Introduction

This book explores Stradivari's work as a violin maker as well as lesser-known aspects of his craft that fall under the more general occupation of luthier. Stradivari not only made violins, violas, and cellos, but also viole da gamba, viole d'amore, pochettes, lutes, mandolas, mandolins, guitars, and harps. Though comparatively few of these diverse instruments survive (for example, not a single lute has been attributed to him), half of his workshop materials preserved in the Museo Stradivariano in Cremona and in the Musée de la Musique in Paris pertain to non-violin-family instruments. In many cases, we can better understand Stradivari's concepts of these instruments through his patterns and forms than from the instruments themselves, for most of his extant viole da gamba, viole d'amore, guitars, and mandolins have been greatly modified or even converted into other types of instruments.

In this era of glossy, large-format books on violins, the reader may be surprised and disappointed by the modest format of this work. Though it was impossible to include images of all of Stradivari's workshop materials (which number over 700), the reader can refer to life-size images of all of Stradivari's violin, viola, and cello forms, as well as the associated f-hole positioning templates and neck patterns in the author's *The Violin Forms of Antonio Stradivari* (London, 1992).

Aside from a few articles and monographs, such as this author's "A Viola da Gamba Temperament Preserved by Antonio Stradivari," *Eighteenth-Century Music* 3/1 (2006), "Antonio Stradivari: Maker of Lutes in the French Style," *Musique, Images, Instruments* 6 (2004), and "Antonio Stradivari and Baroque Guitar Making," in *The Cambridge Companion to the Guitar* (2003), as well as Gianpaolo Gregori's "Fonti per l'organologia degli strumenti a pizzico nel Museo Stradivariano di Cremona," *La Rassegna nazionale di strumenti a pizzico* (Brescia, 1985), "La harpe et les guitars d'Antonio Stradivari," *Musique, Images, Instruments* 3 (1997), and *La chitarra "Giustiniani" Antonio Stradivari 1681* (Cremona, 1998), and John Henry van der Meer's "Gli strumenti straordinari di Antonio Stradivari," *Liuteria, Musica, Cultura* 28 (1990), virtually all of the hundreds of works that have been published about Stradivari over the past 150 years have focused on the violin. *Stradivari* broadens the scope to other important aspects of Stradivari's work.

Though Stradivari has long been recognized as the greatest violin maker of all time, close examination of his workshop materials that lie outside the realm of the violin reveals that he did not just dabble in lute, viol, guitar, and mandolin making – his work in these areas was highly sophisticated and displays his familiarity with then important trends and innovations in instrument design and musical composition, as well as performance practice.

CHAPTER 1

Historical background

Cremona in Stradivari's day

As surprising as it may seem, when the Amati, Stradivari, and Guarneri families were actively making violins (ca. 1550–1750) Cremona's economic vitality was not primarily due to violin making but rather to the rich farmland of the surrounding region, the city's textile industry, and its proximity to a number of thriving commercial routes, namely the river Po, the crossroads connecting Piacenza and Mantua (the ancient Via Postumia), Brescia, and Parma, as well as Venice and Milan. The textile industry may have had an indirect impact upon violin making, as many of the colorants used in dyeing cloth – such as extracts of Persian berries, madder, fustic, weld, brazilwood, kermes, cochineal, and lac – could also be incorporated into violin varnish. The local availability of these exotic materials, as well as the knowledge of fixing and modifying their hues through the use of mordants and other chemicals, may explain how Cremonese violin makers produced such vibrantly colored varnish.

Cremona was founded as a Roman colony in 218 BC. Destroyed by the Lombards in AD 603, it re-emerged as a commune, or self-governing town, by 1098. During the Guelph–Ghibelline conflict of the thirteenth century, Cremona sided with the Ghibellines and suffered defeat under Henry VII. The duchy of Milan, which came under the control of the Visconti in 1262, took possession of Cremona in 1322. In 1441, Bianca Maria Visconti married Francesco Sforza, and as part of her dowry Cremona passed into the hands of Francesco Sforza, who succeeded Bianca Maria's father as Duke of Milan in 1450. In 1499 Cremona came briefly under Venetian rule, only to be returned to Milan in 1512. The duchy itself was annexed, with the rest of Lombardy, by Habsburg Spain in 1535. Under Spanish rule, the region was heavily taxed and suffered from poor administration, which led to the exodus of many craftsmen and merchants. Prior to the famine of 1628–1629 and the outbreak of the plague in 1630, Cremona's population was about 40,000, making it one of Europe's larger cities. The plague reduced its population to about 15,000, and bad economic conditions caused it to decline further to about 10,000 by 1688. In 1701, the region fell to the French during the War of Spanish Succession, and a critical

battle of that war, the surprise of the French garrison by Imperialist forces, was staged in Cremona in 1702. With the signing of the Treaty of Utrecht in 1713, Austria gained control over Lombardy. A number of economic and social reforms were instituted under the Austrian administration, though economic conditions continued to deteriorate, in large part because of the imposition of heavy taxes. In 1733, Cremona was again affected by European political strife – the War of Polish Succession, which led to the quartering of allied French and Piedmontese troops in Cremona. Northern Italy was the scene of three important battles of this war, though none was fought in Cremona proper.[1]

Surprisingly, violin making continued amid this strife, and it would appear that the quartering of troops in Cremona, and particularly of French officers, may have been beneficial to the violin trade. Stradivari, in fact, devoted a fair amount of his energies to making lutes and viols *alla Francesa* ("in the French manner"; see Chapters 6 and 7), and in 1733 the Cremonese violinist Giovanni Battista Poli recounted a visit to Stradivari's shop by a French officer named Peglion della Faré, who made an unsuccessful offer to purchase the set of inlaid instruments that had originally been constructed for the King of Spain.[2]

Despite its famous violin-making industry, Cremona was not a center of musical activity, in large part because it didn't have a local court to maintain an ensemble of musicians, such as those in nearby Milan, Venice, Ferrara, and Mantua. Though the composer Claudio Monteverdi was born in Cremona (1567–1643), he departed at the age of twenty-three for more musically active environs, notably Mantua (where he served the ducal court as a player of the viol or violin and premiered his opera *L'Orfeo*) and finally Venice (where he served as *maestro di cappella* of St. Mark's from 1613 until his death). His teacher in Cremona was the noted composer and instrumentalist Marc'Antonio Ingegneri (b. Verona, ca. 1547; d. Cremona, 1592), who held the post of cantor in the city's cathedral in 1578 and served as its *maestro di cappella* between 1579 and 1592. Like Monteverdi, several Cremonese musicians left their native city and achieved renown elsewhere. The violinist Pietro Francesco Carubello settled in Paris and served in the courts of Henri III and his brother François, the Duke of Anjou, between 1576 and 1610. Carubello ultimately left France and took a position in the court of the Duke of Brunswick, where he collaborated with the composer Michael Praetorius in the preparation of the latter's *Terpsichore musarum* (1612). Two other Cremonese violinists, Alberto Ardesi and Mauro Sinibaldi, served the Holy Roman Emperor Maximilian II around 1570. This diaspora of accomplished violinists suggests that there might have been a "Cremonese school" of violin playing in the late sixteenth and early seventeenth centuries.[3]

Though sacred music flourished to a limited degree in Cremona, there were few venues for the public performance of secular music. The activities held at the local

Accademia degli Animosi and Accademia dei Disuniti were primarily devoted to literature and philosophy; however, these academies did occasionally host musical programs. For example, on February 23, 1607, the Accademia degli Animosi mounted one of the first performances of Monteverdi's *Orfeo*. It was not until 1735 (two years before Antonio Stradivari's death) that the Accademia Musicale was formed by two soldiers quartered in the city who also happened to be serious musicians, Gioachino Domenico Bottè (a distinguished oboist from the Piedmont region) and Ignazio Prover (a German musician), together with a group of local enthusiasts. The Accademia Musicale presented two concerts each month, often featuring guest musicians and singers, at the palazzo of a Cremonese nobleman named Giuseppe Barbò.[4]

Opera was not regularly performed in Cremona until the building of the Teatro Nazari in 1747, precisely ten years after Stradivari's death. Leopold and Wolfgang Amadeus Mozart attended a performance at this theater while passing through Cremona in 1770. The earlier Teatro Rangoni, built in 1670 by the Marchioness Giulia Ariberti, was converted into an oratory for ecclesiastical use in 1717.[5] The Casino di Conversazione, which was opened in 1738 (again, after Stradivari's death) as an informal meeting hall for Cremona's aristocracy, may also have been used for occasional musical performances.[6] Thus, with no court orchestra, few concert venues, and only a small number of professional musicians residing in the city, there was no compelling reason for Cremona's preeminence in the field of violin making. One wonders how often Cremonese violin makers heard their instruments played in concert. Outside of church, their workshops were probably the only places where they regularly heard their violins. One can imagine Stradivari's clientele spending a few moments tuning up and playing through some virtuosic passagework from the latest Vivaldi concerto to impress the famous maker before laying down their *filippi* and departing. Perhaps it was the lack of cultural distractions that enabled Cremona's diligent craftsmen to concentrate on their work.

Origins of the violin

The earliest representations of violins include a wall painting executed in 1508–1509 by the painter Benvenuto Tisi, known as "Garofalo," in the Sala del Tesoro (treasury room) of the Palazzo of Ludovico *il Moro* in Ferrara. Other early depictions of violins include frescoes dating from around 1529 by Gaudenzio Ferrari in the church of S. Cristoforo in Vercelli (Figure 1.1) and in the church of S. Maria delle Grazie in Saronno, as well as paintings and drawings by Bernardino Lanini dating from about 1530.[7] The instruments represented in these paintings are distinguishable from the violin's closest ancestor, the *lira da braccio* (Figure 1.2), by their smaller size, the use of a scroll-shaped pegbox with

Fig. 1.1 Gaudenzio Ferrari, *The Madonna of the Orange Trees*, 1529–1530, San Cristoforo Church, Vercelli. This is one of the earliest depictions of a violin; note that the pegbox supports only three strings.

lateral pegs (generally three in number in the earliest depictions) rather than a leaf-shaped pegbox with frontal pegs (usually seven in number), and by the lack of drone strings mounted off the fingerboard. The town of Vercelli lies between Turin and Milan, while Saronno is slightly north of Milan; thus both are quite close to Cremona and Brescia, which were among the earliest centers of violin making in Italy.

Initially, the violins made in Cremona were apparently fitted with three strings rather than with four. The violin maker Gaetano Sgarabotto (1878–1959) recalled repairing a small Andrea Amati violin (body length 334 mm) dated 1542 whose original scroll and tailpiece accommodated only three strings.[8] Writing in 1816, Count Ignazio Alessandro Cozio di Salabue of Casale Monferrato speculated that his 1546 Andrea Amati violin had been originally fitted with three strings before being re-necked and modernized by the Mantegazzas, a family of violin makers active in Milan between 1747 and 1801.[9] In these early examples, the lowest-pitched G string had not yet been incorporated.

Some have suggested that the proximity of Cremona and Brescia to the Alps (a source of spruce wood used to make the front plates of violins) was the primary reason why violin making established itself in these towns. In fact only relatively small quantities of wood were needed to support the craft, and a single cartload would have satisfied

Fig. 1.2 Bartolomeo Montagna, *Madonna and Child with Saints*, ca. 1500, detail of angel playing the *lira da braccio*, Pinacoteca di Brera, Milan. Note the five bowed strings and two drone strings mounted off the fingerboard.

the yearly demands of the limited coterie of violin makers at both places. Furthermore, Cremona and Brescia are only marginally closer to the source of wood than the larger and more culturally vibrant cities of Milan, Turin, and Venice that flanked them. Thus, the availability of raw materials does not appear to have been a critical factor. Throughout the sixteenth century, Venice, Bologna, and Padua were among the important centers of lute making in Italy, and it is unclear why the talented luthiers of these cities did not transfer their skills to the making of violins, which were quickly gaining popularity.

A number of early historians of the violin, notably Giovanni Livi (the biographer of the sixteenth-century Brescian violin maker Gasparo da Salò), theorized that Brescia, rather than Cremona, was the birthplace of the violin. Giovanni Maria Lanfranco's *Scintille di musica* (Brescia, 1533) mentions that the Brescians Giovan Giacobo dalla Corna and Zanetto Montichiaro were makers of "*Liuti*, *Violoni*, *Lyre*" and similar instruments.[10] The city's archive indicates that musical instruments of this type were made there as early as 1495 and not only confirms the existence of dalla Corna and Zanetto

Montichiaro, but also lists other makers as well, including Pietro and Boniforte Salini, Daniel de Laude, Francesco Inverardi, Palanzino Palancini, Battista Doneda, Girolamo Virchi, Gasparo Bertolotti, and Giovanni Crespi.[11] A number of nineteenth-century historians maintained that Andrea Amati learned his craft in Brescia under the tutelage of Gasparo Bertolotti (1540–1609), though there is no documentary evidence to support this.[12] In fact, later archival discoveries made by the Cremonese historian Carlo Bonetti established that Andrea Amati was born between 1500 and 1505, making it unlikely that he studied with the considerably younger Bertolotti.[13] Though documentation of stringed-instrument making in Cremona does not extend quite as far back as in Brescia, there is a record that a fifty-year-old luthier named Giovanni Liunardo da Martinengo was active in Cremona in 1526.[14] Thus, it is unclear which of these rival cities was the first to make violins.

Northern Italy was not the only locale where violins were produced in the early sixteenth century. Other centers of stringed-instrument making include the French cities of Lyon (where the famous luthier Gaspard Duiffoproucar worked), Nancy (home of one Tywersus, an instrument maker to the princes of Lorraine), and Paris. In his *Musica instrumentalis deudsch*, published in 1529, the Silesian-born music theorist and composer Martin Agricola (1486–1556) described several categories of bowed stringed instruments: the first, a family of fretted, four-string viols tuned in fourths and a third, which he termed *grosse Geigen* (large fiddles); the second, another family of four-string, fretted instruments, again tuned in fourths and a third, referred to as *grosse oder cleine Geigen* (large or small fiddles); and the third, a group of small, unfretted three-stringed instruments tuned in fifths called *cleine Geigen* (small fiddles), the latter being similar to the early violins depicted in the northern Italian paintings and frescoes mentioned above. In a later edition of Agricola's treatise published in 1545, he modified his earlier descriptions and characterized the first group, the viols, as the "Italian type"; the second group as "Polish fiddles," though indicating that they were unfretted; and the third group as being in the "Polish manner," which were also unfretted and tuned in fifths.[15] This early reference to the Polish fiddle suggests to some scholars that the violin may have originated in Eastern Europe rather than Italy.[16]

Violin making in Cremona

Andrea Amati (ca. 1505–1574) is the earliest Cremonese violin maker of any prominence whose work has come down to us. He was the son of one Master Gottardo, and from his title we may conclude that Gottardo was also an artisan, and probably a maker of lutes, viols, and liras. A seven-string lira (probably a *lira da braccio*) made by Andrea Amati

is listed in an inventory of musical instruments owned by the Medici court in Florence in the year 1700.[17] Though the lira in the inventory is dated 1573, Andrea probably constructed this earlier form prior to the development of the violin.

Andrea Amati's sons Antonio (ca. 1535–1607) and Girolamo I (1561–1630) followed in their father's footsteps. Initially they worked and signed instruments together, but in 1588 a notarial act was drawn up that provided for the division of family property between them, including the tools, models, and other workshop materials. Antonio was permitted to use the workshop and reside in the house, while Girolamo was allowed to enter the workshop, use its facilities, and sell whatever instruments he made.[18]

In 1596, Girolamo and his second wife, Laura, gave birth to a son, Nicolò. Nicolò lived a long and productive life (he died in 1684), and one of his sons, Girolamo II, born in 1649, continued the family craft. In 1630, the plague swept through Lombardy, taking the elder Girolamo, Antonio having predeceased him in 1607. Nicolò appears to have been the only master violin maker in Cremona to survive. Were it not for this, it is possible that the craft of violin making in Cremona would have come to an end.

Though there were trade guilds in Cremona dating back to the Middle Ages, violin making in the city was apparently controlled by a few tightly knit families. The census books for every parish in Cremona list not only the family members in each house but also the other occupants, including apprentices (under the name *garzone*, or shop boy) and female servants (often under the name *gevana*). Between 1641 and 1686 Nicolò Amati housed a total of fifteen employees, including apprentices and workers from outside the family. These assistants often had German surnames, for example Jacomo Reilic, Giorgio Staiber, and Girolamo Segher. Though Segher is listed in the census books as hailing from Padua, it is possible that the others emigrated from the Tyrol, particularly from the region around Füssen, where many instrument makers and woodcarvers were trained and worked. When employees left the Amati household it is unclear what became of them. If they remained in Cremona, they may have roughed out parts and made accessories such as bows, cases, and strings, or perhaps they made instruments anonymously. Between 1654 and 1655, three brothers named Malagamba – Giuseppe, Giovanni Battista, and Giacomo – occupied a structure attached to the Amati house (termed in the census *Bottega seguente*, or the next shop), where they presumably lived and/or were involved in making violins.[19] Their names are absent from the returns after 1655, but in 1666 Giovanni Battista returns to the parish with his wife and four children plus a relative named Antonio along with his wife and two children.[20] Whether they continued to work in Cremona or plied their craft in another locale altogether is unknown.

In the year 1641, Andrea Guarneri and Giacomo Gennaro first appear in Nicolò Amati's census returns. Andrea Guarneri (1623–1698), who was born about fifteen kilometers outside of Cremona in the small town of Casalbuttano, was to sire Cremona's

next great violin-making dynasty.[21] He worked for Amati between 1641 and 1647 and then returned in 1650 for another three years. Andrea Guarneri's offspring would include his sons Pietro (Peter of Mantua) and Giuseppe Giovanni Battista, later known as Joseph *filius* Andreæ (Joseph, son of Andrea), and his grandsons Pietro (Peter of Venice), and the greatest of all the Guarneri, Bartolomeo Giuseppe, later known as Guarneri del Gesù from the device on his label (the figure of the cross and the initials IHS). Giacomo Gennaro (also known as Jacobus Januarius, dates unknown) worked for Nicolò Amati between 1641 and 1646 and went on to become a master in his own right. Giovanni Battista Rogeri (ca. 1662–after 1705) came to Cremona from Bologna and worked for Nicolò Amati between 1661 and 1663. He subsequently settled in Brescia, where he became a prominent violin maker. The output of most of the other apprentices and assistants who may have gone on to have independent careers is today largely unrecognized, in all likelihood subsequently disguised by false labels that were later installed in their instruments.

The Ruggieri were a prominent family of violin makers active in Cremona that had no apparent tie with the Amati. Francesco Ruggieri (1620–1698) moved to Cremona from the small town of S. Bernardo and initially settled in the parish of S. Sebastiano, just outside the old city walls of Cremona.

Unlike Nicolò Amati, Antonio Stradivari seems not to have employed shop assistants or apprentices other than his own sons. According to the census records, the only non-family members to reside in his household were a number of young female domestic servants in intermittent succession beginning in 1698, the year that Stradivari's first wife died: "Anna Barozzi gevana an. 15" (Anna Barozzi, house girl, fifteen years of age). She was not listed in the next year's census, and it was not until 1702 that another servant was listed: Claudia Tihuella, aged sixteen. In 1705, Biancha Negri, aged twenty-five, was employed, but she too was absent from the census returns the following year. These last two servants were presumably hired to help care for the young children born to Stradivari's second wife, Antonia: G. B. Giuseppe in 1701, G. B. Martino in 1703, Giuseppe in 1704, and Paolo in 1708. The last domestic servant was hired in 1731 – "Domenica de Ros fig.[a] di Vincenzo serva an. 17" (Domenica de Ros, daughter of Vincenzo, servant, seventeen years of age) – but, like her predecessors, she was gone the following year.[22]

Despite, or perhaps because of, Antonio Stradivari's meteoric rise, by the end of the seventeenth century the old, established violin houses of the Amati, Ruggieri, and Guarneri families were in decline and experiencing financial difficulties, and by the early years of the eighteenth century they were in virtual ruin. As early as the 1670s, the Amati were selling or taking out loans against their property. For example, in 1698 they borrowed 3,000 lire with the family home as collateral. They were later forced to forfeit part of the house when they failed to make interest payments on the loan. When several of