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The Amati Method

The following item was written for the catalogue, which accompanies the Retrospective Exhibition of Classical Cremonese Masters. The exhibition, took place in Cremona between 29 September and 22 October 2000, it included the work of twenty-seven masters. The catalogue is illustrated and contains several specially commissioned articles by international experts.

The Amati Method

That Cremona should have emerged as the most important centre of violin manufacture was an accident of history and geography. Its eventual dominance owed as much to such factors as a devastating plague in the 1630s as it did to the vagaries of political boundaries. Before the advent of the 16th century there were several centres of instrument manufacture in Europe and many recorded instrument makers. Where, when, and how, the first violin appeared will almost certainly remain a mystery. Its origin has been accredited to a number of places, Fussen in the Algau (now part of Germany), Czechoslovakia,

Poland, and the towns of Venice, Brescia, and Cremona in Italy. It is now accepted that many artisans played a role in its development, evolving as it probably did, from a number of instruments. Certainly, virtually every feature of the violin occurs either on surviving instruments or in iconographic material made before the time of Cremona's first known violin makers.

For the art of violin making to become established, and to evolve, an enormous network of supportive trades would have been essential. These must have provided everything, from highly sophisticated specialized tools, printing blocks, tone woods, chemicals, oils, resins, gums, pigments, precious metals and stones, to such mundane articles as horse-hair, twine, wire, nails, glues, gut, leather, parchment, paper and cloth. Special accessories were also required. Pegs, tailpieces, strings, rosin, bows and cases must have been produced in or close to the main workshops.

Anything which could not be produced on the spot was imported. At the time of the classical violin makers, when overland connections were difficult and dangerous, and journeys were measured in weeks, the Po river system of northern Italy was a major artery of trade. It was a great European highway linking the far east and west and the northern and southern lands, and Cremona was at its centre. Not only did Cremona's violin makers live on the great trade roots, they lived because of them.

However, even a ready supply of tools and materials cannot guarantee customers. Sales were vital to the business. From the earliest times, documents refer to the export of instruments of the violin family, from several centres, including Brescia, Venice, and Cremona. These instruments were sold within Italy, as we now know it, but also in the wider European market. Such commissions almost certainly involved foreign correspondence, dealings with banks, exchange rates, court and or church officials, shipping agents, and customs and tax officials (by no means all modern inventions).

That all this was possible in Cremona illustrates the advanced commercial and industrial base which the city afforded. Nevertheless, the organizational problems must have been enormous, and ultimately these would have been the responsibility of the work-

shop head. It is difficult to imagine these people finding time for the making, varnishing and fitting up of instruments. In fact, the volume of the trade, especially in the larger workshops, betokens the fact that none of the great Cremonese makers was working entirely alone.

At any given time, popular assumptions can become the accepted models of reality. In the violin business, the idea of the Cremonese craftsman working alone, producing one individual masterpiece after another, has continually been reinforced by label manipulation, and the dealers quest for prized names. Modern research may be helping to reshape such preferred interpretations, but, even in the context of already existing information, radical alternatives to conventional theories about Cremonese violin making can be developed which do not require a whole new set of data.

One of the greatest weaknesses of connoisseurs is their tendency to become infatuated with lofty ideas and ideals. In spite of the magnificence of Cremonese instruments, violin making was (and still is) a traditional, repetitive craft, where technical proficiency came before artistic inspiration. However, almost since the time of Cozio di Salabue,¹ connoisseurs have largely ignored this notion, preferring to perceive violin making as an art form.² As a result, individual makers were elevated to the status of artists, a process which altered the perception of Cremonese instrument production. Inevitably, the myth of the lone individual making one-off masterpieces became firmly established, and unfortunately it continues to shape the thinking of many connoisseurs.

The reality was somewhat different. Cremonese masters obviously trained their apprentices extremely well, and they are unlikely to have wasted their investment with undemanding tasks. In truth, at some point in their working lives, all the classical Cremonese makers were marketing instruments, which at least in part, were made by someone else. Traditionally, the help they received came from their sons. Often this help was of major proportions. However, the help which many Cremonese masters had was by no means limited to immediate family members.

In the heyday of violin making, Cremona's workshops were places of high productivity. Although their work transcended simple craftsmanship, Cremona's classical violin makers were not so much artists, as artisans, and it is highly likely that various parts of the violin were prepared in batches. Much of this work may have been carried out by the masters and their sons, but there can be no doubt that ancillary workers were also a fact of life.³

Such revelations do not call for the denigration or devaluation of Cremonese violins. They merely offer an alternative explanation, perhaps a more accurate one and certainly a more interesting one. The artistic merit of the Sistine Chapel is not devalued by knowing that a small army of craftsmen was working under the direction of Michelangelo. Nor are the chairs of Robert Adam and Thomas Chippendale any less worthy because these masters never raised a chisel in their preparation. The world can live with a Henry Moore sculpture, which, though weighing several tons was never more than a tiny machete in the artist's hands. Perhaps the world must now learn to live with violins to which the accredited master may have contributed little more than the plans and some fatherly guidance.

Andrea Amati was probably the first, and arguably the most innovative Cremonese violin maker. Little is known about his work and less about his life. According to Carlo Bonetti,⁴ he was born some time before 1505 (making him at least 72 years old when he died).⁵ Also from Bonetti we learn that Andrea Amati was already a master violin maker by 1525 or earlier, and by 15386 he had established his workshop in Cremona. Initially he rented, and in the following year purchased a substantial property for the purpose. This house had a shop front and a small courtyard, a well, a cellar, and other offices. It was situated in the tiny parish of St. Faustino e Giovita, containing no more than 17 residences. The Amati family of violin makers, who span the entire classical Cremonese period, appear always to have been resident in this, the smallest Cremonese parish. For the most part they probably occupied the same house, although it is possible that for a period more than one house was used by Andrea's sons.

Sound information regarding Andrea Amati's instruction in the art of musical instrument making has

yet to be uncovered, but, judging by the sophistication of his works, he was no autodidact. Although claims to be the ‘inventor of the violin’ can no longer be made on his behalf, Andrea was certainly making violins well before his traditional Italian rival to the title, Gasparo da Salò.⁷ Da Salò was born on 20 May 1540; at least 15 years after Andrea Amati had become a master luthier. By the time da Salò was 25 years old, Andrea was well established and busy supplying instruments to the European aristocracy.

Whatever Andrea’s background was, it is clear that by the mid-16th century he had already achieved an international reputation. From the presently available documents it can also be assumed that Andrea was a fairly wealthy artisan. He also appears to have married at least twice. He had several children including at least two violin-making sons, Antonio and Hieronymus. Antonio and Hieronymus were almost certainly half brothers. There was approximately 20 years’ difference in their ages. When Andrea Amati died on 26 December 1577, these two sons were named as his heirs. The business they inherited was well established and the Amati name was renowned throughout Europe. Though not a complete monopoly, the Amati business appears to have had little serious competition beyond that of the workshops in Brescia.

Notwithstanding the historical arguments favouring various towns and makers, only in Andrea Amati’s 16th. century Cremonese workshop does the violin family appear in a complete and highly sophisticated form. Furthermore, unlike other centres such as Venice and Brescia, virtually the entire surviving 16th-century production was devoted to instruments of the violin family. The only Cremonese instruments known to have survived from this time are those of Andrea Amati, and his two sons, Antonio and Gerolamo (known as the Brothers Amati), and if the surviving instruments are a fair indication, their output was substantial.⁸ Without significant evidence to the contrary, it must be accepted that these two generations of the Amati family created and developed the designs and constructional methods which all the great Cremonese makers heeded for more than two centuries.

Even a cursory examination of classical Cremonese instruments shows that developments and modifications were continually taking place. New ideas were tried and either accepted or rejected. Stradivari’s long pattern violins of the 1690s are perhaps the most celebrated example. Between 1580 and 1630, a large variety of violin family instruments were made in the Brothers Amati shop(s). Their father Andrea Amati appears to have created and then consolidated the violin family, whereas the Brothers were undoubtedly experimentalist.

The overall production of the Brothers’ workshops⁹ is hard to evaluate, but their combined output must have been considerable. Since their wares undoubtedly included cases, bows, strings, rosin and all the accessories which belong to bowed stringed instruments, it is reasonable to suppose that many persons were involved in the buying and preparation of raw materials, and the designing, making, and marketing of the family’s products. Although some of this work may have been undertaken away from the main Amati residence, it is obvious that the Brothers Amati workshops were well organized business collectives – an observation which probably applied as equally to their father’s establishment, as it eventually did to that of Nicola Amati (the son of Gerolamo, who in turn inherited the family business).

The instruments which the Brothers produced influenced makers throughout Italy and beyond. Their works were soon copied, and even counterfeited. They were an early source of inspiration in Turin, Venice, Bologna, Milan, Bolzano, Florence, and the Netherlands. In England, they were much in vogue at the end of the 18th century, the time of Forster and Banks. After this period, however, the works of Nicola Amati were preferred, by both players and violin makers, and the brothers are often underrated by comparison. This is unfortunate because the Brothers never produced anything mediocre, and at their best they were second to none. Their instruments often possess astonishing carrying power, while retaining a sweetness of tone which easily complements the cultured elegance of the craftsmanship.

Nicola Amati was the son of Gerolamo I. Extremely well trained in the art of violin making, he became

arguably the greatest maker of the family. He was certainly the greatest Cremonese teacher. A disastrous plague in the 1630s killed all of Nicola's competitors, leaving him with a virtual European monopoly. However, with too much work, and no immediate family help, Nicola was forced to impart the Amati method to makers outside the Amati family circle. Evidence suggests he did this both willingly and well. Apart from any possible non-residents, at various times at least 16 apprentices were recorded living in Nicola Amati's house. Through Nicola an unbroken line of instruction existed between the early Amatis and the entire classical Cremonese school. Within the city, and even beyond, successive generations of Cremonese makers gradually extended and refined the Amati designs until, in the first half of the 18th century, the Amati influence was barely recognizable. However, concealed beneath a veneer of stylistic detail, the Amati designs flourished, and their basic rules of construction remained largely unchallenged and unchanged.

At the heart of the Amati method was the mould. This was a flat wooden board around which the violin was constructed, and whose outline represents the chamber of air inside the instrument. It is still not known which came first, the mould itself, or the complete violin for which the mould was then developed. However, because it is the starting point in the process of construction, the mould has become the major preoccupation of design theorists. The elegance and purity of the violin form is such that for more than two centuries questions about its design have generated almost as much inquiry as the composition of Cremonese varnish. Although several eminent studies have demonstrated the regular use of mathematics in the process of early instrument construction, recognizing that mathematics was applied is considerably easier than understanding how it was applied. If it ever existed as such, it is unlikely that the exact mathematical formulae, used to create the first Cremonese violins and / or their moulds, will ever be re-discovered. Nevertheless, from the earliest times, the construction methods developed by the Amati family certainly involved the use of an inside mould; accordingly it became the cornerstone of all Cremonese construction. Moreover, in the 17th century, with the exception of Jacobus Stainer, it has so far proved impossible to find evidence of consistent use of such a mould outside of Cremona.

Clearly, Cremonese apprentices were rigorously trained from an early age. In particular the Amati workshops would not have tolerated much individuality. Apprentices developing in such an atmosphere were unlikely to abandon the methods taught by their masters. For this reason, the Amati mould became ubiquitous in Cremona. Regardless of each individual's stylistic development, the construction methods employed by Cremonese makers remained virtually identical.

Although the use of an Amati-type mould defines the Cremonese school, in itself the mould was a variant of a construction system almost universal throughout Europe which was used for virtually all types of hand held, bowed and plucked instruments. The guitar, gamba, lute, and violin families were created using this once widespread technique. This system involved fitting the neck to the sides of the instrument before aligning the neck, and finalizing the body outline. Regardless of the method of constructing the sides (or in the case of lute type instruments, the paneled back), and regardless of the method of attaching the neck, the objective was the same. Because the various European schools employed different methods to achieve this same purpose, each of these methods created features on the instruments, which were unique to those schools. It is the singularity of the Amati mould, and the particular features which its use created, that helps connoisseurs to identify Cremonese instruments. Indeed, most connoisseurs work upon the principle that construction methods define schools, while stylistic details separate the individuals within those schools.

The Cremonese method not only involved the use of a mould to a greater or lesser extent, it also encompassed the use of common head outlines, sound-hole settings, archings, plate thicknessing and varnishes. All of these were developed or derived from Amati prototypes. However, it is often impossible to interpret with complete precision each stage of the Amati method. There are several reasons for this. In the first instance, although the Amati method remained generally pervasive over the centuries, some minor procedures gradually evolved. One of the features which distinguish Del Gesu's heads from those of his father 'Andrea' is correct for English but change it if you wish Joseph Guarneri filius Andrea is Del Gesu's method of applying chamfers to his scrolls. He applied the chamfers after the fluting rather than

before, a process which results in softer-looking heads. Another modest change occurred in the work of Carlo Bergonzi, who employed a slightly different way of inserting the linings into the corner blocks of the ribs.

Stradivari also appears to have developed a different system for thickening the backs of his instruments: this avoided the use of the central conical pin hole, preferred by the Amatis and found on the backs of many other Cremonese instruments including those of the entire Guarneri family. A further reason why certain stages of the Amati method remain obscure was the often flawless nature of Cremonese craftsmanship, all clues about their techniques having been obliterated in their struggle for perfection. However, by observing the more extreme works of such makers as Joseph Guarneri del Gesù, the procedures of these more meticulous colleagues can occasionally be recreated. This strategy has proved particularly helpful in reconstructing the Amati method of developing the edgework. Had it been possible to examine Cremonese instruments in their original 'baroque' condition, a greater understanding of their method would have undoubtedly ensued.¹⁰

Unfortunately, from the entire 250 year classical period, only two or three Cremonese instruments have survived intact. Remarkably, the most perfectly preserved example is an extremely early work, a violino piccolo, by the Brothers Amati, dated 1613.¹¹ The remaining instruments are mostly large sized violas. The two in most authentic condition, are a tenor viola from Andrea Guarneri and a tenor by Antonio Stradivari. With the exception of two well preserved violins by Jacobus Stainer, there are no Cremonese school violins of normal size, and no cellos, in their original state. A small number of instruments still retain certain features of the baroque period, including some original, though usually heavily modified necks. A rare few authentic neck blocks, nails, bass bars, tailpieces, and fingerboards add to the list of relics.

The fact that virtually all Cremonese instruments are no longer complete, limits the possibilities for piecing together the Amati method. It is known that original fingerboards, necks, and neck blocks left their mark upon those parts instruments which re-

main intact. However, the exact amount which these missing items affected the appearance of that which remains, and the precise role which these items played in the construction process, remains uncertain. In every instance, the removal of original necks has destroyed the typical one piece nature of the Cremonese top rib. And the consequent loss of so many original top blocks has made matching rib structures to the surviving moulds more difficult. New top blocks have also made it harder to establish with certainty the exact method of fixing the baroque neck to the ribs, a process which varied slightly even in Cremona.

Apart from the instruments themselves, the only substantial information about baroque violin making which has survived to the present day is the enormous collection of tools, drawings, moulds and templates housed in the 'Museo Stradivarian', in Cremona.¹² Amongst these relics are two virtually complete sets of working drawings, one for an alto, and one for a tenor viola. It is clear that similar drawings and templates existed for each type of instrument made in the Stradivari workshop, but sadly no similar set has survived from any other workshop.

Unfortunately, none of the surviving Stradivari drawings, templates or moulds displays any obvious details about their design origins; they are merely working aids. Originally, such sets would have included the finest detail, making it possible for an entire instrument to be marked out for construction, using only a pair of dividers, a straight edge and a marking tool. The Stradivari workshop, like that of the Amatis' before, probably had several ancillary workers. These workers may well have been illiterate and possibly innumerate, but with the help of such drawings and templates they could still have completed any aspect of violin making.

Although not exclusively the work of Stradivari, most of the artefacts in the 'Museo Stradivarian' collection can be traced back to his workshop. As a result, we know more about Stradivari's working methods than we do about any other classical Cremonese maker. Fortunately, Stradivari's own reliance on the Amati tradition makes this information extremely useful, and with some circumspection it can be applied to the analysis of any Cremonese instrument.

It is significant that a number of the Stradivari museum moulds appear to originate from Cremonese workshops other than Stradivari's. Some at least must have been the work of the Amatis. Count Cozio Di Salabue, writing to Count Alessandro Maggi in 1804, had the following to say about the forms, tools and drawings.

"I would be very much obliged if you could track these things down for me and also those forms (moulds) and models from the Amatis which I believe must have been passed down to Stradivari as I have found some pieces belonging to them in his own collection....."13

In fact the outlines of several instruments by Andrea Amati, the Brothers, and Nicola Amati appear to fit a number of the surviving moulds. Conversely some moulds have never been matched to any existing Stradivari outline.

The contents of the 'Museo Stradivarian' appear to indicate that Antonio Stradivari developed and used a comparatively large number of different moulds during his long working life. However this does not mean that all, or any, were mathematically devised. Stewart Pollens¹⁴ shows that when the 12 surviving violin moulds¹⁵ are superimposed upon each other, they fall into several groups. Within these groups, sections of a particular mould outline, appear to have been kept, (for example the top and centre bouts) while the remainder were slightly modified to create new moulds. As a result, the differences between some of the moulds are remarkably small. This implies a gradual adjustment to the lines of the form, rather than a fresh mathematical construction for each subsequent development. By the end of Nicolò Amati's life there was 150 years' worth of violin patterns floating around Cremona. It is not unreasonable to assume that the emphasis was not on creating new designs, but on modifying or copying existing ones.

From such information it might appear that the great Cremonese masters were only copying, but as his drawings and templates prove, Antonio Stradivari was a man of geometry. And, as his various models

demonstrate, he was also an innovator. Whatever the possibilities for empiricism, Stradivari's designs, especially those for the cellos, have the hallmark of ingenious planning, rather than simple modification.

Today the smallest details of form and line can be picked up by the trained eye, to a degree which would probably have been considered unnecessary by most Cremonese makers. Nevertheless, a few of the techniques employed by these Cremonese masters will always remain unknown, the method having been concealed by the final presentation. The Amatis' method for generating archings has proved particularly evasive. Whenever such difficulties arise, the only possibility is to learn from other sections of the method, where more is known. In such cases, the technique has always proved common to all Cremonese works, and stems from the Amati method.

Among connoisseurs, there is a faction who insist that the study of classical Cremonese instruments, circa 1550 to 1750, is the only valid introduction to expertise. Although obviously not the only possibility, the arguments in favour of this idea are powerful and persuasive. Unquestionably, the designs created and brought to perfection by this school of makers were the stuff from which subsequent makers, almost without exception, derived their inspiration.¹⁶ This inspiration may be many times removed from the original source, but even in the most primitive of instruments, its presence cannot be denied.

From an early stage, instrument makers of many different schools began copying the successful instruments of others. In particular they imitated the works of the Amatis, Stainer and eventually Stradivari and Guarneri Del Gesù. Whenever this happened, it was usually only the basic stylistic features, which were faithfully reproduced. Normally, each copyist retained the constructional method of his original teacher. There are many examples. In early 18th-century London, Daniel Parker made stylistically accurate copies of instruments by Antonio Stradivari¹⁷ while continuing to use constructional methods and varnish peculiar to the English school of Barak Norman and Nathaniel Cross. In the second half of the 18th century a similar situation developed in the Buchstetter family of Regensburg: the Buchstetters' copied the features of a 1690s long pattern Stradivari violin with considerable success, but they too re-

tained the varnish and constructional methods specific to their native school.¹⁸

Largely because of the constructional methods employed by Jacobus Stainer, it is assumed that he received his training in the art of violin making from a Cremonese master, probably Nicola Amati. However, the Germanic method of construction which he employed for making instruments of the Gamba family has led others to believe that he was trained in Venice by makers of German origin. It is possible that both explanations are correct. At an early stage in his career, having already produced a number of violins, Stainer is known to have spent about 18 months in Venice. Assuming that he had been taught violin making in Cremona, a short period would have been sufficient for a maker of Stainer's skill to become proficient in the art of Gamba making. This would certainly explain his use of two constructional systems. Perhaps significantly, although Stainer employed two different methods, all his instruments are stylistically similar.

Stylistic differences have always been the key to identifying individuals within schools. The Cremonese school is the definitive example of this rule. Following Andrea Amati, and after initially taking on the characteristics of his teacher, each new member of the Cremonese school gradually changed and developed a style of his own. It is difficult to imagine two more divergent styles than those of Giuseppe Guarneri Del Gesù and Andrea Amati. Indeed, although geographically virtually neighbours, chronologically they were separated by 200 years. Nevertheless, if the instruments of these two makers are carefully examined, it becomes obvious that they are inextricably linked. In spite of extensive stylistic differences, the basic construction methods employed by Andrea Amati and Guarneri Del Gesù were practically identical. The same is true of all classical Cremonese instruments.

In spite of the various stylistic clues, differences between Cremonese apprentices and their masters are not always easily established. While working together, the influence of the one over the other was often so strong that it is frequently difficult, and at times impossible, to separate them. Some were so skilled at working in the style of their master that their own personal style hardly surfaced. This is the

obvious explanation for the difficulties experienced by experts when trying to establish the identity of Stradivari's teacher. Furthermore, over the centuries many instruments have been wrongly attributed, and many once productive workers have now become virtually unknown. This is largely the result of label manipulation. The manipulation of labels is not only a catastrophe for so many 'lost' Cremonese this is correct makers, it also creates havoc for those attempting to assess the stylistic development of the better known masters. This problem may seem relatively insignificant, but the truth is that cheating customers for short term gains is, in the long term, cheating history. Part of the reason why Gerolamo Amati II, Giacomo Gennaro, Katharina Guarneri, and even the sons of Stradivari, are virtual footnotes in the chronicles of the Cremonese school, is the age old practice of label manipulation and deliberate misrepresentation. There can be no doubt that such practices have seriously damaged the connoisseurs' ability to follow stylistic clues with confidence.

That the Amati system was ubiquitous in Cremona is no longer doubted. Its presence can be seen in all classical Cremonese instruments. Moreover, every avenue of research has shown that, both professionally and privately, the great Cremonese makers were closely linked. Further research may reveal more, about the lives, the methods, and the stylistic development of the classical Cremonese makers. It may even uncover some more hitherto unknown masters. However, the key to understanding Cremonese instruments will always be; understanding the essence of the Amati system, but paradoxically, understanding the Amati system can only be achieved by studying the works of all Cremonese makers.

In particular I am indebted here to Philip Kass, who in recent years has contributed more than anyone to our knowledge of the Amati family.

- 1 *Count Ignazio Alessandro Cozio Di Salabue, 1755 - 1840. Count Cozio was a violin enthusiast and dealer. More than two hundred years after the first violins of Andrea Amati, Count Cozio began assembling a massive body of knowledge about the classical Italian school. Much of today's expertise is based upon that which the Count reported.*

- 2 *This is a peculiarly modern way of thinking. Painters, sculptors and architects of the Renaissance were also more likely to place technical proficiency before artistic interpretation. Often painters' workshops were set up for large scale production. For example, more than 100 identical portraits of Martin Luther have been identified all bearing the date 1533 and the signature of Lucas Cranach. These were all produced in his workshop between 1733 and 1736.*

- 3 *This situation was common elsewhere. In Hamburg, the instrument maker, Joachim Tielke (1641-1724), almost had his shop burnt to the ground by members of the woodcarvers' guild. Tielke had simply been carving heads for his own violas rather than purchasing them from a member of the guild. In Paris, Lafille (c.1760), cut many heads for makers of the Paris school, including Salomon and Geursan. Several experts believe that Antonio Stradivari's son Francesco made most of the post-1700 Stradivari heads. Since Stradivari's two sons contributed over 100 years of mature working time to the family business, including about 96 years, while Antonio was alive, something of this nature must have at least been possible.*

- 4 *Carlo Bonetti 'La Genealogia degli Amati Liutai e Il Primato della Scuola Liutistica Cremonese', translated into English by Gertrud Graubart Champe and edited by Daniel Draley, as 'A genealogy of the Amati Family of Violin Makers 1500-1740. The Maecenas Press, 1989.*

- 5 *If the longevity of other members of the Amati family of violin makers can be considered a guide, Andrea may even have been born before 1500. Nicola Amati lived into his 88th year and Gerolamo II died just five days short of his 91st birthday.*

- 6 *February 12th 1538, 1539 in the new calendar; see Bonetti.*

- 7 *Cremona was separated from Brescia, not so much by distance, as by a political boundary. Brescia belonged to the Venetian state, whereas Cremona was Milanese. This may be one reason why such vastly different styles developed. Although Gasparo da Saó was established after Andrea Amati, Bonetti cites documentary evidence showing that Gasparo's father and grandfather were luthiers.*

- 8 *With the possible exception of a small Lira with seven strings, from Cremona there are no other types of instrument surviving from before the time of Andrea Amati. This does not exclude the possibility that some did exist. This Lira and other possibilities are mentioned in an essay by Lawrence C. Witten, 'The surviving instruments of Andrea Amati', Ente Triennale Internazionale Degli Strumenti Ad Arco, Cremona, 1982*

- 9 *There may have been more than one Amati workshop, since the Brothers split the contents of the Andrea Amati's house and workshop. See 'The Strad' magazine articles; December 1991, March 1992, March 1993, Mai 1993.*

- 10 *When used in conjunction with the violin, the term 'baroque', usually refers to instruments as they presumably were in their original condition. Authentic instruments are extremely rare. From the earliest times, even before the end of the 17th century, instruments were altered. Generally, but certainly not always, this was to satisfy the requirements of musical innovation. So many minor changes have taken place in the 400 year history of the violin, and so few, if any, instruments have survived unaltered, it is virtually impossible to define the baroque violin.*

- 11 *This small sized violin has probably survived intact, its original purpose is now unknown. However, it does not appear to have been a child's violin. The various inlaid fingerboards found on the Cremonese instruments in the Ashmolean museum are all replacements made around the beginning of the 20th century.*

- 12 *The Stradivari museum in Cremona contains a great many artefacts including paper and wooden templates, tools and several wooden moulds. Most of these items were purchased by Count Cozio Di Salabue from Paolo Stradivari, Antonio's son, and from his son Antonio Stradivari II.*

- 13 *'Technical Studies in the Arts of Musical Instrument Making'. Dipper-Woodrow, 1987*

- 14 *'The Violin Forms of Antonio Stradivari', by Stewart Pollens. Peter Biddulph, London 1992*

- 15 *The Hill Brothers state that there are 19 moulds, of which three are for tenors. (Unless some moulds have gone missing, the Hills may have been counting several moulds which although housed in the museum, are probably from the Ceruti workshop). See page 195. 'Antonio Stradivari, His Life & Work', (1644-1737) by W. Henry Hill, Arthur F. Hill & Alfred E. Hill, Pub. W. E. Hill & Sons, London 1902.*

- 16 *The early Brescian school, personified by Gasparo Da Salo and Maggini being the only serious exception.*

- 17 *Daniel Parker (fl c.1700-1730), appears to have had access to a set of instruments by Antonio Stradivari, which were ordered for King James II of England. Parker was probably the first copyist of Stradivari outside Italy.*

- 18 *Buchstetter, Gabriel David, (b. c.1752 d.1771) and his son Joseph (fl c. end of 18th century).*
