1888), pp. 47–50.

[39] Eta Harich-Schneider, *A History of Japanese Music* (London, 1973), pp. 473–4.

[40] *Ibid.*, p. 473.

[41] Although all priests in Japan were originally Europeans (mostly Portuguese and Italian), some fourteen Japanese clerics were ordained between 1601 and 1614. See J. F. Moran, *The Japanese and the Jesuits: Alessandro Valignano in Sixteenth-Century Japan* (London and New York, 1993), p. 161. Throughout Japan, converts studied the musical arts of Europe in the Jesuit seminaries, where they were instructed in the performance of European plainchant and polyphony, and the making and playing of European musical instruments. However, an edict prohibiting the practice of Christianity throughout Japan was issued in 1614, and certain cultural acts associated with the work of Roman Catholic missionaries (such as the study and performance of European music) were systematically suppressed.

[42] Waterhouse, 'Southern Barbarian Music in Japan', p. 366.

[43] See Tatsuo Minagawa, 'Madrid Version of *Manuale ad Sacramenta*', *Ongakugaku: Journal of the Musicological Society of Japan*, 52/2 (2006), pp. 109–21. This article is an addendum to his earlier book *Yōgaku toraikō: Kirishitan ongaku no eikōto zasetsu* (Tokyo, 2004).

part of a treatise on European music theory: the *Lülü zhengyi xubian*. This source has a fascinating history; its production arose from the interest of the Kangxi Emperor (1654–1722, r. from 1662) in all aspects of learning, and particularly in branches of European science introduced to China by Roman Catholic missionaries. Music, related to the disciplines of astronomy and mathematics in both European and Chinese traditions of scholarship, was one of Kangxi's great loves. He summoned the Jesuit Tomás Pereira (1645–1708) from Macau to the imperial court in 1672 because of the reports he had heard about Pereira's expertise in music, and the missionary arrived the following year. The emperor was intrigued by Pereira's skill in notating Chinese musical performances at one hearing then immediately repeating them verbatim. Subsequently, Kangxi appointed Pereira as a music master, ordering the Jesuit to teach European music and to contribute to a newly created Academy of Music for the reform and documentation of Chinese music, which was headed by three of his sons.[44]

Pereira was very probably provided with the services of Chinese scribes, and either he or these scribes were responsible for producing a manuscript on European music notation, called *Lülü zuanyao* (*Essentials of pitchpipes*), which survives in five copies (four in Chinese and one in Manchu) written between 1680 and 1707.[45] Catherine Jami has suggested that these manuscripts were probably used as teaching materials in tutorials given to the emperor.[46] Pereira died in 1708 and in 1711 the Lazarist missionary Teodorico Pedrini, between whom and the Jesuits there was a considerable degree of mutual antipathy, arrived at the imperial court. Pedrini, a highly skilled musician – who had even been a member of the Arcadian Academy – soon found himself filling the role of Pereira, discussing European music theory with the emperor, composing sonatas and playing the violin, as Peter C. Allsop and Joyce Lindorff have shown.[47] In 1713, Kangxi commissioned the *Yuzhi lüli yuanyuan* (*Origin of musical harmony and calendrical astronomy, imperially composed*), a large compilation of works that included a treatise called *Lülü zhengyi* (*Exact meaning of pitchpipes*). This was printed by imperial command in 1723.[48] The third part of the *Lülü zhengyi* was called *xubian* (the notation of harmonised modes), and was completed

[44] For a well-known account of this story, see Jean-Baptiste Du Halde, SJ, *Description géographicque, historique, chronologique, politique, et physique de l'empire de la Chine et de la Tartarie Chinoise*, 4 vols. (Paris, 1735), iii, 266.

[45] These manuscripts were recently discovered in Beijing by Wang Bing. See Jami, 'Tomé Pereira (1645–1708)', 194, citing Wang Bing, 'Lülü zuanyao' zhi yanjiu', *Gugong bowuyuan yuankan*, 102 (2002), pp. 69–71.

[46] Jami, 'Tomé Pereira (1645–1708)', p. 195.

[47] See Allsop and Lindorff, 'Teodorico Pedrini'.

[48] Jami, 'Tomé Pereira (1645–1708)', p. 194.

by Pedrini on the basis of Pereira's earlier work. According to Gerlinde Gild-Bohne, the *Lülü zhengyi xubian* transliterates concepts of European music theory into Chinese and expounds the fundamental principles of staff notation. It explains the five-line staff, the use of *durum* and *mollis* in hexachords (i.e. the idea of semitones), solmisation, and European notions of rhythm.[49] It has been suggested that Zarlino's *Istitutioni harmoniche* and Kircher's *Musurgia universalis* were the sources upon which the two missionary authors drew for the composition of the *Lülü zhengyi xubian*.[50] But it is evident that Pereira and Pedrini also studied Chinese musical theory, for they attempted to convey European theoretical concepts into a different cultural and musical system by making use of terms that held currency in Chinese musical thought. European staff notation was seen as a technique of graphic representation that could make a small contribution to musical scholarship in China, not replace the traditional form of notation (which consisted of shortened characters that described pitch, timbre and general rhythmic devices). According to Allsop and Lindorff, Pedrini reported that Kangxi himself used staff notation to transcribe Chinese airs.[51]

The *Manuale ad sacramenta* and the *Lülü zhengyi xubian* are the only two examples of European staff notation known to have been printed in Asia before the explosion of music publishing in Manila in the mid-nineteenth century. Notably, they were each produced within Asian civilisations that were powerful and autonomous, and in no way subject to European rule. In both Japan and China, local musicians had sufficient interest and curiosity in foreign theoretical systems of music (and scientific principles of acoustics) for such exchanges to take place. But in the Philippines, a territory that had been invaded by Spain and incorporated into the Spanish colonial empire, European music and its associated theoretical

[49] See Gerlinde Gild-Bohne, 'The Introduction of European Musical Theory during the Early Qing Dynasty: The Achievements of Thomas Pereira and Theodorico Pedrini', in Roman Malek, SVD (ed.), *Western Learning and Christianity in China: The Contribution and Impact of Johann Adam Schall von Bell, S.J. (1592–1666)*, ii (Nettetal, 1998), pp. 1192–8.

[50] Gerlinde Gild-Bohne, *Das Lü Lü Zheng Yi Xubian: Ein Jesuitentraktat über die europäische Notation in China 1713* (Göttingen, 1991), pp. 116–18. Interestingly, it appears that another Jesuit in China, Ferdinand Verbiest, began to translate small portions of Kircher's *Musurgia* into Chinese towards the end of his life. In a letter of 1 Aug. 1685, Verbiest writes that the absence of Pereira had caused him to embark on this task. See Noël Golvers, *The* Astronomia Europaea *of Ferdinand Verbiest, S.J. (Dillingen, 1687)* (Nettetal, 1993), p. 311. The relevant text of the letter can be found in H. Josson, SJ, and L. Willaert, SJ (eds.), *Correspondance de Ferdinand Verbiest de la Compagnie de Jésus (1623–1688) directeur de l'observatoire de Pékin* (Brussels, 1938), p. 491.

[51] Joyce Z. Lindorff and Peter Allsop, 'From the Qing Court to the Vatican: Teodorico Pedrini's Half Century of Letters', unpublished paper presented at the 'Study Day: Inter-cultural contact in the early modern period', Corpus Christi College, Cambridge, 18 June 2005, part of which is now published in the article cited in n. 27.

principles were imposed on the local population. As we have seen, numerous music books were imported to the islands, scores and treatises alike, for use in ecclesiatical ritual and music pedagogy. We may ask, however, how intently local scholars read abstruse and complex treatises on music theory that had been brought from Europe. To what extent were these works understood and appreciated in early modern Manila?

Recently rediscovered evidence suggests that there existed a high level of comprehension in the religious institutions of the city, particularly those in which academic courses were taught. The Biblioteca Nacional de España houses an unusual manuscript volume from the Philippines, entitled 'Observationes diversarum artium', a hefty tome of almost one thousand pages. Internal evidence suggests that it was assembled in the late seventeenth century by a Jesuit scholar based at the Colegio de Manila. This source is remarkable for the breadth of scholarly endeavour contained in a single volume; it includes lengthy sets of notes on some fifty-five academic disciplines and applied sciences. One of the most arresting features of this volume, however, is the fact that more than 10 per cent – some 116 pages – is devoted to a redaction of the most current European music theory. From the index, it is possible to conflate the title 'Musicalia speculativa, practica, et instrumentorum', for a Latin 'treatise' – or, as the author more correctly calls it, 'compendium' – that synthesises the works of a number of prominent European theorists.[52] At first sight, it appears to be a fairly conventional digest of European music theory. But it also contains several fascinating vignettes of musical observations that had been made locally in Manila. More remarkably, it contains a small, loose leaf of paper bearing a two-bar transcription of traditional Tagalog song in European staff notation.

In the first two pages of the 'Musicalia', the author summarises the musical content of mathematical publications by the Jesuit Mario Bettini (1582–1657), *Apiaria universæ philosophiæ mathematicæ*, which were produced during the 1640s. The remaining 114 pages of the compendium are devoted to a digest of Kircher's *Musurgia universalis*, with pithy asides interpolated throughout. Since Kircher's discourse involves regular discussion of the *Harmonie universelle* (Paris, 1636–7) of Marin Mersenne (1588–1648), reference to this latter work logically appears in the paraphrases of Kircher within the 'Musicalia'. But Mersenne's *Harmonie universelle* also appears to be treated independently by the anonymous author of the manuscript, suggesting that a copy of the work may have been present in seventeenth-century Manila.

[52] 'Observaciones diversarum artium', late seventeenth century, Biblioteca Nacional de España, MS 7111, pp. 481–596.

A comparison of the verbose original text of the *Musurgia universalis* with its redaction in the 'Musicalia' suggests that this particular scholar in Manila read the work in minute detail, extracting the most salient points for inclusion. Although he evidently wanted his notebook to contain as much of it as possible, it is revealing to see how much attention he devotes to some parts of some books at the expense of others. The parts of the *Musurgia universalis* considered by the author of the 'Musicalia' to warrant the most attention are Book 5 ('Symphoniurgus') and Book 8 ('Mirificus'). Unsurprisingly, these were the books that deal in great detail with the practice of musical composition and rules for counterpoint.

All the other books of the *Musurgia* are discussed, to a lesser or greater degree, but not in order of their publication. Direct quotations of Kircher are made only occasionally, and the author of the 'Musicalia' gives clear indications of them. The structure of the paraphrase is, in fact, quite complex, with the author often jumping back and forth great distances in the source text. His new framework effectively provides an important contemporary tool for concordance that can facilitate comparison between related materials that are dispersed throughout the enormous text of the *Musurgia universalis*. Very occasionally the author offers his own opinions on the data presented in Kircher's treatise, as for example in his observation on Johann Jacob Froberger's celebrated *Phantasia supra Ut, re, mi, fa, sol, la*: 'nunc per gradus, nunc per saltus, ac varias diminutiones' ('now by step, now by leap, and various diminutions besides').[53] Does this sort of comment mean that one of Froberger's most famous works for keyboard was performed in seventeenth-century Manila? It certainly seems a possibility, given that a complete transcription of the *Phantasia* was published in the *Musurgia universalis*, and given that appropriate keyboard instruments were present in the city. But unfortunately we have no way of knowing – for lack of relevant documentary evidence – whether the author of the 'Musicalia' had the requisite skills to make such a performance an actuality.

One of the most interesting characteristics of this compendium is, arguably, the author's observations on local musical practices. He incorporates them into the text as they relate to particular points in his Kircherian digest. For instance, in his discussion of the art of string-making (*De Arte Chordotomica*), he notes that 'I saw in Manila a Chinese craftsman draw out about an ounce of silver . . . in a long strand the length of 900 Spanish *ulnæ*, or 3,600 *palmos* . . . These wires were so fine that the length of a single span [i.e. a single string on an instrument] . . . [could be] broken

[53] 'Observaciones diversarum artium', p. 585.

with great ease.'[54] He also notes that a European instrument in common use was the *bandurrilla*, and this becomes the subject of another local observation: 'On 1 August 1663, I saw in Manila, the Philippines, a renowned painter named Sebastián Bicos playing this instrument quite elegantly with the thumb and index fingers striking the strings, while the fingers of his left hand ran quickly over the frets. It imitated the harp, with fuller consonance.'[55] At the end of this comment a brief reference to an unnamed work by 'Maurolyco' might point to the presence in Manila of a copy of Francesco Maurolico's 1575 treatise *Musicae traditiones carptim collectae*.[56] Maurolico's discussion of intervallic proportions may have provided a point of comparison for the division of string lengths on the *bandurrilla*. Some instruments were common to both European and Filipino cultures at the point of contact, however, and one of these was the jew's harp, or trump, which was usually made of iron in Europe, and bamboo in Southeast Asia. This instrument is the subject of extensive discussion in the 'Musicalia', with a lengthy quotation from Kircher, commentary by the anonymous Jesuit author, and even a diagram of the European form of the instrument.[57] Since there is no depiction of a trump in Kircher's *Musurgia universalis*, this diagram cannot be copied from there. Its remarkable similarity to the styling of Mersenne, however, presents a coincidence that furnishes an increasing amount of circumstantial evidence that the *Harmonie universelle*, or the *Harmonicorum libri* (Paris, 1648), were known by the writer of the 'Musicalia'.

[54] 'Ego Manilæ vidi operarium Sinensem extendere fere unciam argenti: vulgo petaca in filum longum ulnis hispaniæ. 900 – seu palmos 3600. quorum quatuor complent dictam ulnam[;] erant tamen filla ita tenuissima, ut longitudo unius palmi facillime rumperetur ='. 'Observaciones diversarum artium', p. 583. In modern measurements, the total length of this extruded silver string would be around 720 metres, and would be drawn from 28.35 grams of silver.

[55] 'Vidi Manilæ Philippinarum .1. Augusti anno. 1663. Sebastianum Bicos celebrem pictorem hoc instrumentum eleganter satis pulsare, digitis pollice, & indice chordas ferientibus, dum manus sinistrae digiti tactus velociter percurrebant = imitabatur harpam cum plenioribus consonantijs.' 'Observaciones diversarum artium', p. 596.

[56] This text was published by Francesco Maurolico in his *Opuscula mathematica* (Venice, 1575), pp. 145–60.

[57] The local reference (following a quotation from Kircher) reads as follows: 'Nos illud hîc depingimus eius magnitudinis, sicut nunc habemus totum est calybeum. pars. AB. applicatur dentibus aliquantisper apertis, & respiratio interius attrahitur melothetice dum indice plectam .CD. a parte .D. etiam harmonice indice percutitur, et movetur ictibus, ut fieri solet in chordis sonaturis = Apud Lusitanos Indiæ orientalis dicitur: *Bìrimbào* = Manilæ inter pueros Hispanos vocatur[:] Tròmpo = ibidem inter Pampangos, & per participationem inter Tagalos appellatur: *Colíng*. & a pueris eorumdem: *Subî*[*n*]*g*. = ac manus sinistræ primis tribus digitis tenetur arcus latus. EF, cum pulsatur =' ('We have depicted [it] here in its actual size. It is all made of steel. [He goes on to describe the playing technique.] Amongst the Portuguese of the East Indies it is called Bìrimbào. In Manila amongst Spanish children it is called Trompo. Amongst the Kapampangans, and by association with the Tagalogs, it is called *Coling*. And by the children of these same: *Subi*[*n*]*g*'). 'Observaciones diversarum artium', p. 591.

Given that Kircher offers extensive discussions on various national styles of singing, it seems only inevitable that the writer of the 'Musicalia' would make some mention of the vocal music of the local Tagalog population. A notated fragment of Tagalog women's chant, on a loose leaf that was never bound securely into the volume, appears to be the earliest known example of European staff notation of music sung by indigenous Philippine musicians. The melody appears to contain a reciting tone; it could even be the skeletal notation of a *pasyon* tone (the *pasyon* being a hybrid vocal genre that relates a versified narrative of the Passion of Christ over many hours). The Latin inscription calls the melody '[a] certain music, which is often adapted by the Tagalog women of the Philippines to their native songs [in] their dialect'.[58] This melodic fragment's strong resemblance to European plainchant could suggest that it could have been heard by Tagalog women in close proximity to Spanish ecclesiastical institutions, then adopted and adapted into indigenous practices.

CONCLUSION

It appears that a significant number of music scores and treatises accompanied European travellers to Asia. However, only the hardiest notated musical commodities would have survived the journey intact – and these were most often part of bound collections. Indeed, it is predominantly bound sources of music (whether scores or treatises) that have survived to our own times, and usually only when they have formed part of institutional collections. The dissemination and use of these texts facilitated the introduction of European music theory and practice to some Asian civilisations: through dialogue with the élite members of autocratic societies in China and Japan, and through the imposition of European musical forms in the Philippines. But to what extent did Asian musicians make use of these European music books, if they did so at all? Certainly, converts to Roman Catholicism (including some men from China, Japan and the Philippines who were ordained to the priesthood) became familiar with elements of plainchant and polyphony in the context of ecclesiastical services and other religious devotions. We can see from Montiel's letter that tomes such as Kircher's *Musurgia universalis* provided pedagogical resources for forms of public music instruction offered to local musicians in the Jesuit missions of the Philippines. It was also read in great depth at the Jesuit Colegio de Manila, where it would have served as a seminal text for instruction in music theory.

[58] 'Quædam Musica, quæ a feminis Tagalensibus philippinarum proprijs cantilenis sui idiomatis Solet decantantibus adaptari ='. 'Observaciones diversarum artium', loose leaf between pp. 498 and 499.

In China the Kangxi Emperor used European staff notation, a technique he learnt from European treatises (through the mediation of Pereira and Pedrini), to transcribe the melodies of his people. On the occasion of the British diplomatic mission to China in the 1790s, Sir George Staunton noted that '[s]ome Chinese have . . . learned to note their music upon ruled paper', no doubt referring to the use of European staff notation. His observation, if reliable, suggests the practice of staff notation by a select group of court musicians.[59] Other early modern Asian musicians also composed polyphonic music in European style, according to records from Japan and the Philippines. Descriptions of the celebrations in Manila for the beatification of Francis Xavier in 1621, for instance, mention the involvement of a Japanese cleric, who was the 'best organist', and who composed masses and antiphons for this event, in which three choirs sang.[60] This appears to be the earliest known documentation of a composer from Japan writing works in a European idiom.[61] Although some European popular music was introduced to many parts of the world simply through aural transmission and imitation, the diffusion of more complex styles of European art music – and the theory that pertained to its structure and composition – was contingent on the spread of commodities such as written texts and musical instruments. The circulation of European music treatises and music scores thus provided the basis for the performance of European music in some parts of early modern Asia.

Before global networks of commerce and transportation began to accelerate at an unprecedented rate in the nineteenth and twentieth centuries, European musical commodities were disseminated throughout Asia primarily by means of missionaries, traders and diplomats who worked and travelled in the region. The music that resulted from their use was most often related to evangelistic endeavours. Local interest engendered by the exchange of ideas and material artefacts in religious or diplomatic contexts led to the study and use of some theoretical texts and music scores; it also led to the local production of a small but significant

[59] Sir George Staunton, *An Authentic Account of an Embassy from the King of Great Britain to the Emperor of China: Including Cursory Observations Made, and Information Obtained, in Travelling through that Ancient Empire, and a Small Part of Chinese Tartary*, 2 vols. (London, 1797), ii, p. 163.

[60] 'Ecclesia v.^{o} hominum multitudine redundanti magna cum solemnitate vesperas inceperunt tres chori. Clericus quidam Japonensis opinione maior musicus organa percurrere cepit: et Missas composuit, antiphonas en que que [*sic*] ad carmina honoris commoda erant modulatus est non pausa.' MS, Archivum Romanum Societatis Iesu, Philipp. 6-II, fols. 292^{v}–293^{r}.

[61] Two candidates for the identity of this unnamed Japanese musician immediately present themselves: either Luis Shiozuka (1576–1637), a Japanese Christian who had received his musical training at the Jesuit seminary of Arima, Japan, and who was living in exile in Manila; or fray Guillermo de Silva y Cárdenas, OSA (d. 1647), an organist of the Augustinian convent of Manila who had been born in Japan, but whose ethnicity is not made clear in Augustianian records. See Irving, *Colonial Counterpoint*.

amount of Roman Catholic liturgical music in staff notation, and scholarly discourse on European music theory. European music books in early modern Asia were in many ways the harbingers of an increasingly interconnected world of music that would evolve into the globalised, pluralised musical culture of today. By studying these books' dissemination and use in the region, we can begin to appreciate the intricacies of early modern intercultural engagement through music, and to recognise the complexity of the early modern origins and development of music globalisation.

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