

The Claviorgan: Not for Amateurs![?]

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IT HAS BEEN ALL TOO common for organologists to consider claviorgans in all their guises as mere novelties, rather than affording them recognition of a proper place in the history of the development of keyboards. This may partly be a result of the relative rarity of these instruments, but more importantly, it is due to the fact that they appear to lack a repertoire. If no written music exists for them, what place in the musical world did they really have? It has now been established that combination instruments were to be found at some of the most musically important courts of the last six centuries (including Florence, London, Seville, and Vienna), where there is no doubt that there was opportunity for commissioning music; indeed, it is difficult to name a composer or musician between 1500 and 1800 who would not have had the opportunity to encounter one such instrument at some point in his career. The explanation for the lack of compositions for the claviorgan must, then, lie in other predominant, but unrecorded, musical practices. In this essay I will discuss the use of claviorgans by the professional musician,¹ particularly in the accompaniment of ensemble music. Exploring both archival and iconographical evidence, I seek to re-establish the importance of these combination instruments within keyboard music history.²

A short note about nomenclature

For many years the term *claviorgan* has been used as an umbrella term to refer to a

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¹ In some cases, the line between the professional court musician and the highly talented nobleman, who also played in court circles, could be very fine. In the context of this article “professional” is used to refer to those who played regularly in public (within the context of the court) performances, rather than as an “accomplishment” or largely for their own pleasure.

² Given the limitations of space my argument here will be based on a number of representative examples. For a more comprehensive study of the instrument, see Eleanor Smith, “The History and Use of the Claviorgan” (PhD diss., Edinburgh University, 2013).

vast range of combination instruments where both strings and pipes are contained within a single entity: Wilson Barry first suggested a revision of the nomenclature in 1984,³ allocating various combinations of instruments a numerical suffix and prefix which recognized the component parts. However Barry's simultaneous use of historical terms for instruments is somewhat confusing, and his system has some quirks that cause overlap between categories. My extensive research leads me to suggest an alternative nomenclature based on Barry's logic, while avoiding some of the confusion and allowing for further expansion. It also allows for a distinction between those instruments whose two component parts may be played together, and those where they are simply contained in the same case: the former are referred to as "organized-x" (building on the historical French term *organisée*), and the latter as "organ-x."

Not for Amateurs!

The earliest references to claviorgans come from various courts in the 1490s, and include examples in Spain, Strasbourg, Florence, and Pilsen. It is important to note that none of these appear to be to new instruments, which suggests that the instrument predates the earliest reference (in the *Liber viginti artium* compiled by Paulirinus of Prague between 1459 and 1463) by at least a few years. From 1500 claviorgans are also found in many Italian courts, across Habsburg-controlled Europe, and as far away as the London court—representing a veritable Cambrian explosion! The earliest reference to a performance on a combination instrument is also northern European, from a Venetian envoy visiting the court of Maximilian I in Strasbourg in 1492:

... He let sound the pipes together with the strings or he only played the pipes. Then he stopped again and only the strings sounded. With this sweet exchange he caught the senses of all, and everyone was transfixed and transported by pleasure...⁴

Although the musician is not identified, the account of the demonstration seems to confirm the practice of improvisatory performance at the keyboard.

³ Wilson Barry, "Preliminary guidelines for a classification of claviorgana," *The Organ Yearbook* 15 (1984): 98–107.

⁴ "... Er ließ die Pfeifen zugleich mit den Saiten erklingen oder er spielte nur die Pfeifen. Dann setzte er wieder aus und es erklangen nur die Saiten. Mit diesem süßen Wechsel nahm er die Sinne aller gefangen und alle waren vor Vergnügen starr und außer sich..." Walter Senn, "Maximilian und die Musik," in *Ausstellung Maximilian I., Innsbruck (Zum 450. Todesjahr)*, ed. Erich Egg (Innsbruck: Kulturabteilung des Landes Tirol, 1969), 75.

This circumstance, together with the presence of an illustrious audience would suggest that the player was a professional musician at court.

Further evidence for an instrument at the Strasbourg court comes from the magnificent *Triumphzug* (c. 1512) produced to glorify Maximilian across his empire. This well-known publication exists in two forms: a set of woodcuts for distribution throughout the Holy Roman Empire, and the watercolors on which the woodcuts were based (although a lot of these original folios are now missing). Unlike the traditional triumphant-entry parade, this was an imagined procession, and shows many of the court musicians playing their instruments on elaborate floats pulled by camels. In the original watercolor version of the illustration depicting the “*rigal vnd positif*,” there is an unusual-looking instrument which appears to be a clavichord or virginal with a set of bellows emerging from the back; the woodcut version shows instead an upright box with an additional harp-shaped element behind. The text accompanying this particular illustration makes no mention of either claviorgan or harpsichord, although it does identify the musician as Paul Hofhaimer (organist to Duke Sigmund of Tirol and to Maximilian I, and later appointed organist at Salzburg cathedral). If the musician thus can be identified, the instrument depicted—assuming it is a claviorgan—would also likely be an instrument that was actually at court, rather than an imagined inclusion.⁵

Music had been an essential part of court life, dating back to the 13th century when the well-educated poet musicians known as troubadours or trouvères entertained the nobles of France with their epic tales of courtly love. The continuing importance of both a poetic and musical education is reflected by the popularity of courtesy books such as Baldassare Castiglione’s *Il Cortegiano* (1528). One important consequence of the publication of *Il Cortegiano* and similar instructional books is the emphasis on the importance of both musical patronage and of being proficient as an amateur musician; indeed one way to further one’s social standing was to follow the tenets laid down by such texts. In this world, putting on the most spectacular musical performances, and having the latest or most elaborate musical instruments at court was a way of establishing superiority to neighboring courts (this was particularly prevalent in the city states in Italy).

A slight deviation from the norm is found in the court of Spain during the late fifteenth and early sixteenth centuries (recently unified under the so-called “Catholic Monarchs” Isabella I of Castile and Ferdinand II of Aragon) where the

⁵ See also Rolf Dammann, “Die Musik im Triumphzug Kaiser Maximilians I.,” *Archiv für Musikwissenschaft* 31, no. 4 (1974): 245–55, 257–89.

church had become even more powerful in court circles and society than elsewhere in Europe. One instrument builder in Seville appears to have gained particular popularity with both the monarchs and the bishops of Spain (again reflecting the close connection between court and Church): the Moorish instrument builder Mahoma Mofferiz can be credited with at least six claviorgans (including one for the Portuguese court) between 1484 and 1511, and he was also contracted to repair an instrument in the Royal household. However, Mofferiz was not the only claviorgan builder in Seville: when a compendium was compiled of the statutes of the city (first ordered by Isabella and Ferdinand in 1507, but published in 1527), it was part of the regulations for *violeros* (stringed-keyboard builders) that they should be able to construct a harpsichord, clavichord, and a claviorgan (as well as a number of bowed strings) before they could be released from their apprenticeship.⁶ Indeed, the Spanish are the first to give such combination instruments their own term—*claviorgano*—which is used fairly consistently from the sixteenth century on.

One of the relatively rare accounts of a performance on a claviorgan comes from the Spanish court in the later years of the sixteenth century:⁷

A claviórgano had arrived the day before from Germany, a gift from a great sovereign to His Highness. It proved to be a most rare and right royal instrument both on account of its wide variety of cunningly devised mixtures, string and flute stops; as well as for its rich workmanship and the beautiful ornamentation of its exterior. Diego de Castillo, His Majesty's chaplain and organist, was summoned to demonstrate to His Highness the potentialities of the instrument. He proceeded first to test the full organ with a series of quite solemn chords [*algunas consonancias muy graves*], then with several florid passages [*flores*], and lastly with various modulations [*passos peregrinos*] such as he who was most singular in his art knew how to introduce with excellent effect.

His Highness showed that he was greatly pleased with the instrument, and said that he would enjoy hearing Castillo accompany a singer. Luis Honguero, an eminent member of the royal chapel and chamber musician was called for; he sang with such a naturally reposeful countenance, such admirable virtuosity, such suaveness, sweetness, breath control, and evenness ... that His Highness was delighted beyond measure.⁸

⁶ Edmond Van Der Straeten, *La Musique aux Pays-Bas avant le XIXe Siècle*, with a new introduction by Edward E. Lowinsky, (New York: Dover, 1969), 7:251–52.

⁷ Although this account appears in a document published in 1603, it refers to Phillip III of Spain when still the heir apparent, and therefore must have been written before his accession in 1598.

⁸ Robert Stevenson, *Spanish Cathedral Music in the Golden Ages* (Berkeley and Los Angeles: University of California Press, 1961), 303.

Claviorgans remained popular at the Seville court, and it is perhaps not surprising that a diplomatic gift to Prince Philip (later Phillip III) should take the form of a splendid instrument (that it had arrived from Germany further indicates that such instruments had spread across Europe by this point). What is particularly striking in this description, however, is the account of the demonstration itself. As the court musicians would have been familiar with combination instruments already, it is not unreasonable to suggest that this demonstration was carried out in the manner of the typical use of the claviorgan in the Spanish court circle, that is, spectacular solo improvisation and the accompaniment of voices (this use, in turn, links Spanish practice to the Florentine court). This further emphasizes the ties between the instrument and the professional performer.

Claviorgans were by no means restricted to circles of court influence. Sometime after the mid-sixteenth century, the *Compagnia dell'Archangelo Raffaele* in Medici-ruled Florence (also sometimes referred to as the *Compagnia della Scala di Firenze*)⁹ purchased a combination instrument from Galileo Galilei. The *Compagnia* was originally founded as a confraternity for the education of boys who were not destined for priesthood, with its roots going back as far as the early 1400s. However, over the ensuing centuries the *Compagnia's* membership widened, with new members over the original age limit of 20 (some of whom are thought to have been alumni) being admitted, and its reputation for music grew. By the turn of the seventeenth century it could count Giulio Caccini, Piero Strozzi, and Jacopo Corsi as members and it had close links with the *Camerata Fiorentina* organized by Giovanni Bardi. The *Compagnia* was particularly influential in the development of the solo madrigal, and its claviorgan was presumably used as part of its regular meetings (although, if kept where the society's worship took place, it may also have been used in the Mass).

The instrument in question is recorded as being built by Domenico de Pesaro, and was bought for the Society by one of its noble members, Baccio Comi.¹⁰ Indeed Giulio Caccini, the great rival of Jacopo Peri and Emilio de' Cavalieri, and fellow member of the *Compagnia*, is recorded as having given concerts on the Pesaro claviorgan accompanying the violinist Giovanni Battista Jacomelli.¹¹ Caccini was a well-connected musician who had performed at court in *intermedii* for Medici weddings, and had contributed to the original performance of Peri's

⁹ Guido Burchi, "Vita musicale e spettacolo alla Compagnia della Scala di Firenze fra il 1560 e il 1675," *Note d'archivio per la storia musicale*, n.s., I (1983): 9–50.

¹⁰ Giuliana Montanari, "Florentine Claviorgans," *The Galpin Society Journal* 58 (May 2005): 246.

¹¹ *Ibid.*, 247.

Euridice, but he also claimed credit in the introduction to his *Le Nuove Musiche* of 1602 for the invention of the solo song with continuo.¹² Although very little is known about the construction of the Pesaro claviorgan, an interesting surviving reference from the organ builders Bolcioni and Soldini describes the instrument as “most perfect both in its form and in that it can easily be carried to any place, and for its very sweet sound, most fitting for any ensemble.”¹³

This suggests that it was a reasonably modest example, most likely consisting of a single-manual harpsichord combined with a few organ stops, or of a combination of virginal and organ pipes (this was also a popular design). We should perhaps note, however, that this particular instrument was not universally popular amongst the musicians of Florence: Marco da Gagliano, *maestro di cappella* at the Medici court (but also elected *maestro* of the *compagnia* in 1607)¹⁴ noted in 1615 that it was difficult to keep it in tune, and that it was expensive to maintain.

In general, however, the presence of claviorgans both at court (the Medici family owned several) and in cultured circles beyond demonstrates the popularity of such combination instruments, and highlights the connection between claviorgans and the influential composers working in the city. Given the importance of solo song and the new genre of opera, both at the Florentine court and in societies such as the *Compagnia*, and remembering, also, the Spanish reference relating to the instrument given to Phillip III, the association of the claviorgan with the accompaniment of vocal music seems strong.

In London, the Italophile court of Henry VIII was also home to a number of claviorgans, detailed in an inventory taken on the monarch's death in 1547.¹⁵ Perhaps the most interesting of Henry's four claviorgans is the only one which is listed by location: as opposed to those listed under the care of Philip Van Wilder (Master of the King's Music¹⁶), this one claviorgan at the palace in Greenwich is

¹² Giulio Caccini, “Ai Lettori,” preface to *Le nuove musiche* (Florence: Marescotti, 1602), n.p.

¹³ “Perfettissimo tanto per la forma di esso che è portabile in qualunque luogo con facilità, et è di suono talmente dolce, che conviene facilissimamente in tutti i concerti.” Quoted and translated in Montanari, “Florentine Claviorgans,” 246.

¹⁴ John Walter Hill, “Oratory Music in Florence I: *Recitar Cantando*, 1583–1655,” *Acta Musicologica* 51, no. 1 (January–June 1979): 119.

¹⁵ These instruments have been discussed at length in Wilson Barry, “The Keyboard Instruments of King Henry VIII,” *The Organ Yearbook* 13 (1982): 31–45; transcriptions of the relevant royal inventories may be found in Andrew Ashbee, *Records of English Court Music*, 9 vols. (Aldershot: Ashgate, 1986–96), 7:383–98.

¹⁶ The fact that he was responsible for the instruments suggests they were largely intended for the use of the court musicians under his direction.

identified as being kept in the King's Withdrawing Room. The withdrawing rooms were some of the most private rooms in the Palace of Greenwich, following on from the Privy Chamber, which itself followed on from the Presence Chamber. Surviving regulations for the household from Henry VIII, Prince Henry (son of James I) and Charles I, which appear to show little change over the centuries, give an illustration of the special status of this particular room:

No person of what estate or condition soever, shall presume to come into Our privie chamber, but onely Noblemen, & those that are sworne of the privie chamber. And Our Cupbearers, Carvers, and Sewers onelie when Wee eate there. And Our Querries onelie upon riding dayes.

No privie chamber man, or other allowed to come into the privie chamber, shall presume to come into anie of Our privie Lodgings, further then Our privie chamber: except onelie the Lords & others of Our privie Counsell: and permitting Bishops and other Lords to come into the outer withdrawing roome, next the privye chamber at Whitehall.¹⁷

Although this passage singles out the withdrawing room at Whitehall, these rules extended to the other Royal palaces; the claviorgan kept in the withdrawing room at Greenwich, then, would have been one of the King's private instruments that he would either have played himself, or one of his personal musicians would have played to him.

The description of this particular instrument is somewhat enigmatic, as it gives no real indication of either the construction or the decoration (which is at least hinted at in other entries in the inventory):

In the Kynges withdrawing chamber ... One faire Instrument being regales and Virgynalles.¹⁸

One is bound to conclude that the claviorgan had at least one regal stop (contemporary English terminology referred to any organ with such a stop as a regal) and a virginal or harpsichord. Its position in the most intimate setting of court life suggests that although many claviorgans belonged to the realm of the professional musician (as indeed did most instruments in the Henrican court), there were some that were treasured by their patrons as their personal instruments.

¹⁷ Quoted in Andrew Ashbee, "Groomed for service: musicians in the Privy Chamber at the English court, c. 1495–1558," *Early Music* 25, no. 2 (May 1997): 187.

¹⁸ Ashbee, *English Court Music*, 7:390.



Figure 1 Detail of painting attributed to Frederik van Valckenborch (formerly the lid of an organized virginal), showing the central group of the “seasons” section. By permission of the GNM, Nuremberg.

Iconographical evidence

Although claviorgans were certainly expensive, and were often richly decorated, it is unusual to find any iconographical evidence relating to them. One of the very few examples is the painting attributed to Frederik van Valckenborch that formally adorned an organized-virginal owned by the Nuremberg nobleman Lucas Friedrich Behaim (1587–1648), showing this very instrument being played within an ensemble (Figure 1). The players form the center of a larger scene depicting the activities associated with the four seasons at Behaim’s estate, starting from planting gardens in spring, wheat fields and haymaking in summer, the grape harvest and winemaking in autumn, and sleigh-riding and skating on the river in winter. There are also scenes of fishing and hunting, covering the full gamut of Nuremberg life. The musicians themselves are separated a little from the scene by two rows of vines laden with grapes, and appear as the focal point of the painting. The coats of arms found on the base of the claviorgan, on the chair on which the organist sits, and on the water vessel in a cooling tray in the foreground, are those of Lucas Behaim (left) and his wife Anna Maria



Figure 2 Detail of the painting on the virginal lid-flap, showing one of the seven vignette paintings. By permission of the GNM, Nuremberg.

Pfinzing, daughter of an influential Nuremberg family whose connections to the Holy Roman Emperor are presumably the reason for the profusion of Habsburg symbols on buildings in the painting (Nuremberg was itself a Free Imperial City of the Holy Roman Empire).¹⁹ The abundance of these arms and other imagery in the painting might also suggest the instrument was built as a wedding gift (although the couple actually married in 1613).²⁰

The group of musicians surrounding the claviorgan consists of two violinists, and two viol players. Previous scholars have suggested that the bass viol player to the left of the instrument is Lucas Behaim himself (perhaps based on the resemblance to a later etching of him produced after his death).²¹ However, above the main painting on the board that would cover the keyboard when closed, is a series of vignettes showing scenes from the life of Lucas Behaim, and in one of

¹⁹ Steven Ozment, *Flesh and Spirit: Private Life in Early Modern Germany* (New York: Penguin Books, 1999), 13.

²⁰ It is possible that the gift was late, or built at a time when the couple was more financially secure. For an account of the courtship of Lucas Behaim and Anna Maria Pfinzing see Ozment, *Flesh and Spirit*, 3–52.

²¹ This is also the supposition included in the museum catalogue. Andreas Tacke, *Die Gemälde des 17. Jahrhunderts in Germanischen Nationalmuseum: Bestandskatalog* (Mainz: Verlag Philipp von Zabern, 1995), 377.

these we find another viol player in far more splendid clothing, in the process of wooing a lady (who is reading a book), alongside a lutenist in the garb of a professional musician (Figure 2). This fifth vignette is full of symbols of love: the statue of Venus (which has at its foot the astrological sign for the goddess), the swans on the lake, considered sacred to Venus (as are the two doves in the tree above the lovers), and the many wooing couples in the background. Given the age of Lucas Behaim when the lid was painted (the date of 1619, in which year he turned 32, appears on the barn to the right of the main scene), his recent marriage, and the assumption that the other vignettes depict scenes in his life, it is not unreasonable to suggest that this is Behaim himself playing to his noble bride (they wear matching outfits in pink—the color most associated with Venus).

The importance of establishing the identity of Lucas Behaim within the painting leads back to the question of the main group of instrumentalists: their clothing in particular suggests the uniform of the professional musician (even the material appears to be identical in each case, with only the ruff/collar to distinguish), and indeed, with the exception of the bass viol player, they have been identified as such. To the front left of the musicians stands a boy holding a manuscript, who wears a uniform similar to that of the professional musicians; he is most likely a boy treble partaking in the musical scene.²²

If we assume that the musicians surrounding the claviorgan are professionals rather than family members, we can draw a comparison with a gift by William Heather of a similar ensemble of instruments, presented on occasion of the establishment of the music school at Oxford University (originally housed in part of the Bodleian library) in 1627, only eight years after the Behaim lid painting. One surviving list mentions, alongside a vast collection of musical manuscripts, books, and treatises covering the gamut of English taste at the period, "... A harpsicall with a winde instrument of two stops," and "Tenne Violls..."²³ Two surviving lists note the details of Heather's gift: one was kept with the music books²⁴ and a second was later marked "in turre scholarum C.9" (in the tower

²² Andreas Tacke has suggested that this might be Behaim's young son Georg Friederich (see Tacke, *Gemälde*, 377). However, the girl depicted opposite (whom Tacke suggests is the elder child Anna Sabina—who would have been five), is in a much finer dress; although both children share the same red hair as the viol player in the Venus vignette, it seems unlikely that the eldest son, who was only two or three years old when the painting was completed, would have been depicted reading.

²³ Margaret Crum, "Early Lists of the Oxford Music School Collection," *Music and Letters* 48, no. 1 (Jan. 1967): 26.

²⁴ MS Mus Sch C 203*(r).

of the school).²⁵ The former appears to have been more of a working list and was updated by two different hands to include the addition of the instruments and other sundry items for performance. The music listed here is almost exclusively vocal music, consisting of books of madrigals and chansons, with additions of some viol music by Ferrabosco. It also mentions the only music that appears to have been intended for the keyboard: two books of music containing compositions by the Welsh-born organist Elway Bevin (it is unclear whether these are printed or in manuscript copy), consisting largely of canons.²⁶

It is telling that Heather did not include a copy of that most famous publication for (amateur) solo keyboard of the period (*Parthenia*, 1613): since the University awarded its music degrees on the basis of many years' experience, or for particular compositions, the music library was established as much as a resource for public performance as it was meant to support students. This further supports the theory that the claviorgan was used more by professional musicians in ensemble music, than for solo performance or for amateur diversion.

Although little about the instrument itself can be gleaned from the initial entries in these archival records, a chance discovery made in the early twentieth century brought to light a set of invoices, dating from 1657, for the repair of the instrument in question (a miraculous survivor of the English civil war and subsequent Commonwealth). The invoices document an extensive rebuild, attesting to the value and importance of the claviorgan within the university music department, continuing far into the later years of the seventeenth century.²⁷ We also learn that wood was needed for "bridges" of the Heather harpsichord, which would suggest that the harpsichord (at least in its repaired state) had two: probably pointing to either a 1x8', 1x4' or 2x8', 1x4' disposition.²⁸ Hayward may

²⁵ Now kept in the University archives, SEP/C/9.

²⁶ These may have been copied from Bevin's 1631 publication *Briefe and Short Instruction in the Art of Musicke*, an instructional work introducing the theory of counterpoint and canon with a large number of examples, many of which are based on plainsong.

²⁷ It is not possible to say conclusively whether or not these bills definitely refer to the instrument given by William Heather: however, a number of factors suggest that they do. Firstly, the more detailed bill of September 24th refers to wood for bridges, jacks, and tongues, but not for other parts of the instrument: which although suggesting an extensive repair (as does the cost) does not suggest a new instrument. Secondly, the list of instruments included in the 1682 catalogue of books only mentions one organ and harpsichord: although it would have been quite possible for the Music School to have acquired more instruments after the Heather gift (and before the interregnum), they would be expected to appear separately in this catalogue.

²⁸ Transcribed in Rachael Poole, "The Oxford Music School and the collection of portraits formerly preserved there," *Musical Antiquary* 4 (Apr. 1913): 151–52; and in Eleanor Smith, "The English

however be referring to the nut of the instrument as a bridge, a terminology that is also used by James Talbot when describing harpsichords.²⁹ However, very little is known about English harpsichords of this period, so even if we assume that the instrument was of English origin, the description is too vague to say much about the actual disposition.

With its mere two stops, the organ must have been a rather modest, perhaps even old-fashioned instrument: given the small number of pipes involved, the Heather organ possibly sat underneath the wrestplank and keyboard area of the harpsichord, and the space under the soundboard was left clear. Alternatively, the pipework may have sat under the soundboard of the harpsichord, leaving the front area clear for the bellows. However the pipes were arranged, the organ would have been a very small example for the period. This would suggest that it was considered a tone color alongside the strings, not a solo instrument in its own right, and further supports the suggestion that the claviorgan itself was intended as an ensemble instrument, for use with the chest of viols.

It is perhaps surprising, given the relatively modest disposition of the Heather claviorgan, that no further chamber organ was bought for the music school for another twenty years: in 1675 Ralph Dallam³⁰ received £48 for a new upright organ of four stops (with an abatement of £10 for the materials of the old organ).³¹ Although this presumably sounded the death-knell for the claviorgan as a combination instrument, it is possible that the harpsichord portion survived after the organ had been removed (especially considering the money paid to Hayward for its repair).

Although separated by over six hundred miles, the two instruments discussed here appear to represent a shared performance tradition (that of accompanying viols and strings). Both instruments provide further evidence for the hypothesis that claviorgans were the remit of the professional musician rather than the amateur.

Claviorgan in the Sixteenth and Seventeenth Centuries," *The Galpin Society Journal* 68 (2015): 31–32.

²⁹ Charles Mould, "James Talbot's Manuscript. (Christ Church Library Music Manuscript 1187). VII. Harpsichord," *The Galpin Society Journal* 21 (1968): 41–42.

³⁰ His name is recorded as Ralph Dallans in the relevant bill, but it presumably refers to one of the two sons of Robert Dallam.

³¹ Crum, "Early Lists," 27.

An instrument of great value

In German-speaking Europe claviorgans remained popular in the various courts of the extended Habsburg family and further afield: surviving examples include an organized virginal purchased by the Prince Archbishop of Salzburg in 1591 (originally offered to Archduke Ferdinand II) now in the Dommuseum in Salzburg, and two organized harpsichords built by Valentin Zeiss with unusual rectangular harpsichord soundboards, one of which is provided with a pedal board.

Not all claviorgans were at diapason pitch (nominally 8'),³² and indeed there is considerable evidence, even from the early Spanish references, for instruments at principal or octave pitch. Such instruments were also popular in northern Europe, particularly in Nuremberg where Laurentius Hauslaib was known for his small (sometimes automatic) spinets and virginals. There are three surviving claviorgans attributed to Hauslaib: the most complete is from 1598, now in the collection of the Metropolitan Museum of Art in New York;³³ a recently-restored example from c. 1590 in the Barcelona Museu de la Música;³⁴ and a “desk-spinet” in the Glinka Museum, Moscow, which is now believed to be the sibling of the other two. These three instruments all take the form of ornate cabinets, of the type that was popular across Europe in the sixteenth century; the Barcelona instrument is the mostly luxuriously decorated, being ornamented with tortoiseshell veneer, but the other two instruments are by no means plainly decorated.

These three Hauslaib instruments, alongside another instrument attributed to Servatius Rorif of 1564–69 (now in the Kunsthistorisches Museum, Vienna), seem to represent another design of claviorgan: one that was more perhaps intended as a novelty, or as a decorative object, rather than for solo or accompaniment performance. These are usually at principal pitch (which may have been far more widely used than previously acknowledged).³⁵ None of the surviving instruments compromises on its registration for inclusion in a smaller instrument. Indeed the instrument by Rorif has one of the most varied organ specifications of any

³² Pitch level is a particularly complicated subject in the period, and 8' pitch is not necessarily a satisfactory term given that some instruments were built on a 10' pitch—organ terminology of diapason/principal is more useful in the current discussion.

³³ Inv. no. 89.4.1191.

³⁴ Inv. MDMB 821.

³⁵ A forthcoming doctoral thesis by Edward Matthew Dewhurst (University of Edinburgh) discusses the prevalence of instruments at 4' pitch.

known claviorgan,³⁶ but despite this it cannot have been used for performance in the same way as its harpsichord-based cousins. These specimens were more likely considered beautiful pieces of furniture with their hidden instruments as a surprise and novelty—much like many of the automatic instruments that were also built in Nuremberg for the entertainment of the richest nobles and princes.

The value placed on claviorgans is demonstrated by the remarkable survival of a set of inventories detailing the transport of valuable items from the castle of the late Archduke Sigisimund of Further Austria at Tyrol down the Danube to Vienna at the request of Kaiser Leopold I in 1667. This was part of a consolidation of family collections from some of the extinct outlying lines of the Habsburg family, as power was centralized to Vienna. The respected Tyrolean organ-builder Daniel Herz was tasked with preparing the instruments for transport, but then the instruments had to be taken to the town of Hall by road, loaded onto boats and sailed down the River Inn to Passau where it joined the Danube (which would take them finally to Vienna). The journey was made even more perilous as the Danube itself was not a particularly reliable navigation at the time (and indeed some of the other ships carrying Tyrolean treasures and books sank before they reached their destination). The safe arrival of the instruments in Vienna was recorded on 11 August 1667 by Ambrose Rainer, and the list includes three claviorgans, two of which appear to have been organized harpsichords.³⁷ For the Kaiser to order for the instruments to be moved on this perilous 300-mile journey, demonstrates the sheer value that was placed on them.

Later inventories from the Viennese palace provide more information about these instruments; transcribed below are the relevant entries from the 1665 inventory, the 1667 transport list, and a further inventory from Vienna dated 1706 (the most detailed provided in translation):

Instrument 1 - 1665: ... a horizontal positive [organ] with a grille painted blue, gilded nail[heads] and R[?] with two stops, in *cornett-ton* [pitch], and an instrument with the same paint that belongs on top // 1667: also a positive with a blue grille, and a double instrument above. // 1706: A square-shaped organ, which is combined with a harpsichord. It has two registers: the Koppel [gedackt stop] of Cypress, the rest of other wood. Ivory [topped] keys. Both [harpsichord and organ?] have turquoise latticework, lined with red taffeta. Notes: Ruined.

³⁶ For a full discussion of the instrument, including its registration, see Rudolf Hopfner, "Anmerkungen zum 'Ambraser Claviorganum' und seinem möglichen Erbauer," in *Das Österreichische Cembalo. 600 Jahre Cembalobau in Österreich*, ed. Alfons Huber (Tutzing: Hans Schneider, 2001), 241–45.

³⁷ Gerhard Stradner, "Saitenklaviere in österreichischen Inventaren," in *Das Österreichische Cembalo. 600 Jahre Cembalobau in Österreich*, ed. Alfons Huber (Tutzing: Hans Schneider, 2001), 335.

Instrument 2 - 1665: also a similar [instrument], in a pointy-shaped execution, with an elaborately-carved and gilded positive and on top a wing-shaped instrument // 1667: first, a large positive with a wing-shaped instrument on top. // 1706: A turquoise organ in the shape of a harpsichord, the fillings of the lattice are gilded. Combined with a harpsichord of cypress, which can be used simultaneously with the organ. Ivory covered keys, without weights. Remark: This instrument is in the Kappelle der Musikkammer.

Instrument 3 – 1665: Also another instrument (spinet) in which three instruments are placed one above the other.³⁸

The two entries that mention the decoration reveal sumptuous painted and gilded instruments that must have been impressive pieces of furniture as well as functional tools for performance. The relatively simple registration of the organs bears closer comparison to the instruments found in Italian courts than to the cabinet instruments built by Hauslaib and his contemporaries, and might indicate that they were intended for accompaniment and practise rather than being special because of their novelty value.

Social change

At the end of the seventeenth century, it is well understood that the upper middle classes gained more leisure time, and aimed to climb through the social ranks by emulating the distractions of the aristocracy. This is particularly evident in post-Restoration London, where the theatre and opera (always a more democratized entertainment since the flowering of commercial theatres in Venice) became immensely popular. Claviorgans to some extent followed the fate of the harpsichord

³⁸ Instrument 1.

1665: Aber ein liegents Positiv mit plau angestrichnen Gätter, vergoldten Negeln und R... [?] mit 2 Register, Cornetthons sambt einem darauf gehörigen Instrument gleichen Anstrichs. // 1667: Mer ein Bosidiv mite in blaben Gätter [teilweise ausgebessert] darauf ein doppeltes Instrument. // 1706: Eine quadratische Orgel, die mit einem Cembalo kombiniert ist. Sie hat zwei Register: die Koppel aus Zypresse, der Rest aus anderem Holz. Mit Elfenbeintasten. Beide haben türkisfarbene Gitter sind vegoldet. Mit einem Cembalo aus Zypresse kombiniert, das man mit der Orgel gleichzeitig gebrauchen kann. Mit Tasten aus Elfenbein, ohne Bleigewichte. Bemerkung: Diese Werk steht in der Kapelle der Musikkammer.

Instrument 2.

1665: Mer ein desgleichen in Spitz formites Werkh mit auswendig ausgeschnittner vergulter Ziradirung, einem Prinzipal und darauf stehendem Instrument. // 1667 Erstlich ein Groß Bosodiv darauf ein flig Instrument. // 1706: Eine türkisgrüne Orgel in der Form eines Cembalos, die Füllungen der Gitter sind vegoldet. Mit einem Cembalo aus Zypresse kombiniert, das man mit der Orgel gleichzeitig gebrauchen kann. Mit Tasten aus Elfenbein, ohne Bleigewichte. Bemerkung: Diese Werk steht in der Kapelle der Musikkammer.

Instrument 3.

1667: Außerdem ein weiteres Instrument (Spinett), bei dem drei Instrumente übereinander aufgesetzt sind. Transcribed from Stradner, *Saitenklaviere*, 329–42; translation by present author.



Figure 3 Harpsichord portion of the organized-harpsichord, built by John Crang in 1745 (the organ portion was lost in the early-twentieth century). By permission of the University of Edinburgh.

in filtering through the class system (whilst grander examples remained exclusive to the most wealthy), but through the nature of being combinations of pipes and strings, they also diversified and gained something of a renaissance with the advent of the organized-piano towards the latter half of the eighteenth century.

A prime example of an instrument built for a social riser is the 1745 John Crang claviorgan (now in the collection of the University of Edinburgh), which is particularly unusual in that it bears both the maker's inscription and a dedication to its first owner (Figure 3). The only known claviorgan from Crang's workshop, this instrument is also unusual in the English building tradition because both parts of the instrument are built in the same workshop (one reason might have been that Crang, while having a considerable reputation as a stringed-keyboard maker in his lifetime, had trained primarily as an organ builder).

The instrument is particularly elaborate with carved moldings creating a

paneled effect (at some point in the instrument's history these were painted gold). A typical English harpsichord of the period, it is provided with 2x8' and 1x4' registers and a lute stop; the organ (no longer surviving) had four stops, with the principal and twelfth being divided. This represents an instrument at the high end of the spectrum, comparable to that built by Kirckman and Snetzler for the Earl of Wemyss in the same year. However, rather than being built for a member of the landed gentry it is dedicated to the sister of a wealthy plantation owner (who was married to his business partner). Very little is known of the musical education or activities of that family, and this instrument would seem a rather odd gift since a harpsichord would have been far more practicable for the average household. One can only assume that such a generous present was inspired by Beeston Long having encountered another claviorgan in London or its environs, which stimulated him to commission a similar instrument for his sister (perhaps, like the above-mentioned Wismayer/Cuntz instrument, as a wedding present).

Organized Square Pianos

Not long after the first square pianos appeared in London, organ pipes were added to some of the new instruments: the earliest surviving dated example is a Zumpe and Buntebart square of 1774, now in Paris.³⁹ There is also a Johannes Pohlman square in the collection of Leipzig University with the provisional date of 1770–90.⁴⁰ In the case of the Zumpe and Buntebart instrument the piano sits on top of the organ case, and a set of stickers transfers the action of the keyboard to the organ: the bellows are to the right of the player, and are operated by one of two foot pumps provided. There appears to be a coupling mechanism, which pulls the board of stickers into position (or pushes them away) depending on whether the organ is to be used, although there does not appear to be any way to play the organ by itself.

The panels around the organ case are all removable, to allow the organ to be tuned. Other existing examples have material and latticework at either side of the case to help the organ sound to carry, but this is not true of this particular example. There are two stop levers to either side of the keywell, through the nameboard, which operate the organ registers, and aside from the pedal for the bellows there are three further pedals to the left of the player, also to assist with

³⁹ Now in the Cité de la Musique, Paris, inv. no. E991.

⁴⁰ Inv. no. 3906.

organ registration. A second Zumpe and Buntebart organized square piano also survives in Paris, now provided with glass panels to expose the mechanism and the bellows,⁴¹ and a third instrument dated 1771 is known to have been confiscated from the Comte d'Orsay during the French revolution.⁴² The fact that three such instruments are known to have been made by the Zumpe and Buntebart workshop suggests that organized-pianos were not an experimental design (for instance, in the fashion of the enharmonic piano built by Zumpe in 1766), even if they perhaps did not represent a large proportion of the business.⁴³

A number of other organized pianos have survived following designs similar to the Zumpe and Buntebart design, while also following the general trend in piano-building for larger instruments with more extended compasses. These range in date from the 1780 Samuel Bury and Co. instrument in the Germanisches Nationalmuseum, Nuremberg,⁴⁴ to the anonymous organized-square piano in the Norsk Folkemuseum, Oslo, from around 1800.⁴⁵ Both appear to be variations on an almost standardised design with the bellows to the right of the player under the soundboard of the piano, and the organ arranged under the keyboard. To allow the organ to sound, the instruments are usually provided with a grille covered by cloth (a technique also used on cabinet pianos).

English square pianos and their claviorgan cousins were also well known on the continent, particularly in Paris (although there also survives a 1791 organized square by Érard et frère in the Cité de la Musique),⁴⁶ and in Spain, where an organized piano eventually replaced an older claviorgan in Seville cathedral (this Buntebart and Sievers instrument was only recently rediscovered by the cathedral chapter).⁴⁷ By no means the only examples of such instruments found surviving

⁴¹ Musée National Techniques, Conservatoire des Arts et Métiers, inv. no. 1598. See *Clinkscale Online: A Comprehensive Database of Early Pianos, 1700–1860*, CEP-4125, accessed June 19, 2015, <http://www.earlypianos.org>.

⁴² The list of confiscated instruments compiled by Antonio Bartolomeo Bruni contains six organized pianos, of which four were English built. This list is transcribed in Albert G. Hess, "The Transition from Harpsichord to Piano," *The Galpin Society Journal* 6 (1953): 83–90.

⁴³ This instrument was once owned by English composer William Crotch, and is now in the Württembergisches Landesgewerbemuseum, Stuttgart, inv. no. 1982-86. See *Clinkscale Online*, CEP-4105, accessed June 19, 2015, <http://www.earlypianos.org>.

⁴⁴ Inv. MIR1184.

⁴⁵ Inv. no. 71.

⁴⁶ Inv. no. E.995.15.1.

⁴⁷ José E. Ayarre Jarne, "El claviorgano inglés de la Catedral de Sevilla," *Anuario musical* 27 (1972): 158, 160.

in museums across Europe and America, they seem to attest to a new flowering of the popularity of the claviorgan in the second half of the eighteenth century.

Although square pianos were purchased by all levels of society, they became generally associated with the middle classes⁴⁸ and their drawing room performances, and not, as their predecessors had been, with the professional musician. The organized square was a well-enough known instrument, presumably because of this connection with more ranks of society, to be included in the final volume of *L'Art du Facteur d'Orgues* of Dom François Bédos de Celles, O.S.B (1778).⁴⁹

The association between the organized square and the (talented) amateur player resulted in some of the only music commissioned specifically for organized stringed instruments: from the pen of Italian composer Domenico Cimarosa (better known for his comic operas than his keyboard compositions) comes a sextet for organized piano, harp, violin, viola da gamba, cello, and bassoon. Dedicated to the Grand Duchess “di tutte le Russie” (of all Russians) Catherine the Great, the unusual instrumentation with its combination of bass instruments, suggests that this was a commission. An organized-square piano by Johan Gabrahn (made in St Petersburg and dated 1783) still survives in the State Palace,⁵⁰ and it is possible that this is the instrument for which Cimarosa’s sextet was written.

Other Pianos

Of course, the addition of organ pipes was not restricted to the square piano: John Crang Hancock (nephew of the above-mentioned John Crang) applied for a patent in 1790 for a wing-shaped piano with a single rank of organ pipes. Although no example of such an instrument has survived, the advertisement announcing Crang Hancock’s retirement lists an organized piano in the workshop that was to be

⁴⁸ A prime example in literature of the period is the character of Jane Fairfax in Austen’s 1815 novel *Emma*. Fairfax, a “poor” orphan, is presented with a square piano by her secret lover. Austen herself was musically able, and her manuscript collections give an excellent idea of the life of the upper-middle class lady expected to learn an instrument as an “accomplishment.” The Austen collections are currently the subject of a major Research Cluster Project run by the University of Southampton.

⁴⁹ It should be noted that Dom Bedos also includes a technical drawing of a *vielle organisée*, an instrument that was popular for a brief period in France and with Ferdinand IV of Naples (who commissioned several pieces for the instrument from Franz Joseph Haydn and Ignaz Pleyel). For an in-depth discussion of the *vielle organisée* and the music commissioned for Ferdinand IV, see Harry Edwall, “Ferdinand IV and Haydn’s Concertos for the *Lira Organizzata*,” *The Musical Quarterly* 48, no. 2 (Apr. 1962): 190–203.

⁵⁰ Laurence Libin, “Robert Adam’s instruments for Catherine the Great,” *Early Music* 30, no. 3 (Aug. 2001): 362. See also *Clinkscale Online*, CEP-5775, <http://www.earlypianos.org>.

sold. There was also a “pianoforte with harp, harpsichord and crescendo,” which would appear to be another multiple-timbre piano (perhaps also combined with a harpsichord).⁵¹ A further interesting reference connected to Crang-Hancock is an account of a performance on one of his organized-pianos in the memoir of Charles Dibdin (prefaced to an edition of Dibdin’s songs, edited by the author of the memoir), which also describes how the instrument was used by its owner:

... a Grand Piano-Forte with Two Strings, made by Crang Hancock, which was laid upon an Organ built by the same Artist ...

Some of the pipes of the Trumpet were occasionally removed to introduce others which imitated the grunting of a Pig, which Mr. D.[ibdin] employed in his Song of the Learned Pig; and others, which imitated the Ba-a of Sheep, and the bleating of a Calf. There was also attached to it a set of BELLS, which, by drawing a Stop, were acted upon by the Keys of the Piano-forte; and all these could be played either separately or, by a coupling movement, all together ...⁵²

Trade in English-built instruments was not restricted to the European market: both the harpsichord and piano were popular instruments in the colonies of North America. A particularly interesting example has survived, now in the collection of the Colonial Williamsburg Foundation: this instrument is an organized-upright piano, with a full-sized piano in the centre and the organ case around two sides, and a set of shelves included in the right side. The instrument is badly damaged (it is currently undergoing careful restoration), with no action preserved. The pipework is scattered within the case, but enough remains to confirm that the two portions of the instrument shared a single keyboard. The instrument is also particularly interesting in that it was originally sent to Williamsburg in the late-eighteenth century, to the home of Judge St. George Tucker (a prominent figure in Virginia society) and later appears to have been kept at the Shirley Plantation on the James River in Virginia. In at least the first instance, the instrument was intended for the use of the daughter of the house, further cementing its new place with the amateur musician.⁵³

However, the final note should perhaps be given to an instrument again

⁵¹ Eleanor Smith, “John Crang: his workshop and surviving claviorgan,” in *The Maestro’s Direction: Essays in Honor of Christopher Hogwood*, ed. Thomas Donahue (Lanham, MD: Scarecrow Press, 2010), 114–15.

⁵² Part of this quotation is transcribed in Michael Cole, *The Pianoforte in the Classical Era* (Oxford: Clarendon Press, 1998), 253.

⁵³ A comprehensive study of the instrument and its provenance can be found in John Watson, “The 1799 Organized Upright Grand Piano in Williamsburg: A Preliminary Report,” *Journal of the American Musical Instrument Society* 40 (2014): 9–28.

intended for the use of a professional musician (although in this case for composition, not performance). In 1853 the firm of Érard built a grand-piano combined with a harmonium by Alexandre Père & Fils for Franz Liszt.⁵⁴ This instrument was kept by Liszt in his music room in the Altenburg Palace (which the virtuoso shared with Princess Carolyne zu Sayn-Wittgenstein). It is a particularly large example, with two keyboards and a pedal board. But the organized-piano was certainly not Liszt's main playing instrument: there were also two Viennese grands by Bösendorfer and Streicher in the music room, and a Boisselot grand piano in the Blue Room where Liszt did most of his composing. The claviorgan appears to have been intended to allow Liszt to try out orchestral combinations for his symphonic works.⁵⁵

Conclusion

Although not exclusively so, the greater body of evidence suggests that the claviorgan was associated more with professional musicians in court performance than as a private instrument for a nobleman's (or noblewomen's) personal practise and entertainment. This would go some way toward explaining (or perhaps inversely support the hypothesis for their use) why there is no specific repertoire for such instruments—as the surviving manuscript repertoire can largely be associated with amateur players and their collections. The association of claviorgans and vocal accompaniment is one that recurs not only through the examples discussed above but also throughout the history of the instrument: when such combination instruments appear in the inventories of monasteries, we can assume they were at least in part used for the accompaniment of singing (whether or not this involved a liturgical use in the offices).

Even as the claviorgan became a more popular instrument with the new wealthy merchant classes and the bourgeois audience for the organized square, the instrument still retained an association with vocal accompaniment through the theatre performances of Charles Dibdin in London. One must also consider the timbral capabilities of the combination of strings and pipes, which is ideal for accompaniment and can add variety in solo music (or intimate the colors of the orchestra in the case of Liszt's piano). The claviorgan enjoyed further popularity in America both in the standard forms, and in the form of novelty stops to be

⁵⁴ Now in the collection of the Kunshistorisches Museum, Vienna, inv. no. GdMf 18.

⁵⁵ Alan Walker, *Franz Liszt*, vol. 2, *The Weimar Years* (New York: Alan A. Knopf, 1993), 74–77; see also *Clinkscale Online*, CEP-1302, accessed June 19, 2015, <http://www.earlypianos.org>.

added to the piano or indeed conversely the organ. Indeed every electric piano today has the capability to sound like an organ or a harpsichord (although the two may not sound together): is this not the final proof of the importance of organ-harpsichords or organ-pianos for the amateur player?