

## Introduction

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The harpsichord has enjoyed a prominent role in virtually every musical style and genre for an almost unbroken period of 600 years. It is found as a solo instrument, in chamber ensembles, concertos, secular and sacred vocal works, and, more recently, in commercials, movies and television shows (*The Addams Family* being perhaps the best-known example). As a harpsichordist, I have long felt that we needed a comprehensive but user-friendly source of information about the instrument and its repertoire. I hope this book fulfills that need.

Written by the leading experts in the field, including many who come from or live in the countries of the national styles about which they are writing, it offers separate chapters on just about every aspect of the harpsichord, such as the history of the instrument and how to tune it, the role of the harpsichord in ensembles, its extensive use in the twentieth and twenty-first centuries, and almost every era or national style. Readers will find insights into the rich harpsichord traditions of England, the Netherlands, northern and southern Germany, the Austro-Hungarian Empire, France, Italy, Portugal, and Spain. A separate chapter is devoted to Domenico Scarlatti, another discusses the role of the harpsichord in the life and music of J. S. Bach and Handel, and several authors take us to places that are not often associated with extensive harpsichord music and performance, such as Russia, the Nordic and Baltic countries, and colonial Spanish and Portuguese America. Our suggestions for further reading at the end of each chapter will enable readers to explore the many subjects discussed in greater depth, and the appendices at the end of the book provides those who want to play the music with lists of composers, reliable editions, or original sources. In other words, let this book serve as a faithful companion for all who love the harpsichord and its music, and want to learn more about it, for many years to come.

## 1 History and Construction of the Harpsichord

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“The harpsichord is lord of all the instruments in the world,” wrote the Neapolitan composer Giovanni Maria Trabaci in *Il secondo libro de ricercate* (Naples, 1615). As with lords and their domains, however, there was at different times and places a wide variety of harpsichords quite dissimilar in character. Knowledge of the harpsichords available to composers can inform the player or scholar about how particular works were conceived and performed.

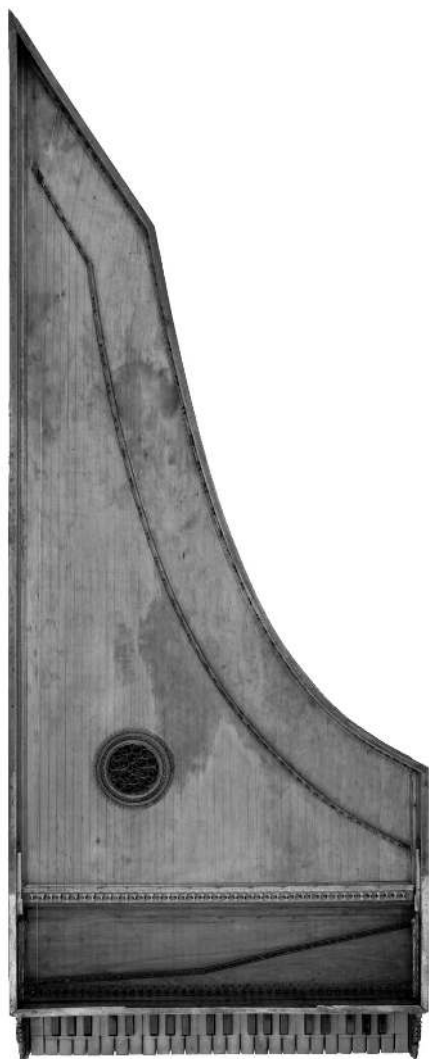
The history of harpsichords, virginals, spinets, and similar instruments, for which “quilled keyboards” will be used here as the generic term, can be divided into five eras: late medieval, Renaissance, baroque, classical, and revival. To be sure, certain characteristics of design and construction persisted among Italian harpsichords of all periods and other characteristics persisted among Flemish harpsichords. Nevertheless, shared qualities of tone and touch are evident among early instruments of both schools, as well as those from other regions, while later instruments show qualities characteristic of their own times.

Some familiarity with the design, construction, and function of harpsichords and other quilled keyboards is necessary for understanding their history.<sup>1</sup> The keyboard or manual, of which harpsichords often have two, consists of a set of levers to be pressed down in front so that the far end rises. Sound is produced by plucking the string with a plectrum traditionally cut from bird quill but occasionally of leather or metal (or plastic in most modern instruments), protruding from a small wooden tongue held by an axle in an upright slip of wood called a jack, which rests on the far end of the key lever. When the key is depressed, the jack is raised and the plectrum plucks the string. When the key is released, the falling tongue swivels to pass around the string and is returned to its resting position by a spring. A small cloth flag held in a slot at the top of the jack comes to rest on the string to damp it. A jackrail over the jacks limits their upward motion.

Harpsichords have the familiar wing shape from which the form of the modern grand piano was derived (see Figures 1.1, 1.3, 1.4, 1.7, 1.9, and 1.10). They may have only one choir (set of strings) but most often two or three, occasionally more. In terminology derived from organs, an 8-foot choir is at “normal” pitch, which historically could range from about a tone

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**Figure 1.1** Harpsichord, maker unknown, Naples, about 1525 (National Music Museum, Vermillion, SD, cat. no. NMM 14408; photograph by Tony Jones, courtesy National Music Museum). For clarity, the jackrail has been removed for this and most other pictures.

lower than modern  $a^1 = 440$  Hz to three-quarters of a tone above (i.e., with  $a^1$  sounding from about 385 to 475 Hz). A 4-foot choir sounds an octave higher than an 8-foot; a 16-foot sounds an octave lower (the designation “foot” will occasionally be omitted, and only the number used, in some references to registration). Each choir is plucked by one set of jacks, or occasionally two with different plucking points. Strings plucked closer to their midpoints sound rounder or flutier, while those plucked closer to one end sound brighter or more nasal.

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A harpsichord's major structural components are the walls (spine, tail, bentside, and cheekpiece); the bottom closing the entire underside of the instrument; the wrestplank; the nameboard; the guides to hold the jacks; the belly rail; the soundboard and often a soundhole in which a decorative rose is placed; and reinforcing inner supporting ribs under the soundboard and internal bracing of the walls.<sup>2</sup>

A “stop” or “register” consisting of a set of jacks can be turned off by moving its guide slightly to the right or left so that the plectra miss the strings as they rise. In many instruments, when a stop is off, dampers do not touch their strings, which are free to resonate sympathetically. Guides can be moved directly by hand, by stop levers on the wrestplank or protruding through the nameboard, or, exceptionally in historical instruments, by pedals or knee levers. In two-manual or “double” harpsichords, there is usually a provision to combine the two keyboards or their stops. This can be done by a shove coupler, in which the entire upper-manual keyboard (or occasionally, the lower manual) can be shoved back or pulled forward about 7 mm. In the shoved-back position, the back ends of the upper key levers are pushed up by upright “dogs” fixed to the lower-manual key levers. Another method of coupling is the dogleg jack, the front portion of which rests on the upper-manual key while a leg extends down from the jack to rest on the lower-manual key. When a dogleg stop is engaged, it can be played from both keyboards. A choir of strings may be provided with a buff (“lute” or “harp”) stop, usually consisting of pads of soft leather that can be moved to touch the strings, thus eliciting a pizzicato tone.

Many early keyboards lacked accidentals at one or both extremes of their compasses. A common sixteenth-century compass of thirty-eight notes, for example, is written as F, G, A, to  $g^2$ ,  $a^2$  to indicate that F#, G#, and  $g\sharp^2$  are not present. The common short-octave compass in which the lowest note, an apparent E, sounds C, apparent F# sounds D, and apparent G# sounds E, is indicated by C/E. Another short-octave arrangement, with apparent BB sounding GG, is indicated by GG/BB.

The overall dimensions and shape of a harpsichord are interdependent with the vibrating lengths of the strings, called the “scaling,” and with the compass of the keyboard. The number of notes, with allowance for clearance at both ends of the keyboard, determines the width of the instrument, while the length of the instrument is that of the lowest string plus some expanse of soundboard beyond its far end and space for the tuning pins and keyboard(s) at the near end. Although the angle of the tail with the spine, which can be as blunt as 90 degrees or as sharp as 30 degrees, is somewhat arbitrary, the curve of the bentside is more or less parallel with

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that of the bridge, which is itself dependent on the lengths of the strings as they change from note to note.

Usually, the strings in the treble double in length for each lower octave. This is called “Pythagorean scaling,” which in some instruments extends only down to about  $c^1$  but in others much deeper into the tenor or bass. Below a certain point, however, the scaling is “foreshortened,” so that the instrument will not become unreasonably long, that is, the strings are less than double the length of those an octave higher. According to modern convention, the length of the  $c^2$  string (the longer 8 if there are two) is regarded as the basic scale of an instrument. The scaling of a harpsichord is closely related to its intended pitch and string material. The bass strings are always brass, and some harpsichords were designed for brass throughout their entire compass, while others were designed for iron strings from the tenor to the treble. Since the tone quality of a string is purer as it is pulled tauter, harpsichord makers traditionally made their scalings, at least in the treble, as long as the strings could bear without breaking, with a safety margin of a semitone or so. Care must be taken, however, if the treble scaling is non-Pythagorean. If, for example,  $c^3$  is significantly longer than half of  $c^2$ , then one may regard twice the length of  $c^3$  as the instrument’s basic scale.

The principal alternative forms of quilled keyboards are the clavicytherium, which is a harpsichord turned upright; the virginal; and the spinet. In virginals the strings run from left to right within a rectangular or polygonal shape with the keyboard at the long front side (see Figures 1.2 and 1.6). Spinets resemble small harpsichords in which the long wall to the player’s left has, together with all the strings, been rotated clockwise about 65



Figure 1.2 Virginal, maker unknown, Venice, 1540 (The Metropolitan Museum of Art, New York; photograph public domain).

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degrees. Most common are “bentside spinets” (see Figure 1.8), to be distinguished from the very small spinets at octave pitch, which usually have a straight wall to the player’s right.

### Late-Medieval Origins

The harpsichord arose in what has jocularly been called the “Stone Age” of keyboard music.<sup>3</sup> Much of this repertoire, including the Robertsbridge Codex (ca. 1360), the Buxheim Keyboard Manuscript, and various early sixteenth-century sources, was, with the major exception of the Italian Faenza Codex (ca. 1420), written in the old German tablature, which favors a florid treble line. The earliest-known stringed keyboard instrument was the *eschequier*, first mentioned in French documents of the 1360s. Apparently invented in England but immediately transferred to France, the *eschequier* was, in all likelihood, some sort of clavichord. The harpsichord as we know it evidently originated in Vienna with Hermann Poll, who, passing through Padua in 1397, was recorded as having invented an instrument called the *clavicembalum*. No details are known, but the name indicates that it had keys (*claves*) and “bells,” that is, the sound quality of small bells (*cymbala*), as the timbre of high-pitch undamped metal strings plucked by a hard material might well be described. Fifteenth-century depictions of harpsichords show small instruments that would often, in modern terms, have sounded at 4-foot pitch or higher.<sup>4</sup>

Knowledge of the instrument quickly spread throughout Europe. An illustrated description of a *clavisimbalum* in Henry Arnault de Zwolle’s manuscript (Paris, Bibliothèque Nationale, ms. lat. 7295), produced in Dijon about 1440, provides extensive technical details. It was about 940 mm long and had a 35-note compass of B (then the usual lowest note of organ keyboards) to a<sup>2</sup>. The three-octave measure (the width of twenty-one natural keys, typically 495 mm in modern pianos) was rather wide, about 530 mm, and the playing surfaces of the keys were very short. Several alternative rather cumbersome plucking actions, all lacking dampers, are shown.<sup>5</sup> None had a conventional jack, although the one Henry Arnault preferred had a tongue with a thin, narrow plectrum, presumably quill. Throughout the fifteenth century, harpsichords would generally have had just one choir of strings, although Henry suggested, somewhat impracticably, that a second string could be added directly above the first.

The oldest existing plucked keyboard, a late fifteenth-century south German clavicytherium (housed in the Royal College of Music, London), represents the next stage of development. Its jacks, plucking a single choir, are very nearly the standard type with quill plectra, but have no slot for

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dampers. The thin-walled instrument is still kept in its original outer case. The compass was originally forty notes – E, “E#,” F, G, G#, A to g<sup>2</sup> – with the bass likely in some short-octave arrangement. The dimensions of the keyboard are similar to Henry Arnault’s, with a three-octave measure of 529 mm and short natural heads. The scaling suggests that the instrument was tuned about a fourth or fifth above 8-foot pitch. Organs were made at alternative pitch levels roughly a fourth or fifth apart until well into the sixteenth century.<sup>6</sup> It is not surprising that harpsichords, often made by organ builders and played by organists, would also have been made at either pitch, neither of which was yet privileged as normal.

Late fifteenth-century depictions show that harpsichords approaching five or six feet (180 cm) in length, about the size of a typical sixteenth-century harpsichord at 8-foot pitch, were beginning to be made. These larger sizes would have resulted both from the expansion of the compass downward and from making some instruments at lower pitches than before. The overall lowering of the tonal center towards the bass led Italians occasionally to call the instrument a *gravicembalo*.

The rectangular form of plucked keyboard, already mentioned by Henry Arnault as a possibility, acquired the name *virginale* by about 1460. Within a few decades the virginal displaced the harpsichord as the most prevalent form of quilled keyboard in northern Europe. There is no harpsichord among the systematic illustrations of musical instruments in Sebastian Virdung’s *Musica getutscht* (Basel, 1511).

## The Renaissance

By 1500 an instrument originally evoking the ringing of little bells had reached a certain level of tonal and mechanical refinement. With a deeper voice and a more efficient action, the harpsichord in the age of Josquin des Prez was poised to assume its role as a medium for music making at the highest artistic level. “Renaissance,” as used here in the context of quilled keyboards, includes the sixteenth century to approximately the first decade of the seventeenth in Italy, but extends later in other regions where older techniques of composition persisted (e.g., in England, to the mid-seventeenth century, or Spain arguably into the early eighteenth). Because of the overwhelming popularity of virginals north of the Alps, the paucity of northern harpsichords before the final decades of the sixteenth century compels us first to consider Italy, from which at least forty examples made before 1600 are known.<sup>7</sup>

Most sixteenth-century Italian plucked keyboards were made in two major centers, Naples and Venice.<sup>8</sup> Although the Venetian school is better



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known because its makers signed and dated their instruments, the Neapolitan school appears to have been established earlier. Common features of Italian plucked keyboards are: thin walls, with upper and lower edges surrounded by finely cut moldings; attachment of the walls around the edges of the bottom; jacks held by “box guides;” scrolls or carved key cheeks at the front ends of the spine and cheekpiece; and a separate outer case. All the harpsichords have just a single manual. Generally intended for brass strings throughout the compass, their Pythagorean scaling deep into the bass resulted in an elegant, slender outline.

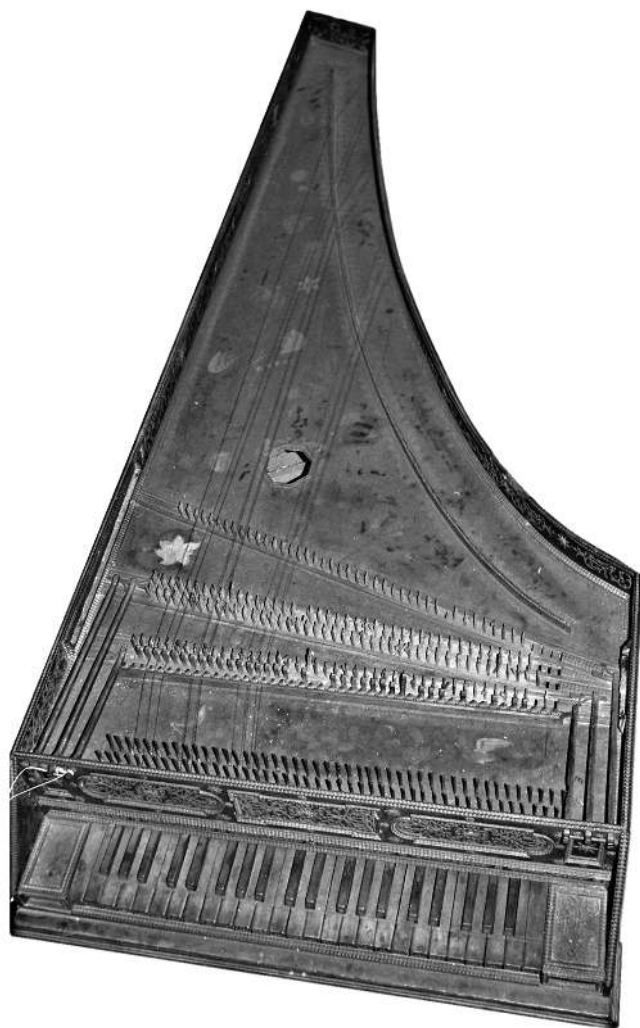
Figure 1.1 shows a typical Neapolitan harpsichord as made from about 1515 into the seventeenth century. Prominent features are the sharp tail angle (33 degrees), the maple walls and spruce soundboard (fir or occasionally maple in later Neapolitan instruments), and the jack guide perpendicular with the spine. It has a single set of strings at 8-foot pitch (two known examples also had a 4-foot stop) and a compass of C/E to  $c^3$ . The dimensions of the keyboard, with three-octave measure of 495 mm, are similar to those of later centuries. Neapolitan harpsichords were widely distributed in Italy and imitated by Roman and Florentine makers. Neapolitan virginals, made at either 8- or 4-foot pitch, have rectangular cases, and their left-hand bridges lie on a solid wrestplank.

In Venice, harpsichords were commonly made with cypress soundboards and walls, although the latter were occasionally of ebony or other exotic woods. Tail angles are blunter than in Naples, about 45 to 60 degrees, and the guides are angled away from the player towards the bass. The keyboard is usually C/E to  $f^3$  with the three-octave measure typically about 505 mm. The tails of the naturals, especially of the *D*-keys, are notably wide, facilitating playing between the sharps. Most Venetian harpsichords were made with a single 8+4, although a few instruments with a single 8 or with 2×8 are known, as well as the occasional octave instrument with 2×4. The scalings of many Venetian harpsichords are (or were originally) very long, with  $c^2$  ranging from about 340 mm to 400 mm or more. Although they might have had iron strings tuned to 8-foot pitch, they were more likely designed for brass strings tuned a fourth or fifth lower. Although 8-foot pitch (albeit varying from place to place) came to be regarded as the central standard, instruments a fourth or fifth lower were useful for accompanying ensembles, which often performed at these lower transposed pitches.

Virginals were the principal Venetian form of quilled keyboard at 8-foot pitch. Scaled for iron strings in the treble, they were typically made in irregular pentagonal or hexagonal shape with the keyboard protruding from the long front side. With plucking points farther from the left-hand



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**Figure 1.3** Harpsichord, maker unknown, southern Germany, about 1630 (Bayerisches Nationalmuseum, Munich, Inv. Nr. Mu 78; photograph by the author). In addition to the three 8-foot registers typical of early German harpsichords, there are here a second nasal with metal plectra and a register with distant plucking points.

bridge, which is on active soundboard, the tone is rounder than that of Neapolitan virginals.

The earliest surviving northern-European harpsichord, made by Hans Müller in Leipzig, 1537, with thin walls surrounded by moldings, superficially resembles Italian instruments, but its design and construction are quite different.<sup>9</sup> As in most instruments made north of the Alps, the bottom is attached to the underside of the walls, and separate thin upper and lower guides hold the jacks. Two features, the extension of the

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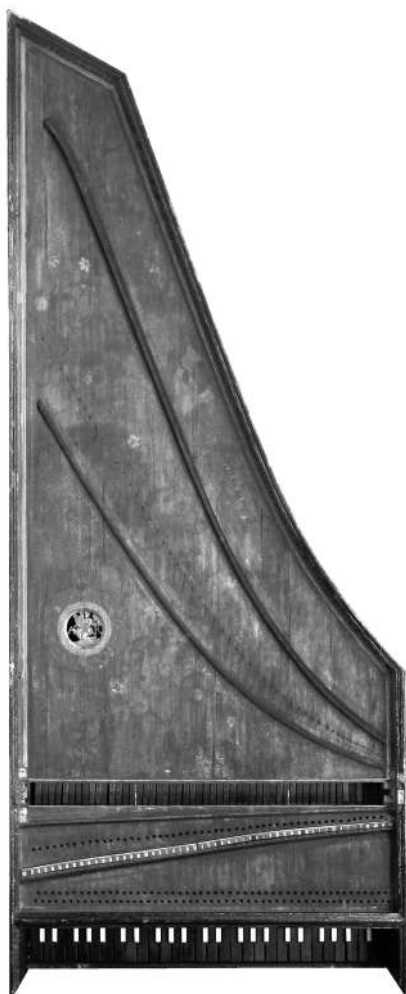


Figure 1.4 Harpsichord by Andreas Ruckers the Elder, Antwerp, 1607 (National Music Museum, Vermillion, SD, cat. no. NMM 7384; photograph by the author). A typical Ruckers single, substantially unaltered but with an eighteenth-century keyboard of larger compass than the original C/E to  $c^3$ .

soundboard towards the nameboard, such that the nut is acoustically active, and the presence of a nasal register, are frequent in early German instruments (see Figure 1.3).

Until the late seventeenth century Germanic harpsichords commonly had a single manual with compass C/E to  $c^3$  and two 8-foot choirs plucked by three registers, two with normal plucking points, the third nasal. Often there was a buff stop, sometimes also a 4-foot stop. The short scalings of many instruments,  $c^2$  about 310 mm, indicate that, with iron stringing in the treble, they were tuned to *Chorton*, a common organ pitch, about  $a^1 = 465$  Hz. Virginals were made at various pitches from 8-foot or a fourth or fifth above, to 4- or even 2-foot. The most usual compass was C/E to  $c^3$ , but