

Harpsichord & fortepiano

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Claudio Merulo: Two biographical notes

Glen Wilson

Half a century ago there appeared an article by the German harpsichordist and Japanologist Eta Harich-Schneider (1894-1986) entitled 'Renaissance Europe through Japanese eyes: Record of a strange triumphal journey'.¹ It was an unaltered excerpt from her massive *History of Japanese Music*,² still considered a standard text in English on the subject. Its author had been trapped in Japan in 1941 by the outbreak of World War II in Europe while on a concert tour sponsored by the Nazi Propaganda and Education Ministries. She remained in Japan until 1949 and used the time to learn Japanese and conduct fieldwork on the country's traditional music. This work was supplemented later by three Guggenheim Fellowships. The proofreader of the *History* for its publisher, Oxford University Press, happened to be the first editor of *Early Music*.³

The article concerns a fascinating incident in the history of Jesuit missionary efforts in the Far East. The mission to Japan had been personally initiated by Francis Xavier in 1549. By 1580 the training of Japanese boys in Latin, church doctrine, and especially in music had progressed to such a degree that the authorities in Macau thought the time ripe to show off the results in Europe. Four teenage Japanese noblemen undertook the arduous voyage to Lisbon in 1582 (illus.1). Their progress through the major centres of Portugal, Spain and Italy was a triumph; they were warmly received by the highest dignitaries, including Philip II of Spain and two popes (Gregory XIII died a few days after meeting the 'ambassadors', and the newly elected Sixtus V blessed the boys before they departed Rome). Andrea Gabrieli composed a choral work especially for them, and they received a harpsichord from a Roman nobleman which one of them later played for the great unifier of Japan, Toyotomi Hideyoshi, at Osaka castle after their return in 1590.

Harich-Schneider's account is as full of fantasy as her autobiography.⁴ Some of the composers she states the boys met were already dead at the time, others were not where she locates them. Such is the case with Claudio Merulo, whom Harich-Schneider places in Venice more than a year after he had left his post at San Marco for easier duties in the service of the Duke of Parma. Nor was Merulo in Parma when the four young Japanese

passed through Italy; he was in Florence, and they met him there.

There is a gap in Merulo's biography between 1584 and 1587.⁵ After leaving Venice in October 1584 he received a first payment from Duke Ottavio's private funds for moving costs and service at court on 31 December 1584,⁶ but until now little evidence has been found of his movements until he took up his duties as organist of Parma Cathedral in May 1587.⁷ A letter of 11 October 1586 relating a bit of gossip heard from Merulo the previous day puts him in Venice;⁸ another letter of 20 December 1586 from Merulo himself to the new duke Alessandro is dated from Parma.⁹ He offers the duke delayed condolences on his father's death, and thanks him for having confirmed Merulo in his position as privy court keyboardist (the *cappella* itself, of which Merulo was not a member, had been dismissed in its entirety upon the death of Duke Ottavio).

The evidence for Merulo's presence in Florence comes from an account of the journey of the four Japanese boys to Europe which was not known to Harich-Schneider. For her translation in the article mentioned above she used a Latin digest in dialogue form of the original journals produced in Portuguese during the voyage. This version was prepared by the Jesuit Visitator for the Far East, Alessandro Valignano, and was printed in Macau in 1590 as the first product of the first Western press to reach the region.¹⁰ Here is the passage describing the encounter in Florence as it appeared in *A History of Japanese Music*:

In particular I want to deal with a certain musical instrument called clavicymbalum which rightly fascinated our admiring minds. The length of this instrument is six palms, the width four, and the height one palm; and the opercula for taking in the air are so disposed that with a slight shift of the same the sounds and voices of several different instruments can be produced; and this although the same keys are struck. In this way, more than one hundred sweet sounds are produced according to the degree of intensity in which the air is taken in. And if you want to hear these instruments singly, your ear will perceive the agreeable sound now of the cithera, now the lyra, sometimes the organ, sometimes the fistula, sometimes the trumpets, finally also the sambuca, the testudo, barbiton,

psaltery or any other instrument you may like. The skillful construction of the instrument is such that — whether you want to hear many sounds at the same time or this or that single sound — you can attain it with a minimum of effort. This instrument was thought out by a Venetian artist, a man of the highest genius.

To this instrument belongs a box in the form of a basin with eight receptacles here and there [on both sides]. And whenever the instrument produces that sound which is called 'the bellicose sound', by action of the air the receptacles open and delicately manufactured triremes come floating to the battle, trumpets sound, rudders are pushed forward and pulled back, catapults released and finally a marvelous view of battle and fight is displayed before one's eyes.¹¹

Avignano, in one of numerous errors of dates and places, puts the event several days later in Viterbo.¹² There exists another digest in Portuguese which is far more extensive and closer to the original journals. It was compiled in Macao immediately after the boys' return by Father Luís Fróis, the first Western historian of Japan.¹³ Sophia University in Tokyo, a Jesuit institution founded in 1913 and still flourishing, published a partial edition of the original Portuguese text in 1942, around the high water mark of Japanese fortunes in World War II.¹⁴ Folios 55v-56 of the original MS contains the following somewhat confused account (translation by the author):¹⁵



Illus. 1 A priest with the four noble Japanese boys; German engraving of 1586

Regarding a marvelous keyboard instrument [cravo] seen by these gentlemen.

On the 10th of the month of March, 1584 [error for 1585] at the beginning of the evening before supper they went to see an admirable keyboard instrument [cravo] with only one row of

keys, and it was played on, since he was there, by a man from Venice, and he played nearly thirty kinds of music, different one from another, and all very sweet [soaves]; they say this man is the most able and most accomplished of any in this art in all of Europe.

The harpsichord [clavicordio] is six or seven palmas in length, and four in breadth, and one in height; and in playing on this sole set of keys, you can have more than 120 instruments, very different one from the other, both courtly and rustic, and pastoral, and more than one can imagine; and many who saw the performance said and recounted that in front of it there is a lake, and on top of that are eight houses on either side, and in each house there is a galley, and other kinds of boats inside, and the galleys full of sailors tidily arranged, and armed soldiers, and below this lake are two small bellows for the keyboard, which they lift constantly while all the diverse instruments are playing.

The lake is in the air placed on its legs, which are raised up from below.

There is an infinite number of registers in this keyboard instrument [cravo], with which all kinds of music are directed and governed, first one plays harpsichord [cravo], then clavirorganum, and harpsichord [cravo] with flutes, and organ with its contrabass [sua contrabaixa], and sackbuts, and with four different instruments in four distinct parts, the discant sounding as an organ, and harpsichord tenor principal the sackbut contrabass principal, trombone, and bass sackbut, and organ principals, and half-principals, and shawms [charamelas], and trumpets together with other instruments, the sackbuts in perfect ensemble [mui formadas], flutes, and cornets playing polyphony [sobre canto d'orgão], harpsichord discant, and viola, zither, small rebec [rabequinha], bagpipes, and drums joined with other instruments, as well as modern songs [canto ao modo], and women's voices, in addition [one] plays the way the hen calls her young, and when the rooster calls them, or when he crows, then playing these instruments together causes a response by a bird called cuckoo, perfectly in tempo [com muito compasso], it makes its battle while playing, and four or five of the galleys in the lake fall into order, fire artillery salvos, ram each other, and all the soldiers fight, moving their hands, feet, bodies and heads, as if they were live men, which have power and liberty of movement, holding their swords in their hands, or other things; making the bagpipes, trumpets and drums play as is usual in battles, and the prisoners row the galleys, and make them go forward according to the beat and in order, and at times they all row together.

Those watching this could not help believing that this was some diabolical or angelic art. But nevertheless, all this is done and directed by the registers, which are beside and in front of the keyboard [cravo].

Nearly a thousand cruzados were spent on this instrument; and it is not taught or explained to anyone except a relative, who is his student; certainly a most curious thing, and perfectly pleasing to see, given on the one part the tranquility of this artist, on the other the speed of his hands.

Harich-Schneider is clearly in error when she states that the instrument was an organ. It was a claviorganum, with a few pedals [*sua contrabaixa*] like Merulo's private positive organ, designed and partly built by himself, which still survives at the Conservatorio di Musica 'A. Boito' in Parma.¹⁶ It was supplemented by a showpiece for a princely *Wunderkammer* which Harich-Schneider, not without some justification, disparages as 'a toy'.¹⁷ Claviorgana were extremely popular throughout Italy, and especially at the Medici court.¹⁸

The boys and their small entourage were lodged in what had been referred to as the *Palazzo Vecchio* since Grand Duke Cosimo I de' Medici's move to the *Palazzo Pitti*. This was the former *Palazzo della Signoria* which still stands on the eponymous piazza. From the description of the visiting Venetian keyboardist as 'the most able and most accomplished of any in this art in all of Europe' it can be concluded without any doubt that the chance meeting in Florence, one of many musical highlights of the Japanese-Jesuit legation to Europe, was with none other than Claudio Merulo. The relative and student who had exclusive secondary access to and understanding of the apparatus was in all probability Merulo's nephew and heir Antonio, who in 1617 passed on Merulo's house and positive organ to the *Arciconfraternita della Morte* in Parma.¹⁹ The comment at the end of Fróis' passage about how quietly Merulo sat at the instrument confirms the instructions given by his devoted student Girolamo Diruta.²⁰ Merulo's loosely-defined duties in Parma — at least until he took the post of organist at the Duomo and later of Santa Maria della Steccata as well — allowed him considerable freedom of movement.

That Florence was not the only stopping point for the elaborate contraption is revealed by a passage in Adriano Banchieri's *Conclusioni nel Suono dell'Organo*.²¹ Banchieri's *Quinta Conclusione* concerns *Organi particolari modernamente introdotti convariata strumenti*:

Quivi appresso devesi fare mentione di un'altro ingeniosissimo Organaro, Domenico da Feltre, che pochi anni sono scorreva per le Città d'Italia con un'Organo di canne in legno, nel quale suonando con leggiadria un Arpicordo, faceva sentire ogni strumento da fiato, Pletro, & Arco, & dentro un vacuo pieno d'aque fingendo gli due castelli posti nelle lagune di Venetia, faceva comparire infinite Barche, & Gondole con

*variati concerti di Lauti, Cithare, Arpicordi, Viole, Violone, & altri, trà questi sentivasi a le fiate Donna cantatrice, la Sirena, & altre galanterie, apresso sequitava la cerimonia del Bucentoro, sopra la quale sentivasi, & vedansi gli Pifferi al cessare de' quali di nuovo udivasi un concerto di Tromboni, & Cornetti, con un ripieno di diversi strumenti accordati insieme, che rapivano gl'audienti per l'allegrezza, & quello, che rendeva estrema meraviglia, à gl'intendenti, sentivasi un'Organodi dieci piedi, con il Mi, Re, Ut, & Pedali trasparenti. (In this connection mention should be made of a very ingenious organ builder, Domenico da Feltre, who some years ago passed through the cities of Italy with an organ of wooden pipes, upon which, playing gracefully upon a harpsichord, he produced the sounds of all wind, plucked and bowed instruments, and within a space filled with water representing the two fortresses on the lagoon of Venice, caused to appear an infinite number of boats and gondolas, with various concerti of lutes, chitarras, harpsichords, viols, violone and others, among which one listened now to a female singer, now to the Siren, and other galanterie, then followed the ceremony of the Bucentaur, during which one heard and saw the bagpipes, when they ceased playing one again heard a concerto of trombones and cornets, with an orchestra of various instruments all tuned together, which ravished the listeners for joy, and that which most astounded those present was to hear a ten-foot organ with *mi, re, ut*, and transparent pedals.)*

The third, enlarged edition of Banchieri's *Organo Suonarino*, printed as his Op.43, contains a condensed version of the same passage.²² In the 'Toccata' with which he introduces his *Primo Registro* we read:

*Mà che diremmo di Domenico Vanni da Feltre? qual scorse alcuni anni sono per molti Città d'Italia, & questi dentr'una laguna d'aque rapresentante li due Castelli al Lido della Serenissima repubblica di Venetia, sopra la tastatura d'un Arpicordo corista, faceva sentire ogni strumento da arco pietro & fiato con un ripieno Organico di dieci piedi nel mi re ut... (But what shall we say about Domenico Vanni da Feltre, who some years ago passed through many cities of Italy, and who, within a lagoon representing the two fortresses on the Lido of the Most Serene Republic of Venice, caused every instrument, bowed, plucked and wind, to be heard upon the keyboard of a harpsichord at *corista* pitch, with an organ *ripieno* of 10 feet including *mi re ut*.)*

The instruments described by Fróis and Banchieri are clearly the same — even though the Japanese boys were apparently spared the 'ceremony of the Bucentaur', the yearly ritual wedding of Venice and the sea conducted from the Doge's state barge.

The descriptions of the instrument require some comment. According to Bruce Haynes,²³ *corista* pitch was either approximately the same as modern standard pitch or around a half-tone lower. Ten Venetian feet²⁴ are equivalent to just under 11.5 imperial feet, which corresponds approximately to the length of principal pipe on FF.²⁵ This is indeed an astounding range for a positive organ, going below even the E, D and C which Vanni added to the then-standard keyboard range beginning on F. It can be accounted for by the *contrabaixa* mentioned in Fróis' account, which was controlled by the 'transparent pedals'. This obscure term was the cause of a cordial disagreement between the eminent organologist John Koster and the present writer. My old friend thinks it refers to 'the largest *pipes*', which in some way were contrived to be literally transparent or at least apparently so, e.g., with mirrored or trompe l'oeil surfaces'.²⁶ With all due deference, I question how even covered pipes up to six feet in length and made of a delicate material could be mounted visibly on a positive organ which was designed for touring. I would suggest that the pedals themselves were made of, or possibly veneered with, blocks of hardened Venetian glass, or alternatively, with a crystalline mineral from the Alpine region where Feltre is located; that might have been a nice touch for an instrument built more for display than actual use. A search of Banchieri's writings has revealed no use of the word *pedali* for anything other than the levers, and he tells us the pipes were made of wood.

The fortresses mentioned in all three descriptions of the instrument are the former Castel Vecchio at San Nicolò and the Castel Novo on the island of Vignole, which guarded the main entrance to the lagoon. They were developed in the 1540's into the Castel San Nicolò and Castel Sant'Andrea respectively.

While Fróis' account shows Merulo was the performer in Florence in 1585, it would appear from Banchieri that Domenico Vanni played his instrument himself on the tour of Italian cities which occurred 'some years ago'. That would be nothing unusual. Many organ builders were also organists, and vice versa; Merulo himself was deeply engaged in building and advising. It could even be that Merulo was involved in the design of Vanni's bizarre masterpiece while he was still in Venice. It was certainly intended to display the greatness of the *Serenissima*. But the possibility should be considered that Banchieri, who mentions the recently deceased Luzzasco Luzzaschi and Merulo as *dui Organisti celebri, le cui anime siano in Gloria ... amendui suggetti degni di memoria eterna*,²⁷ was unaware that Merulo performed on Vanni's instrument in Florence, and in other 'cities of Italy' as well. A longer

tour would explain Merulo's prolonged absence from Parma, just when he had taken up his new position at court.

There is an 18th-century record (based on a 17-century source)²⁸ of a grant of the title *cavaliere* to Merulo by Alessandro Farnese's son (and successor as duke from 1592) Ranuccio in 1585. This was a purely symbolic act which, besides demonstrating ducal favour, would have raised the famous performer to a rank suitable for dealings with other courts. The most likely rationale for Merulo's visit to Florence and possible tour of Italy with Vanni's claviorganum is that, since the famous court musician was otherwise largely unoccupied, it was a means of aristocratic display for Alessandro Farnese. This warrior duke was not particularly interested in music and was seldom in Parma, but he would have been aware of the high prestige value his father placed on Merulo. The tour might also have been a gesture of thanks for congratulations upon his accession to the title, with Merulo as the same kind of 'ambassador' that the four Japanese boys were.

It now seems certain that the lads' host in Pisa and Florence, Grand Duke Francesco of Tuscany, was poisoned by his brother and successor Cardinal Ferdinando in October 1587 because of his scandalous marriage to Bianca Cappello and ruinous financial administration.²⁹ It cannot be known how much the profligate Francesco spent on the visiting Merulo, since records of the grand duke's private expenses are no longer extant.³⁰ Nor was the Farnese title to the dukedom of Parma and Piacenza secure. It had only been established in 1545 by Pope Paul III for his illegitimate son Pier Luigi, who was assassinated at the instigation of Charles V and the governor of Milan by relatives of the famous female painter Sofonisba Anguissola. Pier Luigi's son Ottavio, the duke who lured Merulo to Parma, eventually regained control, but the Farnese family remained nervous.

This leads us to the second of the two biographical notes promised here — a more modest one than the first. While researching another matter I came across Marion Bonner Mitchell's collection of printed *Livrets* describing festivities in Ferrara connected with the entrance into the city of important personages.³¹ On 29 June 1598 Duke Ranuccio I (who succeeded Alessandro Farnese 1592 and granted Merulo the title of *cavaliere*) entered Ferrara in state great enough to underline his claims. He was one of many high-ranking visitors on the occasion of the double Habsburg marriage of Philip III of Spain to Margaret of Austria and Philip's half-sister Isabella to the

Austrian Archduke Albrecht, which was presided over in person by Pope Clement VIII.³² Leading the 100-plus entourage of Duke Ranuccio were five trumpeters.³³ From the second rank of courtiers onwards there came no fewer than eight members of the Anguissola family, to whose daggers the Farnese owed their dukedom. Mitchell states that 'During his stay in Ferrara, the duke entertained on a royal scale, both in his borrowed palace, and in the bucentaur, which was available for excursions and banquets. He had brought some musicians from his court, including the celebrated Claudio Merulo, to play for honored guests'.³⁴ Unfortunately, despite his promise that all information about the duke's entry which does *not* come from a facsimile of one of the *Livrets* at the back of his book³⁵ will be footnoted, Mitchell neglects to give his source for the remark about Merulo, which is not found in his facsimile. There are a handful of other possible sources listed in Mitchell's bibliography, all accessible only in Italian libraries, but since the author died in 2014 it was not possible to ask which one contained the allusion to Merulo. I doubt that within the time remaining to me on earth I will be able to track it down; but at least we now know where Claudio Merulo was in June and July of 1598.

I will close with an additional note, which is probably more fantasy than biography and is certainly not new to the literature, but which gives us a personal vignette of Merulo unlike any other, and which may be unknown to many readers.³⁶ The great theoretician Gioseffo Zarlino introduces his *Dimostrazioni Harmoniche* — a rebuttal of critics of his monumental *Istituzioni Harmoniche* — with a meeting in the year 1562 on Piazza San Marco, whether real or imagined, between himself and his *singolare amico* Francesco Viola, the *maestro di capella* of the visiting Duke of Ferrara, Alfonso d'Este. At the hour of vespers they decided to enter the ducal chapel, where they 'feasted their eyes for a good while on the beautiful depictions in mosaic, fashioned by good and excellent masters both old and modern'; then, the service over, 'behold, there appeared the *gentilissimo M.[esser] Claudio Merulo da Correggio, sauvissimo organista del detto tempio*'. The friends embrace and sit down to talk until, at the moment of parting, they decide on a common impulse to pay a visit to the dean of Venetian musicians, Adriaan Willaert, Zarlino's former teacher. The elderly Fleming is laid up at home with an attack of gout, and the trio hopes 'that the presence of so many beloved and dear friends might bring him some consolation'. When they arrive it appears that the duke himself has just been to visit with a group of courtiers, to congratulate the venerable *maestro di cappella* of San Marco on the recent appearance in print of 'a very large number of

his previous compositions which had previously been, as it were, buried'. This refers to the one of the greatest publications of the century, *Musica Nova* (1558), the treasure trove of Willaert's motets and madrigals which had been in almost sole possession of Duke Alfonso until then.³⁷ Another distinguished but anonymous visitor arrives, seeking enlightenment on some questions of ancient Greek music history and theory; a discussion ensues which evolves into the 300-page seminar which is the *Dimostrazioni* — but not before some banter among those present is recorded. The few interjections allowed 'CLAV.[dio]' are limited to admiration of the responses by 'GIOS.[effo]' — except the very first, where Merulo says, 'And I thank God for having plunked me down [abbatuto] in this place today'.

Glen Wilson, born in the USA in 1952 and a Dutch citizen since 1988, looks back on a long and distinguished career as an early keyboard specialist, writer and editor, and was recently limited to the last two occupations by mild stroke. He taught at the Würzburg Musikhochschule for many years, and recently finished a biography of Eta Harich-Schneider (1894–1986).

Notes

- 1 *Early Music*, i (1973), pp.19-25.
- 2 Eta Harich-Schneider, *A History of Japanese Music* (London, 1973).
- 3 Information found in the book's file at the OUP archive in Oxford.
- 4 Eta Harich-Schneider, *Charaktere und Katastrophen: Augenzeugebericht einer reisenden Musikerin* (Berlin, 1978).
- 5 The most important recent biography is Giuseppe Martini, *Claudio Merulo* (Parma, 2005). A collection of essays published on the occasion of 400th anniversary of Merulo's death is Marco Capra (ed), *A Messer Claudio, Musico: Learti molteplici di Claudio Merulo da Correggio (1533-1604) tra Venezia e Parma* (Venice, 2006).
- 6 *Adi ultimo scudi mille ottocento novantatré soldi 33 denari 4 monete a m[esse]r. Claudio di Correggio donategli da S[ua] A[ltezza] [...] scudi 1893 soldi 33 monete 4* (Parma, Archivio di Stato, Mastrifarnesiani, reg. ix, p.391).
- 7 *Adi sei di luglio alli infra scripti salariati per li loro salarii del primo semestre del anno presente ... a m.[eser] Claudio da Coregio organista di presente per suo salario di un mese et giorni 24 finiti ad ultimo giugno lire 19 soldi 9 denari 6* (Parma, Archivio Fabbriceria della basilica cattedrale, Libro di entrate e uscite 1589-94).
- 8 Martini (2005), p.439.
- 9 Martini (2005), p.435.
- 10 Alessandro Valignano, trans Eduardo de Sande, *De Missione Legatorum Japonem sium ad Romanum Curiam, rebusq., in Europa, ac toto itinere animaduersis Dialogus ex ephimeride Ipsorum Legatorum Collectus, et in Sermonem Latinum Versus ab Eduardo de Sande Sacerdoti Societatis Jesu* (Macao, 1590).
- 11 Harich-Schneider (1973), pp. 470-471. The author deplores the interest shown by the Japanese 'in a toy'. A more accurate translation, which includes transliterations of Avignano's learned use of Latin words for musical instruments, appears in Derek Massarell (ed), trans J. F. Moran, *Japanese travelers in sixteenth-century Europe* (London, 2012). The incident goes unmentioned in the most complete contemporary European account of the momentous journey, Guido Gualtieri's *Relationi della venuta degli ambasciatori Giaponesi a Roma sino alla partita di Lisbona* (Rome, 1586); pp.72-76 contain a brief description of the group's passage through the territory of the Grand Duke of Tuscany, who received the boys with extraordinary honours at Pisa.
- 12 Valignano (1590), p.230.
- 13 Luís Fróis, *Tratado dos Embaixadores Japões que forão de Japão a Roma no Anno de 1582* (MS, Lisbon, Biblioteca Nacional de Portugal).
- 14 J. A. Abrantes Pinto, Yoshitomo Okamoto and Henri Bernard SJ (eds), *La Première Ambassade du Japon en Europe 1582-1592 / Première Partie / Le Traité du Père Fróis* (Tokyo, 1942), pp.137-138. The book includes an excellent introduction in French by Father Bernard.
- 15 The dual use of the word *cravo* for 'keyboard instrument' and 'harpsichord' has necessitated the bracketing of each use, but the intended meaning seems clear in each case. A little more uncertainty is caused by the single use of *clavicordio*, which always means 'harpsichord' in 16th-century Iberia.
- 16 Capra (2006), pp. 89-133, essays by Federica Riva and Vinicio Gai.
- 17 It is remarkable that this erudite Japanologist was apparently unaware of the 1942 publication, since she had close contact with Sophia University's Jesuit community during and long after the war. Or she may have chosen to ignore it; it was edited by a Frenchman, and there was deep animosity in Tokyo between citizens of the Axis and the Allies at the time. There may have been personal reasons for not mentioning the book as well. It would not be the only instance in her writings of an enemy being *totgeschwiegen*.
- 18 See Giuliana Montanari, 'Florentine Claviorgans (1492-1900)', *The Galpin Society Journal*, lviii (May 2005), pp.236-259.; there are also two enumerated in the inventory of the estate of Ottavio Farnese, Duke of Parma and Piacenza, one made by Francesco Bramiero (died 29 March, 1587; see Capra (2006), p.75).
- 19 Martini (2005), pp.319-322.
- 20 Girolamo Diruta, *Il Transilvano / Dialogo sopra il vero modo di sonar organi e i stomenti da penna* (Venice, 1593), f.5; facsimile (Buren, 1983).
- 21 Adriano Banchieri, *Conclusioni nel Suono dell'Organo* (Bologna, 1609), pp. 14-5; facsimile (Bologna, 1981).
- 22 Adriano Banchieri, *Organo suonarino...* (Venice, 1622, 1627 and (posthumously) 1638), p.2. I am grateful to John Koster for pointing out this partial concordance, as well as for fruitful discussions about other aspects of this article.
- 23 Bruce Haynes, 'Pitch in northern Italy in the sixteenth and seventeenth centuries', *Recercare*, vi (1994), pp.41-60.

24 François Cardarelli, *Encyclopaedia of Scientific Units, Weights and Measures. Their SI Equivalences and Origins* (London, 2003), p.88; Meyers Konversations-Lexikon, vi, p.1018 (Leipzig and Vienna, 5/1897); Grant O'Brien, 'The Use of Simple Geometry and the Local Unit of Measurement in the Design of Italian Stringed Keyboard Instruments: An Aid to Attribution and to Organological Analysis', *The Galpin Society Journal*, lii (April 1999), pp.108-171.

25 The occasional, more precise contract specification for *due piedi e mezzo* brings it even closer.

26 email to the author of 7 August 2020. Organs with glass pipes are known to have existed; see for example Banchieri (1609), p.67.

27 Banchieri (1609), p.13. Luzzaschi had died a year before the first edition of *Conclusioni* was printed in 1609, and Merulo in 1604.

28 Martini (2005), p.215; also nn.33 and 34, p.255.

29 *British Medical Journal* (23 December 2006), pp.1299-1301; accessed 10 August 2020 on the website of the United States Center for Biotechnology Information, ncbi.nlm.nih.gov.

30 My thanks go to the *Archivio di Stato di Firenze* for this information.

31 Marion Bonner Mitchell, *1598: A Year of Pageantry in Late Renaissance Ferrara* (Binghamton, 1990).

32 The latter pair went on to preside over the Golden Age of the Austrian Netherlands. Isabella was the daughter of Elizabeth of Valois, who had been Sofonisba Anguissola's patroness at the court of Philip II. See Naoko Akutagawa and Glen Wilson, 'Di Sofonisba nobile Cremonesa, Musica, Letterata, e sopra tutto rarissima Pittrice', *National Early Music Association Newsletter*, vi/2 (Autumn 2020), pp.30-43. Ferrara had recently devolved to the Papal State after the death without legitimate male issue of the last Este duke.

33 Two of them were said to 'yield in their playing ability to no other'; Vincenzo Greco, *La Reale Entrata Del Serenissimo Duca di Parma, et Piacenza, &c. in Ferrara*, f. B2v (Ferrara, n.d.); facsimile in Mitchell (1990), n.p.

34 Mitchell (1990), p.35.

35 Greco (n.d.).

36 Giosseffo Zarlino, *Dimostrazioni Harmoniche* (Venice, 1571), pp.1-2 ff.; facsimile (Ridgewood, 1966).

37 For an overview of Willaert, see Ignace Bossuyt, *Adriaan Willaert (ca. 1490-1562) Leven en werk, Stijlen genres* (Leuven, 1985).



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