Bartolomeo Cristofori and the Invention of the Piano

Stewart Pollens

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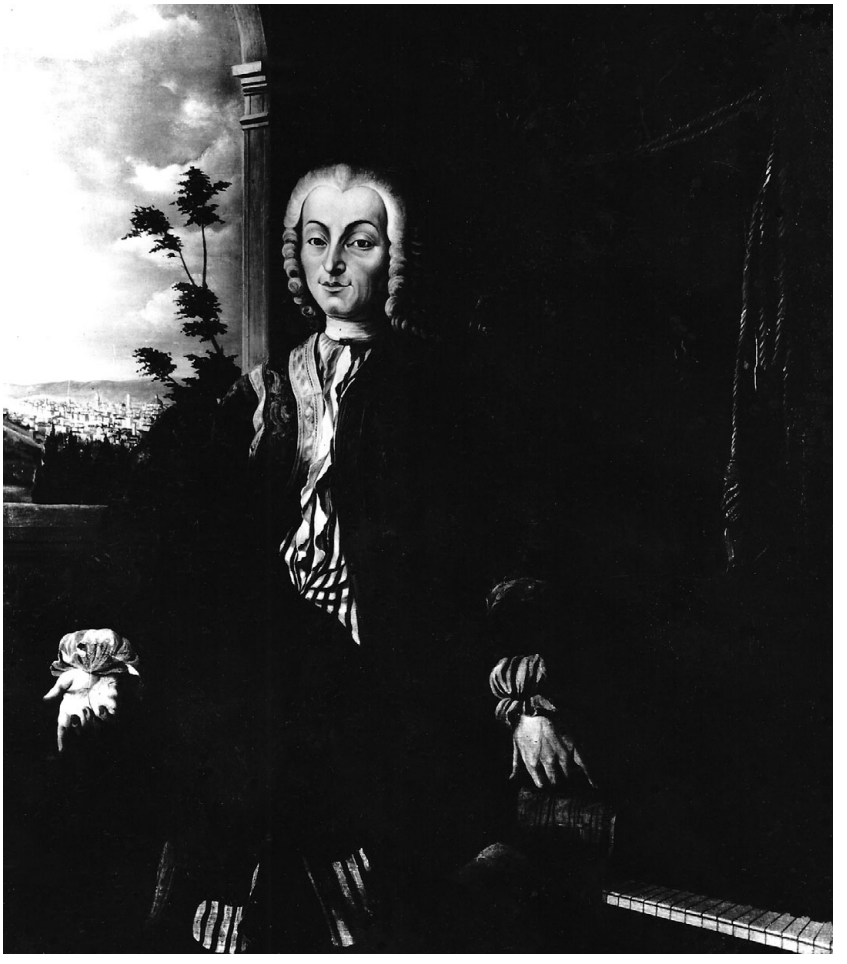
This is the first comprehensive study of the life and work of Bartolomeo Cristofori, the Paduan-born harpsichord maker and contemporary of Antonio Stradivari, who is credited with having invented the pianoforte around the year 1700 while working in the Medici court in Florence. Through thorough analysis of documents preserved in the state archive of Florence, Pollens has reconstructed, in unprecedented technical detail, Cristofori's working life between his arrival in Florence in 1688 and his death in 1732. This book will be of interest to pianists, historians of the piano, musicologists, museum curators and conservators, as well as keyboard instrument makers, restorers, and tuners.

Trained as a violin and keyboard instrument maker, Stewart Pollens served as the conservator of musical instruments at The Metropolitan Museum of Art between 1976 and 2006, and is presently the Director of Violin Advisor, LLC. He is the author of numerous scholarly articles and award-winning publications on musical instrument history including *The Early Pianoforte* (Cambridge, 1995), *Stradivari* (Cambridge, 2010), and the *Manual of Musical Instrument Conservation* (Cambridge, 2015).



Portrait of a lost oil painting of Bartolomeo Cristofori inscribed ATE/1726.

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Introduction

My interest in Bartolomeo Cristofori began in the early 1970s while serving an apprenticeship in harpsichord making with John Challis in New York. I had taken an afternoon off to visit the newly installed André Mertens Galleries of Musical Instruments at The Metropolitan Museum of Art, and as I was examining the harpsichords on exhibit, I heard the most beautiful sounds coming from what I thought was a harpsichord further down the gallery. The instrument that I heard was being played by Edwin Ripin, an associate curator in the Department of Musical Instruments, who was giving a tour to a group of students. As soon as they moved on, I read the instrument's label, and to my amazement discovered that I had not been listening to a harpsichord but to the earliest known piano made by that instrument's inventor, Bartolomeo Cristofori. I vowed then and there that the first instrument I would make upon completing my apprenticeship would be a copy of The Met's Cristofori piano. The instrument that I finally managed to complete was not what one would today call an "exact replica," for I had not been granted direct access to the instrument by the then head of The Metropolitan Museum of Art's Department of Musical Instruments, Laurence Libin, but was only permitted to measure an action model and to consult some general measurements and catalog descriptions in the department's files (by then Edwin Ripin had left the museum, and though I never had the pleasure of meeting him, I did speak with him over the telephone about the Cristofori piano). In 1976, the fortepianist Steven Lubin made an informal recording on my copy that was featured on "The Laughing Cavalier," a classical-music program on WBAI in New York.

Shortly after completing the copy, I began working as the conservator of musical instruments at The Metropolitan Museum of Art and had greater access to the original instrument. Not only did I then learn the error of my ways, but I discovered how the original instrument had been greatly altered in the course of its long history. The changes to its keyboard range, scaling and striking points, as well as to the hammer-action geometry and action parts, were later compounded by an unfortunate restoration carried out at the museum in the late 1930s, in which the original soundboard, bridge, wrestplank, case bottom, and other parts were removed,

discarded, and replaced with new ones, thereby rendering the original piano about as inauthentic as my copy! A research grant awarded by the museum provided an opportunity to examine the other two Cristofori pianos, in Rome and Leipzig. This enabled me to compare the hammer actions of the three instruments and to verify the authenticity of various idiosyncratic aspects of case structure that I had discovered in The Metropolitan Museum's piano – notably the use of a secondary internal bentside and a form of structural bracing that isolated the soundboard from the stress-bearing parts of the case. This innovative case design was as remarkable as Cristofori's invention of the escapement mechanism, as it foreshadowed many features of the modern piano, including the ubiquitous cast-iron plate that hovers over the soundboard much like Cristofori's suspended hitchpin rail. In 1984 I published these findings in the *Journal of the American Musical Instrument Society*.

In 1995, Cambridge University Press published my book *The Early Pianoforte* (reissued in paperback in 2009). In that work, Cristofori makes his entry in Chapter 3, as I believed then and still do that Cristofori was not actually the inventor of the piano, but that its history extends back as far as the harpsichord and clavichord. Though the idea of striking strings with hammers or tangents seems to have fallen by the wayside sometime after the mid-fifteenth century, it may have made a brief reappearance in the sixteenth century, as I documented in my study of a sixteenth-century pentagonal spinet by Franciscus Bonafinis that was converted to a tangent-action piano. Nevertheless, Bartolomeo Cristofori is still universally credited with the invention of the piano, and it is clear that his concept of the instrument's pivoted hammer and escapement mechanism, his recognition for the need of greater string tension than in the harpsichord or clavichord, as well as his development of a new form of case construction, led the way to the development of the modern piano. The declaration "inventor," which emblazons Cristofori's nameboard inscriptions, is entirely justified.

While Cristofori's fame derives from the fact that he is widely recognized as the inventor of the pianoforte, his ingenuity is manifest in virtually every other type of instrument he constructed, including clavichords, spinets, and harpsichords. For example, the new form of case structure that he developed for use in his pianos was also employed in his large harpsichords. He was the first keyboard instrument maker to make use of lamination and kerf-bending to decrease stress on delicate sound-producing parts of the instrument. He designed new shapes of cases, such as for his "oval" spinets, a large spinet, termed the *spinettone*, that was specially designed for use in the opera orchestra, and an upright harpsichord whose soundboard was

unencumbered by a conventional case. He also developed clever types of stop actions and experimented with unusual string layouts, the double-pinning of bridges and hitchpin rails, and the use of divided bridges in both the bass and treble.

Cristofori worked in the Medici court in Florence between 1688 until his death in 1732. His position there was unique: he worked under the protection of Grand Prince Ferdinando de' Medici and received a monthly stipend, which had never before been granted to an instrument maker. His duties included the general maintenance of the court's growing keyboard collection (which included tuning, adjusting, and major restorations), as well as the construction of new instruments. As someone trained as a harpsichord and organ builder who spent over thirty years working as the conservator of musical instruments at The Metropolitan Museum of Art (an institution that comes about as close to a "royal court" as we have in the United States), I often flattered myself in comparing my position to that of Cristofori, for my duties were similar to his: restoring, tuning, and otherwise maintaining a large collection of fine musical instruments. When I discovered that this distinguished historical figure had often been involved in the ignominious task of carting instruments to and from his workshop and various concert venues in Florence and beyond, I took heart, as I too spent much of my time moving keyboard instruments around the vast museum for concerts, special exhibitions, social events, gallery renovations, and storeroom relocations – so frequently did these moves take place that I often joked that the freight elevator was my office.

In 2010, Cambridge University Press published my book entitled *Stradivari*. Though Antonio Stradivari may be the most famous musical instrument maker of all time, I have always believed that Bartolomeo Cristofori should share the podium with him and that a stand-alone biography was well deserved and long overdue, as there had never been a comprehensive study that integrated biographical information, his work as a harpsichord maker, his invention of the pianoforte, and his official duties as Medici court restorer, tuner and custodian of its collection of musical instruments, with the above placed in the context of musical life in Florence during his years of service there. In writing *Bartolomeo Cristofori and the Invention of the Piano*, it has been my goal to recount Cristofori's life and to describe all of the instruments he is recorded as having made, as well as the few that survive, in a format that is not only readable but also includes sufficient detail to satisfy makers, restorers, and serious historians of early keyboard instruments. In addition to my own archival research and examination and analysis of all his extant instruments, I have attempted to draw together

and integrate information derived from doctoral dissertations, obscure *Festschrifts*, conference preprints and proceedings, century-old museum catalogs, and other long-out-of-print publications (often in foreign languages) that deal with Cristofori's life and work, invariably in a piecemeal fashion. I was specially guided by the dissertations and writings of Stefania Gitto, Warren Kirkendale, James Samuel Leve, Giuliana Montanari, Michele Nisoli, Michael Kent O'Brien, Paola Romagnoli, Kirsten Schwarz, Robert Lamar Weaver, and Denzil Wraight, nineteenth-century studies of Cristofori and piano history by Ferdinando Casaglia, Cesare Ponsicchi, and Leto Puliti, and of course Scipione Maffei's 1711 account of the newly invented piano – the first published interview of a musical instrument maker, which stunningly reveals how Cristofori's radical concept of keyboard instrument structure was derived from his understanding of acoustics. More broadly, Maffei's article reveals that musical instrument makers of his time were not simply skilled woodworkers, but were sophisticated individuals with an understanding of performance practice, temperament theory, materials science, and engineering, and who could bring this knowledge to bear in designing their instruments.

The following institutions have kindly made their collections, archives, and services accessible to me over the years: Grassi Museum für Musikinstrumente der Universität Leipzig (formerly the Musikinstrumenten-Museum der Karl-Marx-Universität); Germanisches Nationalmuseum, Nuremberg; Stiftung Preußische Schlösser und Gärten Berlin-Brandenburg (formerly the Staatliche Verwaltung der Schlösser und Gärten, Potsdam); Freies Deutsches Hochstift, Frankfurter Goethe-Haus; Muziekinstrumentenmuseum, Brussels; Museu da Música, Lisbon; Museo Provincial de Bellas Artes, Seville; Museo Nazionale degli Strumenti Musicale, Rome; Museo degli Strumenti Musicali del Conservatorio "Luigi Cherubini" di Firenze; National Music Museum (formerly the Shrine to Music), Vermillion, South Dakota; Accademia Bartolomeo Cristofori, Florence; Archivio di Stato, Florence; Galleria dell'Accademia, Florence; Opificio delle Pietre Diure, Florence; Biblioteca del Conservatorio di Musica "Luigi Cherubini" di Firenze; Archivio Diocesano, Cremona; Biblioteca Capitolare, Verona; Bibliothèque nationale de France; Library of the University of California, Berkeley; The Metropolitan Museum of Art, New York; New York Public Library; and Beinecke Library, Yale University. I would also like to acknowledge Harold Lester and the late Bartolomé March for allowing me to examine their rare Portuguese and Spanish pianofortes,[1] as well as the late Alan Curtis who provided photographs

[1] Lester's anonymous Portuguese piano has since been sold to a private collector in Switzerland.

of his Jean-Henri Silbermann piano. Thanks must also go to Donatella DeGiampietro, Michael Latcham, Emanuele Marconi, and Luisa Morales for their generous assistance over the years.

Having gradually come to the realization that a book can never serve as a "virtual" instrument, I have refrained from overburdening readers with minutiae, such as tabulating every string length, plucking point, and striking point – data that the original makers themselves probably never possessed (string lengths, for example, were not plotted string by string, but rather by setting down a few wayposts for the Cs and Fs and allowing the natural fairing of the bridge to take care of those in between). Back in the 1970s, when I made my "copy" of the 1720 Cristofori piano, I believe I was able to capture the spirit of the original using fewer measurements than have been tabulated here.

Readers familiar with my previous work on the topic, *The Early Pianoforte*, will find that some of the material in Chapters 4 through 7 of that book reappears in Chapters 3 and 5 of *Bartolomeo Cristofori*, though a considerable amount of new information has been added in the new work (notably recently discovered biographical material on the Florentine makers del Mela and Ferrini, and possible connections between Cristofori and instrument makers Eugen Casparini, Giovanni Solfanelli and Sébastien Erard). Included in Chapter 3 of *Bartolomeo Cristofori* are technical studies of all his known instruments (including the pianos, harpsichords, spinets, and a clavichord) – the first time all of his instruments have been described and illustrated in a single publication. Some material from *The Early Pianoforte* does not reappear in Chapter 5, such as the discussion of the supposed earliest square piano by Johann Socher, which I dismissed as fraudulently mislabeled in my earlier book, and the full texts and translations of published material relating to the inventive work of Jean Marius and Christoph Gottlieb Schröter, both of whom mistakenly claimed to have developed the hammer action before Cristofori. Chapter 5 of *Bartolomeo Cristofori* thus focuses attention on Cristofori's immediate influence on ultramontane makers, rather than more broadly exploring the early history of the piano. Cambridge University Press has fortunately kept *The Early Pianoforte* in print so that the material, data, and illustrations that I have refrained from including in *Bartolomeo Cristofori* are concurrently available. Throughout *Bartolomeo Cristofori*, the reader will discover new observations and conclusions that supplant those in the earlier work.

I must add that I am indebted to John Challis, the pioneering American harpsichord maker (and innovator in his own right) for giving me my start in the profession of instrument making. His working models of

early piano actions crafted after the drawings in Rosamund Harding's *The Pianoforte* initially caused me a great deal of head scratching, though eventually they inspired me to explore and understand the development and workings of the piano. The unknown individuals who need to be gratefully acknowledged are the legions of Medici record keepers and generations of archivists in Florence, Padua, Verona, and other locales who made it possible to look back some 300 years and reconstruct Cristofori's life in vivid detail. And of course, I must thank my wife, Stephanie Chase, for her encouragement, enthusiasm, and patience.

I have often been asked to define and distinguish between the terms "clavier" and "cembalo," as well as "piano," "pianoforte," and "fortepiano." "Clavier" and "cembalo" were (and are) generic terms that may refer to any type of stringed keyboard instrument (i.e., harpsichord, spinet, clavichord, or piano). The term "piano" is actually an unfortunate contraction of "pianoforte," which is derived from the original expression used to indicate Cristofori's new invention: *cembalo che fa piano e forte* (It. "keyboard instrument that makes soft and loud"). I say "unfortunate," because the contraction misses the point entirely: the piano is not only capable of playing softly, but of playing loudly, as well as everything in between. Furthermore, this capability is conveniently placed at the player's fingertips. Dynamic flexibility, which is a feature of most instruments, was not shared by the harpsichord, which in comparison to the newly invented piano was suddenly viewed as being hobbled by its fixed or terraced dynamics.[2] Today, we use the term "fortepiano" to denote wood-framed pianos, specifically those with German- or Viennese-style hammer actions that were made from around 1760 until the adoption of iron framing around the mid-nineteenth century. For some reason, pianos made with English-style hammer actions (be they of English, French, or American manufacture) during this same period are generally referred to as "pianofortes." There is no logic to this distinction, only convention. Throughout this book, I have attempted to retain original spellings when quoting foreign-language texts, even when they are inconsistent (such as *spineta*, *spinetta*, *cembalo*, *cimbalo*, *gravecembalo*, *gravicembalo*, etc.).

All of the instruments described in this book were examined first-hand by the author. Unless otherwise indicated, measurements, photographs, and technical drawings are by the author.

[2] The idea that the harpsichord was musically limited by its dynamic inflexibility is disputed in Stewart Pollens, "The Pianoforte in the Performance of Scarlatti's Sonatas," in *Domenico Scarlatti en España: Actas de los Symposia FIMTE 2006–2007* (Garrucha, 2009), pp. 301–311.

Florentine Units

The *braccio* (arm length) used in Florence in Bartolomeo Cristofori's day was approximately equivalent to 551.2 mm. This is at variance with the metric equivalent that is commonly associated with the Florentine *braccio* (583.6 mm); the larger value reflects a change in the length of the *braccio* enacted in 1782. The *braccio* was divided into 2 *palmi* (approximately the width of an outstretched hand) and 20 *soldi* (*soldo* means "coin" or "penny," and was thus approximately equal to the diameter of a coin then in use). The *palmo* is approximately equal to 275.6 mm, and the *soldo* is approximately equal to 27.56 mm.[3]

Florentine unit of weight
1 *libbra* = 12 *onci* = 0.34 kg[4]
Florentine currency
1 *scudo* = (approx.) 7 *lire*
1 *lira* = 20 *soldi*
1 *soldo* = 12 *denari*

Abbreviations

ASF	Archivio di Stato di Firenze
DP	Depositeria Generale
GM	Guardaroba Medicea

[3] Angelo Martini, *Manuale di metrologia* (Turin, 1883), p. 206. Grant O'Brien, "Il percorso di un' idea: dal progetto allo strumento," in *Bartolomeo Cristofori: La spinetta ovale del 1690*, ed, Gabriele Rossi-Rognoni (Florence, 2002), p. 66. See also Stewart Pollens, *The Manual of Musical Instrument Conservation* (Cambridge, 2015), s. v. "historical metrology," and "Historical Metrology in the Service of Organology: Some Caveats," in *Unisonus: Musikinstrumente erforschen, bewahren, sammeln* (Vienna, 2014), pp. 510–537.

[4] Bruno Kisch, *Scales and Weights: A Historical Outline* (New Haven, 1965).

1 | Bartolomeo Cristofori in Padua

Scant information has been uncovered about Bartolomeo Cristofori's early years in his home town of Padua. We know that he was born in Padua on May 4, 1655 and baptized there in the Church of S. Luca on May 6 under the name Bortolomio Christofani.[1] The baptismal record indicates that his father was named Francesco di Christofani, and that his mother's name was Laura. Orthography was inconsistent in the late seventeenth century, so Cristofori's name appears alternately in later official records as "Cristofali," "Cristofani," and "Cristofori," though "Cristofori" was more consistently used in Medici accounts after 1694. Even Cristofori himself was inconsistent in spelling his own name: on bills to court it appears as Bartolomeo Christofori and Bartolomeo Cristofori. Francesco Scipione, Marchese di Maffei (more commonly referred to as Scipione Maffei, 1675–1755), the author of an article on the invention of the piano published in the *Giornale de' letterati d'Italia* in 1711, variously refers to him as "Christofori" (crossed out in the original manuscript notes of his interview conducted in 1709), "Bortolo Cristofali" (as corrected in the same MS), "Bartolommeo Cristofali" (in the article published in 1711), and "Bartolomeo Cristofali" (in the 1719 republication of that article in a compilation of Maffei's writings entitled *Rime e prose*).[2] Niccolò Susier, a Medici court musician and diarist, used the spelling "Bartolomeo Cristofani" and the nickname "Bartolo" in a diary entry marking Cristofori's death dated January 27, 1731.[3] Here the date is given in the *stile fiorentino*, notated *ab incarnatione* (abbreviated *ab. inc.* in this book, when so

[1] Padua, archive of the Church of S. Luca, May 6, 1655; Cristofori's baptismal certificate is illustrated in Bruno Brunelli Bonetti, "Bartolomeo Cristofori e il mondo musicale padovano," in *Bartolomeo Cristofori, inventore del pianoforte*, nel terzo centenario dalla nascita (Padua, 1955), p. 31.

[2] Verona, Biblioteca Capitolare, cod. DCCCCLX, fasc. VI, no. I. Scipione Maffei, "Nuova invenzione d'un Gravecembalo col piano, e forte; aggiunte alcune considerazioni sopra gli strumenti musicali," *Giornale de' letterati d'Italia* 5 (Venice, 1711), pp. 144–159; Scipione Maffei, *Rime e prose del Sig. Marchese Scipione Maffei, parte raccolte da varij libri, e parte non più stampate* (Venice, 1719), p. 309; Laura Och, "Bartolomeo Cristofori, Scipione Maffei e la prima descrizione del 'gravicembalo col piano e forte'," *Il Flauto Dolce* 14–15 (1986), pp. 16–23.

[3] Florence, Biblioteca Moreniana, Acquisti diversi 54, ff. 73r, 73v.

specified in cited documents), in which the year began on March 25, the date of the Incarnation; thus, Susier's diary entry was written in 1732 according to the modern calendar. In an anonymous, posthumous tribute to Cristofori written in 1741, he is referred to as "Bartolomeo de Christofani Padovano." From this tribute we also learn that Cristofori was nicknamed "il Burtulo."[4] An anonymous, eighteenth-century musical dictionary refers to him as "Christofori Bartolomeo da Padova."[5]

Various archival records reveal an association between the Cristoforis and the Papafavas, the latter being an old, noble Paduan family. Bartolomeo Cristofori's baptismal certificate documents that his godmother was Lina Pani, a servant of Laura Papafava. Bartolomeo's father's profession was that of a *fattore*, that is, a property agent or administrator, and he worked for the Papafava family in that capacity; in 1662, he also served as best man at Laura Papafava's wedding. Many years later, when Bartolomeo Cristofori was in the employ of Grand Prince Ferdinando de' Medici in Florence, he was either asked or offered to contact Roberto Papafava, then a member of the Accademia Patavina, in order to inquire about engaging the singer Laura Spada for an opera that Ferdinando was staging in Livorno. When Papafava wrote back to Ferdinando on May 30, 1693, he invoked Cristofori's name in connection with that engagement.[6]

The Cristofori family owned parcels of land and houses in a small village outside Padua named Grantorto. This property (much of it was rented out and was thus income generating) had been passed down from generation to generation and ultimately came into the possession of Bartolomeo.[7] In his will, he made provision for his property to pass on to his niece, Laura Pavese (see Chapter 2). A few months after the death of Bartolomeo's father on January 29, 1684, Bartolomeo rented a house behind the city's cathedral in a quarter called the *Drio Domo* (Figure 1.1), which suggests that he was domiciled in his home town until his departure for Florence in 1688.

Surprisingly, no documentation has been discovered in Padua that would indicate that any member of the Cristofori family, including

[4] O. Mischiati, "Un elenco romano di cembalari redatto nel 1741," *L'Organo* 10/1 (1972), pp. 105–106.

[5] Bologna, Civico Museo Bibliografico Musicale, H62, miscellaneous writings of Padre Martini, vol. C.

[6] ASF GM 5878, f. 268. Leto Puliti, "Della vita del Ser.^{mo} Ferdinando dei Medici Granprincipe di Toscana e della origine del pianoforte," *Atti dell'Accademia del R. Istituto Musicale di Firenze* 12 (1874), pp. 140–141.

[7] Michele Nisoli, "Bartolomeo Cristofori (1655–1732): Rassegna bibliografica con alcune aggiunte biografiche sugli anni padovani" (Ph.D. diss., University of Florence, 2011), pp. 16–17.

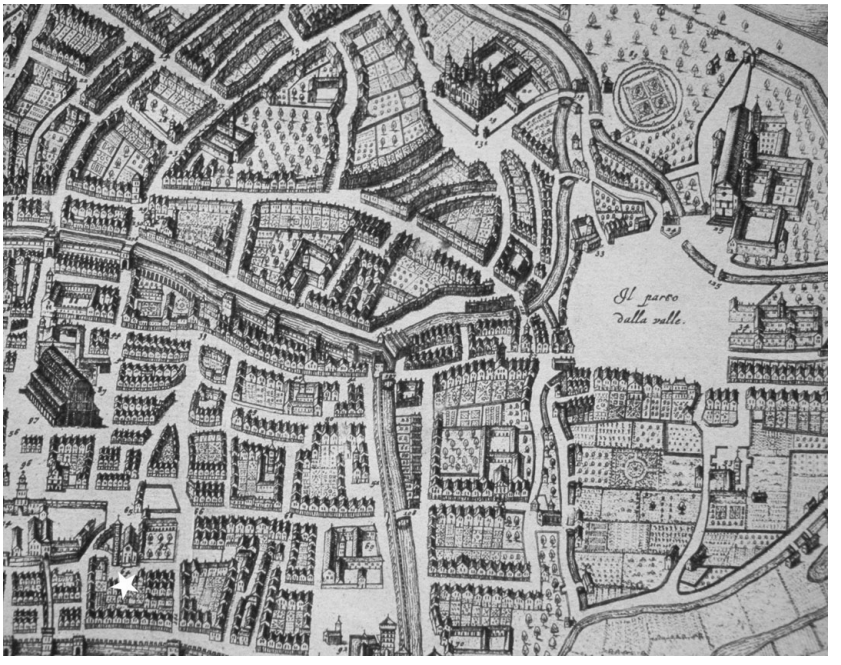

Figure 1.1 Map of Padua marked at bottom left with the approximate location of Bartolomeo Cristofori's residence, engraving, P. Mortier, from *Les villes de Venetie* (Amsterdam, 1704). Collection of the author.

Bartolomeo, was involved in musical instrument making or an associated craft. There has been considerable speculation that Bartolomeo Cristofori was originally trained as a violin maker in Cremona, as a thirteen-year-old Christofaro Bartolomei is listed as a household member in the 1680 census return of the violin maker Nicolò Amati (1596–1684).[8] Because apprentices generally lived in the houses of their masters, we can assume that the above-named individual was serving his apprenticeship in violin making. However, the Christofaro Bartolomei listed in the 1680 Cremonese census return could not have been our Bartolomeo Cristofori, who then would have been twenty-five years old. Furthermore, the census returns of the parish in which Nicolò Amati lived consistently present Christian names first and surnames last; thus, the last name of the apprentice in the Amati shop is "Bartolomei" and not "Christofaro."[9]

[8] Cremona, Archivio Diocesano, census returns of the parish of S. Faustino, 1680, Casa Amati.

[9] For a discussion of Cremonese census documents, including the lack of reliability of ages cited in these returns, see Stewart Pollens, *Stradivari* (Cambridge, 2010), pp. 13–15.

Though there are several violoncellos and double basses with printed or handwritten inscriptions indicating that they were made by Bartolomeo Cristofori, these instruments are either stylistically dissimilar to one another or they have been altered in ways that make authentication problematic. This author has examined a refined contrabass (Museo del Conservatorio, Florence) bearing a printed label, and a crude, perhaps recut, contrabass with a handwritten inscription (The Metropolitan Museum of Art, New York). Both instruments could be eighteenth century and Florentine, but they are certainly by different makers. A third contrabass, bearing little resemblance to the other two, is in the collection of the Museo degli Strumenti Musicali in Milan.[10] However, in this author's opinion, none of the handwritten labels of the bowed-string instruments purported to be by Cristofori is in his hand. Furthermore, the wordings "Bartolomeo Cristofori in Firenze 1715 Primo" (contrabass at the Museo del Conservatorio, Florence),[11] "Bartolomeo Cristofori in Firenze 1716" (violoncello, private collection),[12] and "Io Bartolomeo Cristofori fecit in Firenze 1717" (three-string contrabass, The Metropolitan Museum of Art, New York) differ from the inscriptions consistently found on his keyboard instruments, typically "BARTHOLOMÆVS DE CHRISTOPHORIS PATAVINVS FACIEBAT FLORENTIÆ" (1722 and 1726 harpsichords). The wording of the inscription in the much-altered 1717 contrabass, "Io Bartolomeo Cristofori" (I, Bartolomeo Cristofori) is an unlikely way to begin a violin label and would appear to derive from the opening declarations of several of Cristofori's bills submitted to the Medici court; "Bartolomeo Cristofori in Firenze 1715 Primo" would also appear to be a corruption of the wording used in several other bills (see Chapter 2). Transcriptions of these bills were published in Florence in 1876 and would have been accessible to unscrupulous makers and dealers, who likely relabeled a few anonymous violoncellos and contrabasses to exploit the name of this famous instrument maker.[13] Furthermore, there is not a single

[10] Natale and Franco Gallini, *Museo degli strumenti musicali: Catalogo* (Milan, 1963), pp. 73–74, pl. 51.

[11] Mario Fabbri, Vinicio Gai, and Leonardo Pinzauti, *Conservatorio di Musica Luigi Cherubini: Antichi strumenti* (Florence, 1980), pp. 69–70; Giuliana Montanari, "Bartolomeo Cristofori: A List and Historical Survey of his Instruments," *Early Music* 19 (1991), p. 392.

[12] John Dilworth, "Two-part Invention," *The Strad* 95/1136 (1985), pp. 668–670; Montanari, ibid., pp. 392–393.

[13] Ferdinando Casaglia, *Per le onoranze a Bartolommeo Cristofori* (Florence, 1876), pp. 17–31. This wording was also used by Bartolomeo Cristofori when he signed and certified his 1716 inventory of the Medici's musical instruments; a facsimile of this signature was published by Puliti, *Della vita del Ser.mo Ferdinando dei Medici*, p. 198.

mention of a bowed-string instrument by Bartolomeo Cristofori in the Medici musical instrument inventories dated 1700, 1716, and 1732, nor is there any indication among the numerous bills and payment records preserved in the Medici Archives that Cristofori was involved in making or restoring such instruments – though there are records that other instrument makers, such as Sabatino Ciampi (Campi, Ciompi, or possibly Cianchi), were paid for work done on string instruments.[14] All of Cristofori's bills (see Chapter 2) are for work on keyboard instruments.[15] This strongly suggests that the Bartolomeo Cristofori who served Grand Prince Ferdinando de' Medici was not involved in the making or restoring of violins, violoncellos, and contrabasses, and the ascription of any bowed-string instrument to Bartolomeo Cristofori of Padua must thus be viewed with suspicion.[16] Unfortunately, no evidence has yet been discovered that Cristofori served a formal apprenticeship in keyboard instrument making or was a member of any craft guild in his home town; nor did he become a guild member when he settled in Florence.

In his biography of the organ builder Gottfried Silbermann, Ernst Flade suggests that there could have been a working relationship between the organ builder Eugen Casparini (true name Johann Caspar; b. Sorau [now Poland], 1623; d. Wiesa, 1706) and Cristofori. Eugen Casparini was the son of an organ builder and mathematician, Adam Caspar. Eugen worked in Venice and Gorizia (in the Friuli region) before settling in Padua around 1669, where he constructed a number of organs, including two for the basilica of S. Giustina: one in 1679 (which included a 16′ *Principal* and 26′ *Fagott* [bassoon stop] of wood) and another in 1681 having 32 stops. Cristofori would have been in his twenties when these organs were constructed and might have taken an interest or perhaps participated in their construction. Previously, Casparini had made a small organ (having six *ripieno* ranks and a wood *Fagott* on a separate wind chest) for the basilica of S. Antonio in 1662. In 1686 Casparini departed Padua for Vienna, where he worked on the court's organs and constructed a *Positiv* (a small,

[14] ASF DP 434, f. 38r; 435, f. 30r; 438, ff. 47r, 74r.

[15] ASF GM 1073bis, ff. 2567–2584; Casaglia, *Per le onoranze a Bartolommeo Cristofori*, pp. 17–31.

[16] Notes made during Scipione Maffei's 1709 interview with Cristofori (which deal primarily with the development of the pianoforte) nevertheless reveal that Cristofori did have knowledge of violin acoustics, including an understanding of soundpost adjustment. This should not be viewed as evidence that Cristofori was formally trained as a violin maker, for when Maffei conducted his interview, Cristofori had already been the official court instrument maker for over twenty years and had certainly gained some familiarity with the tonal apparatus of the violin. See Stewart Pollens, *The Early Pianoforte* (Cambridge, 1995; repr. 2009), pp. 232–237.

semi-portable organ) having five registers of paper pipes.[17] Such pipes, made of rolled paper impregnated with glue, were thought to impart a softer, sweeter sound than metal or wood pipes. Organs with paper pipes date back in Italy to the late fifteenth century (one such organ, constructed in 1494 by Lorenzo da Pavia, possibly for Isabella d' Este, is preserved in the Museo Correr in Venice),[18] and such pipes may have been the inspiration for the rolled paper hammer heads that Cristofori used in his 1720 and 1726 pianos (cylinders made of multiple layers of rag paper impregnated with animal hide glue are light in weight and rigid, though springy). Casparini sometimes equipped his organs with "toy stops," such as the drum, which might have provided the impetus for Cristofori's invention of the hammer action later used in his piano. The organ builder Andreas Silbermann (1678–1734) is believed to have worked for Eugen Casparini around 1697 – perhaps this relationship facilitated Gottfried Silbermann's (Andreas' brother, 1683–1753) later familiarity with Cristofori's piano action, which he scrupulously copied in the pianos he made in the 1740s (see Chapter 5). As we shall see in Chapter 2, Cristofori was evidently a capable organ builder, for he constructed a small organ with wooden pipes for the court.

In the sixteenth century, two prominent harpsichord makers were associated with Padua: Franciscus Patavinus (Francesco of Padua, also known as "Il Hongaro" or "l' Ongaro" ["the Hungarian"]), who flourished between 1527 and 1562, and Antonius Patavinus (Antonio of Padua), who flourished around 1550. The Medici musical instrument inventory of 1700 lists a *cimbalo dell'Ongaro* inscribed "Francisci Patavini dicti Ongaro MDLXII" having two registers, principal and octave, and 52 keys of boxwood and ebony having a compass of G–c^3, with the first two sharps split (thus a short-octave compass of BB/GG–c^3). The inventory description further describes it as being removable from a lacquered (*vernici all'indiana*) outer case with painted lid, and having the typical Italianate thin-walled construction of cypress, with case sides inlaid with strips of ebony and garnished with ivory studs; the soundboard of

[17] Ernst Flade, *Der Orgelbauer Gottfried Silbermann* (Leipzig, 1952), pp. 1–8; Peter Williams, *The European Organ 1450–1850* (London, 1966), p. 221; *The New Grove Dictionary of Music and Musicians* (London and New York, 1980), s.v. "Casparini."

[18] Marco Tiella, "The Positive Organ of Lorenzo da Pavia (1494)," *The Organ Yearbook* 7 (1976), pp. 4–15; Clifford M. Brown, *Isabella d'Este and Lorenzo da Pavia* (Geneva, 1982), pp. 196–197; Luisa Cervelli, "Un prezioso organo del '400: alla ricerca della sua voce perduta," *Bollettino dei Musei Civici Veneziani* 4 (1969), pp. 21–36; Carlo dell'Acqua, *Lorenzo Gusnasco e i Lingiardi da Pavia* (Milan, 1886).

cypress with four fretworked roses. No harpsichords made in Padua in the latter half of the seventeenth century have come down to us, nor do we know of any harpsichord makers of note living there with whom Cristofori might have apprenticed with. In fact, there are no known keyboard instruments of Cristofori's dated prior to his arrival in Florence, and all of his extant inscribed instruments indicate they were made there (BARTHOLOMÆVS DE CHRISTOPHORIS PATAVINVS FACIEBAT FLORENTIÆ [Bartolomeo Cristofori of Padua made in Florence]). Aside from an uninscribed and undated thin-walled harpsichord attributed to him (the so-called "ebony harpsichord" inventoried by the Medici in 1700 and now in the collection of the Museo degli Strumenti Musicali del Conservatorio "Luigi Cherubini" di Firenze; see Chapter 3) and his two oval spinets (one presently on loan from the Museo Bardini to the Museo degli Strumenti Musicali in Florence and the other in the collection of the Grassi Museum für Musikinstrumente der Universität Leipzig; see Chapter 3), all of his instruments exhibit heavy-walled construction that bears no resemblance to the few Paduan-school harpsichords attributed to the considerably earlier makers of that city who are mentioned above. In any case, we should not assume that their harpsichords were still present in Padua during Cristofori's residence there, and if any of them were, that he was familiar with or had access to them. Thus, we cannot conclude that Cristofori was steeped in what little we know of the Paduan harpsichord-making tradition, and it is entirely possible that he was self-taught.

In Scipione Maffei's notes of his interview with Cristofori made in preparation for his article on the invention of the piano published in 1711, he writes that Cristofori indicated that he did not want to come to Florence, but that Grand Prince Ferdinando replied "*il farò volere io*" (it will be, I wish it). He was evidently induced to relocate by the offer of a generous stipend, the payment of his rent, and the loan of furniture, pots and pans, and other household sundries. As we shall see in Chapter 2, his stipend and perquisites were not considered remuneration for making new instruments, undertaking complex restoration work on valuable keyboard instruments in the court's collection, or even fulfilling mundane tasks such as moving keyboard instruments – for he billed the court separately for those services.

What impelled Grand Prince Ferdinando (then twenty-four years of age) to hire the thirty-two-year-old Cristofori, initially under the title of instrument maker and tuner, remains unclear. Perhaps Cristofori impressed Ferdinando with the idea of a dynamically flexible keyboard

instrument fitted with a hammer action and was invited to work out the details and build such an instrument in the Ufizzi workshops with the assistance of its highly skilled court craftsmen. It is also conceivable that Cristofori had already constructed a piano and that Ferdinando somehow encountered and became intrigued by it, though perhaps he was simply impressed by Cristofori's skill as a harpsichord tuner.

As we shall see in the next chapter, Cristofori never billed the Medici court for constructing a pianoforte (which may indicate that he did not build it in Florence, but arrived there with it). The first documentation of such an instrument is an entry in the 1700 Medici musical instrument inventory that describes it as an "Arpicimbalo di Bartolomeo Cristofori di nuova inventione, che fa' il piano, e il forte" (a large keyboard instrument by Bartolomeo Cristofori, of new invention, that makes soft and loud). The date of the inventory is generally associated with the year the piano was invented, but the appellation "new invention" could refer to an instrument made any time after March 17, 1691, *ab. inc.* (1692 by the modern calendar), the date of the previous Medici musical instrument inventory, which does not list such an instrument, or even before Cristofori began working in the Florentine court in 1688. There is, however, one piece of documentary evidence, slender though it is, that he did invent the piano in 1700 (see Chapter 3).

We know that Grand Prince Ferdinando departed Florence on December 18, 1687 to take part in the *Carnivale* in Venice, and that he arrived there with thirty of his courtiers on or around January 17. Along the way, he and his entourage are recorded as having visited Bologna, Vicenza, and Padua. According to a letter posted from Venice on January 17, 1688 by the *abate* Carlo Antonio Gondi, Ferdinando stopped in Padua and left for Venice by boat the following morning after attending mass at the basilica of S. Antonio (for which Casparini had built a small organ in 1662; see above).[19] It is possible that Ferdinando encountered Cristofori during that brief stay, or perhaps the two met in Venice during the protracted carnival season. Ferdinando returned to Florence on March 24, and by April 30 Cristofori was ensconced at the Medici court and variously described in court records as a *strumentaio* (instrument maker) and *buonaccordaio* (keyboard tuner).

[19] Nisoli, *Bartolomeo Cristofori (1655–1732)*, pp. 30–33; Lorenzo Spinelli, "Le esperienze veneziane del principe Ferdinando de' Medici e le influenze sulla politica spettacolare e dinastica toscana (1688–1696)," *Medioevo e Rinascimento* 19/16 (2005), pp. 159–199.

2 | Cristofori in Florence

Arrival in 1688

The earliest documentation we have of Bartolomeo Cristofori's presence in Florence is the record of payment for provisions issued to him by the Medici court on April 30, 1688 (Figure 2.1).

The payment record states: "*e ottanta quattro L. Pag. à Bartolomeo Cristofori Strumentaio che S.A. à fermato e gli à Assegnato L. 84 p. Provisione il Mese e si deve Mettere à rolo porto. detto 12 – –.*"[1] (And eighty-four *lire* paid to Bartolomeo Cristofori musical instrument maker whom His Most Serene Highness has hired and assigned 84 *lire* per month for provisions, and who is admitted to the roll, received by same 12 [*scudi*].) As a point of reference, in 1641 Cardinal Antonio Barberini in Rome paid the harpsichord maker Girolamo Zenti the same annual tuner's fee of 12 *scudi*.[2]

As we have seen in Chapter 1, the circumstances that led to Cristofori's employment in Florence are unknown. The musicologist Leto Puliti speculated that while returning from the Carnival of Venice, Grand Prince Ferdinando de' Medici may have encountered Cristofori in his native Padua.[3] However, if they did meet in Padua, it was more likely that it was prior to Ferdinando's arrival in Venice, rather than after the carnival, for the prince and his retinue are documented as having stopped in Padua on the way to Venice rather than on their return to Florence.[4] It is also possible that they met in Venice during the prince's protracted stay there. We do know that a Florentine harpsichord maker named Antonio Bolgioni (also spelled Bolcioni), who had been serving the Medici court prior to Cristofori's arrival,

[1] ASF DP 434, f. 53r. The value of the *lira* floated relative to the *scudo*; this record provides the then current exchange rate of approximately 7 *lire* per *scudo* (1 *lira* = 20 *soldi* = 240 *denari*). Michael Kent O'Brien, "Bartolomeo Cristofori at Court in Late Medici Florence" (Ph.D. diss., The Catholic University of America, 1994), p. 135.

[2] Frederick Hammond, "Some Notes on Giovanni Battista Boni da Cortona, Girolamo Zenti, and Others," *The Galpin Society Journal* 40 (1987), p. 41.

[3] Puliti, *Della vita del Ser.mo Ferdinando dei Medici*, p. 130.

[4] Nisoli, *Bartolomeo Cristofori (1655–1732)*, pp. 159–199.

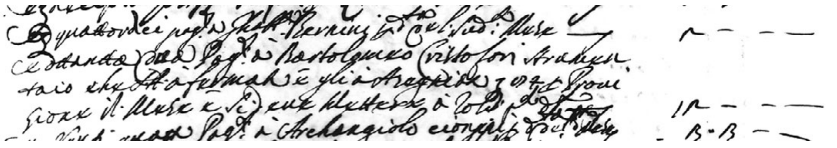

Figure 2.1 Earliest record of Bartolomeo Cristofori in Florence, April 30, 1688. Payment by the Medici court of 12 *scudi* for provisions. Courtesy of the Archivio di Stato, Florence.

passed away in early February of 1688 (he is recorded as having lain in state in the church of S. Maria Nuova on February 3 of that year).[5] A replacement was needed for ongoing musical events, including those held at the Villa di Pratolino, a Medici retreat some twelve kilometers north of Florence (see Chapter 4), as well as those planned for the celebration of Ferdinando's wedding to Violante Beatrice of Bavaria the following year. Bolgioni had been a self-employed instrument maker who was brought in on a freelance basis when instruments needed tuning, adjustment, or repair. Another individual who passed away in early February of 1688 was Giovanni Battista Lassagnini, a member of the Medici court ballet who had served as the *guardaroba della musica* from 1671 (his name appears on the title page of the Medici musical instrument inventory that was compiled posthumously in 1691).[6] This was an administrative post that presumably involved keeping track of the court's musical instruments and scores that were lent to musicians, members of the Medici family, and others involved with the court. Cristofori would ultimately be appointed *custode* of the instrument collection (see below) – perhaps there was something in Cristofori's background (such as a familiarity with the administrative work that his father did) that suggested to Prince Ferdinando that he might be groomed for such a post, though he did not receive that appointment until 1716, three years after Ferdinando's death. While the Medici court had long supported a number of composers and musicians as *stipendiati*, Cristofori's formal position as a recipient of a stipend was unique, as no other instrument maker had ever held such a position in the Medici court. Cristofori received the same payment as many court musicians, and the regular monthly income provided him with a degree of financial security and freedom that most privately employed musical instrument makers did not enjoy.

[5] ASF DG 434, f. 47r; Michael Kent O'Brien, "Bartolomeo Cristofori at Court," p. 64.

[6] ASF GM 1005; Vinicio Gai, *Gli strumenti musicali della corte medicea e il Museo del Conservatorio Luigi Cherubini di Firenze, cenni storici e catalogo descrittivo* (Florence and Licosa, 1969), p. 3.

There was certainly no shortage of keyboard instrument makers and tuners residing in Florence at the time of Bolgioni's death who could have serviced the court's instruments, either on a freelance basis or as a salaried technician. Between 1634 and 1697 the Università di Por San Piero e dei Fabbricanti (the craftsmans' guild) listed the following harpsichord makers as matriculants: Luigi Bassilichi (1695), Niccolò Berti (1696), Antonio Bolcioni (1663), Stefano Bolcioni (1634), Agnolo Cigulari (1669), Giuseppe Falconi (1689), Michele Feroci (1680), Agostino Landi (1694), Antonio Migliai (1684), Bartolomeo Pini (1664), Francesco Poggi (1634), Vincenzio Querci (1634), Aurelio Ricevuti (1650), and Giuseppe Zolfanelli (1690 and 1697). Listed separately in the guild rolls for that period are numerous harpsichord tuners: Antonfrancesco Berti (1674), Iacopo Papi (1635), Giovanni Pertici (1665), Agostino Soldini (1636), and Ferdinando Vincenti (1634).[7] In addition to the harpsichord makers and tuners, the guild rolls listed dozens of string instrument makers and four organ builders. Several harpsichord tuners and makers, including Giovanni Pertici and Giovanni Pichileri (the latter was evidently not a guild member), are listed in the Medici accounts as having worked on a freelance basis for the court during Antonio Bolgioni's tenure, though none was selected to replace him as the court's principal keyboard technician.

No keyboard instruments by Cristofori dated prior to his employment in Florence have come to light or are documented (the earliest dated instrument of his is one made in Florence in 1690). In addition to his abilities as an instrument maker, Cristofori appears to have had social connections in the musical world that were useful to the Florentine court. We have learned in Chapter 1, for example, that his name is mentioned in a letter written to Grand Prince Ferdinando on May 30, 1693 by a Paduan nobleman named Roberto Papafava with regard to the engagement of the singer Laura Spada. We must also consider the possibility that Cristofori had been working on the pianoforte prior to his arrival in Florence, and that Ferdinando agreed to sponsor the development of this instrument by offering him funds for provisions, free accommodation with furnishings, and access to the court's workshop facilities, woodworkers, and other artisans. In notes made on the occasion of his visit to the Medici court in 1709 the noted literary figure and editor of the *Giornale de' letterati d'Italia*, Francesco Scipione, Marchese di Maffei (who is generally referred to as Scipione Maffei, 1675–1755), recounted Cristofori's first impressions of life in the Medici court:

[7] Puliti, *Della vita del Ser.mo Ferdinando dei Medici*, pp. 168–173.

Che da principio durava fatica ad andare nello stanzone in questo strepito; che fu detto al principe che non voleva rispos'egli "il farò volere io."[8]

(At the beginning it was very tiring for him to be in the large room with this deafening noise; he told the prince that he did not want it so; the latter replied "it will be, I wish it.")

Maffei added that Cristofori was the recipient of a stipend (*stipendiato*), and *che molto ha imparato qua dopo venuto da gli altri . . . gli da dieci scudi al mese* (that he learned very much from the others after coming here . . . he [received] ten *scudi* per month). The large, noisy workroom was presumably situated in the Uffizi's Galleria dei Lavori, where over one hundred artisans carried out the work of the court. Oddly, official records indicate that Cristofori received twelve *scudi* per month earmarked for provisions (*provisione*), not ten, as indicated by Maffei.[9]

In Cristofori's early years in Florence, the craft workshops of the Medici court were directed by Diacinto Maria Marmi, who designed and constructed magnificent furniture and architectural woodwork for the Pitti Palace. In 1695 the sculptor Giovanni Battista Foggini took charge and concentrated much of his energies primarily on smaller works, such as marble busts, bronzes, ornamented cabinets, and reliquaries decorated with precious and semi-precious stones. Ferdinando de' Medici was evidently an accomplished musician, having studied counterpoint and harpsichord with Giovanni Francesco Pagliardi, who had been appointed *maestro di cappella* by Ferdinando's father, Grand Duke Cosimo III (1642–1723), around 1670.[10] In addition to his love of music, and especially opera, Ferdinando was a cultivated and enthusiastic patron of painting and the decorative arts. He bought works by Raphael, Andrea del Sarto, and Parmigianino, and commissioned new paintings by artists such as Giuseppe Maria Crespi, Sebastiano Ricci, and Antonio Domenico Gabbiani (see Figure 4.2). In his dealings with painters, Ferdinando often took a collaborative role, suggesting unusual themes and compositional elements.[11] The prince was also fond of ivory carving and turning (he himself was an amateur ivory turner, which at that time was a popular gentleman's avocation) as well as horology – over forty clocks are listed in an immense

[8] Verona, Biblioteca Capitolare, cod. DCCCCLX, fasc. VI, n. 1; Och, "Bartolomeo Cristofori, Scipione Maffei e la prima descrizione del 'gravicembalo col piano e forte'," pp. 21–22; Montanari, "Bartolomeo Cristofori: A List and Historical Survey of his Instruments," pp. 384–385.

[9] ASF DG 434, f. 53r.

[10] Kirkendale, *The Court Musicians in Florence*, pp. 417–418.

[11] Francis Haskell, *Patrons and Painters: Art and Society in Baroque Italy* (New York, 1971), pp. 228–241.

inventory of some two hundred pages documenting thousands of personal possessions that was compiled after his death (see below and Chapter 4).[12] Ferdinando's interest in complex mechanical devices of all kinds may have led him to support Cristofori's experimentation with the piano action. Though Cristofori's hammer action made use of an escapement mechanism, there does not appear to be any similarity between the escapement he developed and those employed in other mechanical devices of the period, such as clockworks (including the striking mechanisms of chimes and repeaters), trigger mechanisms of firearms, or trip-hammers used in manufacturing equipment. The inspiration for Cristofori's escapement mechanism is unknown.

Cristofori's second payment for provisions of 12 *scudi* was made on May 6, 1688, though in this account he is referred to as the *bonacordaio* (tuner) rather than as a *strumentaio* (instrument maker).[13] (It should be noted that among the craftsmen listed in the Università di Por San Piero e dei Fabbricanti, a distinction was made between *strumentai* and *buonaccordai.*)[14] A separate entry made on this date is a receipt for the following furniture, linens, silverware, fireplace, and cooking utensils that were provided by the court:[15]

> Two small benches of poplar for the bed.
> Two mattresses of linen, straw, and hair.
> Four mattresses of buckram and wool.
> Two bolsters, matching the first two items.
> A contraption of linen [*trabacca*] stuffed with cotton waste, yellow, worked with eyelets in 4 pieces, the top part in 2 pieces with trimming and turning.[16]
> A frame for it with its screws . . .
> Two quilts of pink linen.
> Two bed sheets of white wool.

[12] ASF GM 1222, ff. 1v–103v; Anna Maria Massinelli and Filippo Tuena, *Treasures of the Medici* (New York, 1992), pp. 180–181.

[13] ASF DG 434, f. 54r. [14] Puliti, *Della vita del Ser.mo Ferdinando dei Medici*, pp. 167–173.

[15] ASF GM 903, ff. 129v–130r.

[16] Michael Kent O'Brien interprets the term *trabacca* as a canopy for a bed. Considering the context, this is very likely, though modern Italian dictionaries such as Nicola Zingarelli's *Vocabolario della lingua Italiana*, 12th edition (Bologna, 1998) define it as tent, curtains, awning, hangings, shack, hut, or booth, and *Cassell's Italian Dictionary* (New York, 1967) defines *trabaccolo* as a "trawler, lugger, rickety vehicle, and ramshackle contraption," which seems to capture the spirit of this confusing description. O'Brien, "Bartolomeo Cristofori at Court," p. 184.

Four sheets similar to item number 3 [above].
Four domestic table napkins.
Twelve matching table napkins.
Twelve small plates of tin.
Twelve matching dishes.
Four similar, medium size.
Three spoons and three forks of brass.
Three knives with bone handles.
A table of poplar for the kitchen, with iron feet.
Two sideboards of walnut.
A little table of poplar for the sideboard.
Six stools of walnut with backs.
Eight stools of poplar colored green.
Two heavy candlestick holders of brass.
A basin of copper weighing 9.
A kettle of copper weighing 7.
A cauldron of copper weighing 6.
A jug of copper weighing 7.
A copper bucket with its chain of iron, weighing in total 13.8.
A small kettle of copper weighing 3.3.
A warming pan weighing 5.4.
Two tripods of iron weighing 7.
One fire shovel, and a pair of tongs of iron, weighing 5.
One grill of iron weighing 3.
One ladle and one cooking spoon of iron weighing 2.
One candlestick holder of iron.
One little kitchen chair and small box stained the color of walnut.
Three spoons and three forks of brass.
Three knives with bone handles.
An iron chain for the fireplace.
A cushion for the head with cover of taffeta.
A pillow case of linen.

It is interesting that this list includes only prosaic household items – there are no tools, workbenches, or supplies typically used in the construction or repair of musical instruments. Cristofori either brought these workshop materials with him or acquired whatever he needed in Florence using funds supplied by the court (either through his monthly allotment for provisions or by reimbursement; see below). The unit used in measuring the heavy metal household objects listed above is not indicated but was probably the *libbra* of Florence, which was then about

0.34 kg.[17] One *libbra* equaled 12 *once*. In Cristofori's last will and testament, he instructed the executors of his estate to return these household articles to the Medici court after his death (see below).

Cristofori's Workshop

Cristofori appears to have removed himself from the court workrooms and set up a workshop at his residence by 1690, as bills submitted to the court dating from August of that year often indicate that instruments were moved between his house, where we may presume he worked on them, and the royal residences and theatres where they were used. In Cristofori's last will and testament, he is recorded as having lived in the parish of San Remigio on the Canto agli Alberti (Figure 2.2).

This street is now via de' Benci, not far from the Palazzo Vecchio and Uffizi. In his bills to court (see below), he sought funds for craftsmen and assistants who helped him complete his commissions. These individuals are not named but are variously identified as a cabinet maker (*ebbanista* or *stipetaio*), woodworker (*legnaiolo*), assistant (*lavorante*), and apprentice (*garzone*).[18] Cristofori's principal assistant, Giovanni Ferrini, is named in the first draft of his will, though two members of the del Mela family were bequeathed his tools and instruments in the second and final version (see below and Chapter 5). Cristofori never matriculated in the Università di Por San Piero e dei Fabbricanti, to which many of Florence's instrument makers belonged, presumably because he worked under the direct protection of his patron, Grand Prince Ferdinando de' Medici.

Earliest Work for the Court

As indicated above, Cristofori received his first payment for provisions in April of 1688, and he continued to receive these payments through August of that year (they were generally made on the last day of the month). On September 24, instead of his usual payment of 12 *scudi*, he received 25 *scudi* for services rendered at performances at the Medici villa at Pratolino (see Chapter 4). In this record, Cristofori is listed among eighteen

[17] Ronald Edward Zupko, *Italian Weights and Measures from the Middle Ages to the Nineteenth Century* (Philadelphia, 1981), p. 135.

[18] ASF GM 1073bis, no. 325, ff. 2567–2584.

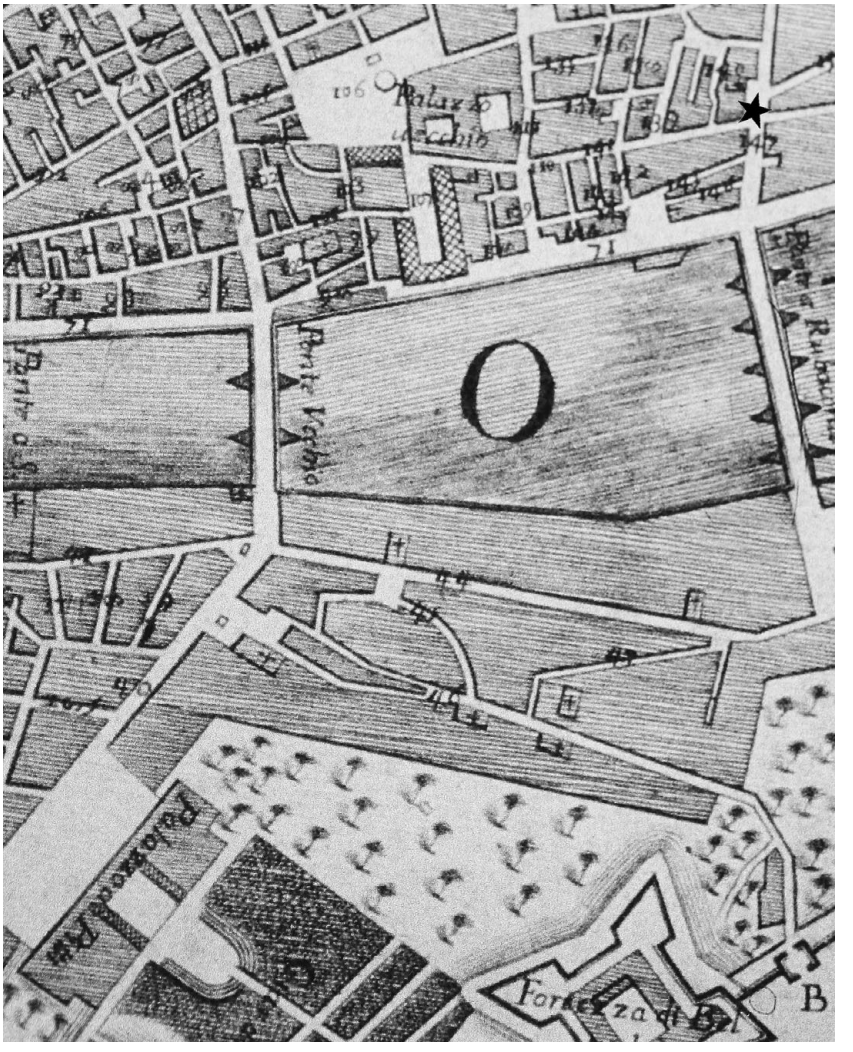

Figure 2.2 Map of Florence, *c.* 1730 showing at top right the approximate location of Cristofori's residence at Canto agli Alberti. Map by Giuseppe Papini. Collection of the author.

singers, musicians, and the composer Giovanni Maria Pagliardi. Pagliardi received 142.6 *scudi*, as did the noted castrato Francesco de Castris, while singers Carlo Antonio Zanardi, Marcantonio da Palermo, and Giuseppe Canavese received 114.6 *scudi*. The instrumentalists were paid between 25 and 50 *scudi*, and the page turner earned 2.6 *scudi*.[19] During the years that

[19] ASF DG 434, f. 80r.