Chapter 5 Is it the Wood?

The excellence of Stradivari's violins and cellos, as well as those of Guarnerius del Gesu, has been attributed to the varnish used, the "ground layer" under the varnish, the effect of time on the wood, or the wood itself.

There are a few clues which prompt further inquiry. The quote from the Hill brothers book *The Violinmakers of the Guarneri Family* suggests that attention was paid to the value of the top wood, which gave especially good results. The quotation, p 80 is instructive.

His (del Gesu's) pine was excellent from the start - a stiff and vigorous type of wood; and it has been pointed out by past writers that many tables cut from this particular pine-tree show a sap-mark running down on either flank. This is found on a good many of the violins, but it is not always the case. It is instructive to see that Carlo Bergonzi at times utilized pine cut from this self-same tree!

Another clue comes from the Hill book *Antonio Stradivari, His Life and Work* as found on pages 185 and 186. The graduation of his top plates for violins is remarkably consistent. Most thickness measurements are 6/64 inches (094 thousandths or 2.4 mm) all over, or 6/64 inches to 7/64 inches (109 thousandths, or 2.8 mm). These data were accumulated more than 100 years ago. Today's measurements of top plates from Stradivari's violins show much greater variability. Some plates are considerably thinner.

To be sure Stradivari and del Gesu did not use glitter sprinkled on top plates and measure Chladni patterns. Nor is it likely that they bought pieces from wood dealers a few at a time. There is no evidence that they used tap tones. There is no evidence that they flexed the top plates to decide how thick the plates should end up.

Stradivari had a unique background in being adopted by an architect, who had to know a great deal about wood. The weight of the wood as well as its stiffness or strength was important to know for construction. Stradivari's wife had a grandfather who was an architect. Stradivari lived next to Nicolo Amati, who was the only violinmaker to survive the black plague, and had a corner on the violin wood market. The young Stradivari would have learned something about wood characteristics as soon as he was able to whittle or actually begin making things out of wood. Stradiviari learned his trade from Nicolo Amati.

There can be no doubt that Nicolo (1596 -1684) had learned a great deal about wood from his father Hieronymus (1561 -1630) and grandfather Andrea (1500-05 to about 1580). All these men were practical down to earth men. Once they found out that something was good, they stuck with it. Stradivari made essentially the same violins during the last 25-30 years of his life, and he made the same forma B cello during the same time period (with three exceptions in 1730 -1732).

It should not be difficult to compare and identify the beautiful back and side wood used by Stradivari, by perusing the great contribution of Herbert Goodkind, his *Violin Iconography of Stradivari,* published in 1972. One can view the especially beautiful figured maple used by Stradivari over the many decades of his work and see examples from the same log used in his violins, violas and cellos. For example, there were more

than 20 violins made from 1714 to 1716, which had what appears to be beautiful back wood from the same log. Even more importantly the top plates of these violins appear to come from the same log. That the back wood was relatively scarce for the wider cellos is shown by the use of willow, poplar or other non-figured wood for back, sides and necks. There were 9 cellos, but only one viola (1672) made of poplar, but none for violins.

Photographs of the top wood in this volume (Goodkind) are of good to poor quality. Yet it is possible to learn something from perusing the photographs, especially of cellos and violas.

From viewing the photos of the top of cellos one could raise the question whether Stradivari used the same logs for cellos, from a period of the 1790's to the 1720's. Of Course it is not possible to make certain identification of each top as to whether the same log was used. On the other hand it is possible to determined the tops that are clearly different from each other. It is very unlikely, with Stradivari's productive output that he didn't order each piece or a few pieces of back wood or top wood from a wood dealer and go from there. From experience he must have found that wood from a particular log gave better results than from another log. He must have known that lightness and stiffness were important for an initial selection of the best top wood for violins, violas, and cellos.

I have attempted to identify possibly three distinct kinds of top wood Stradivari used for his cellos from 1690 to the 1720's.

1. Annual rings from narrow at the center joint of the instrument to widest at the lower bout. Examples are the 1690 Boni-Hegar, 1696 Prince Gursky, 1696 Castlebarco, 1698 Cholmondeley, 1698 St Senoch, 1711 Duport, 1719 Becker, and 1725 Baudiot.

2. Even annual rings, but narrower than in 1 above. Examples are the 1720 Piatti the 1725 Vaslin, and the 1732 Stuart cello. It is possible that with more exact determinations that the narrower grained wood was from the same log as those above, except that wood closer to the bark was used.

3. Uneven annual rings, which vary from narrow at the center to wider, then Narrower, and then wider. Examples are the 1698 Archinto cello, 1696 Aylesford, 1709 Delphino, 1720 Gore-Booth, 1712 Davidov, and the 1713 Bass of Spain.

4. Irregular top wood: The Levegrae cello (poor photo) appears to have a wing on the left flank. The 1697 Castlebarco has wide grain in the center of the plate to the lower ff hole and narrower to the edge of the lower bout. The 1698 Kernadic Bass has wings outer flanks both sides. The 1701 Servais cello has wavy grain on the left lower and central bouts, but this is not seen on the R side. The 1714 Batta (less conspicuous) is uneven on the right side and even on the left side. The 1714 Haussman has a wing right lower bout (poor photo left side). The 1726 de Corberon appears to have a wing right outer flank (poor photo left flank). The 1730 de Munck has a piece of top wood joined just outside the bass bar.

5. Poor photos of cellos with grain indistinct include the following: 1690 Tuscan Medici, 1692 Segelman, 1700 christiani, 1717 Suggia, 1717 Hegar, 1721 Jansen, 1721 Bergonzi, 1725 Vaslin, 1726 de Saveuse, 1730 Pawle and the 1731 Giese.

Violas -The first step in assessing instruments should be an inspection of the kinds of wood used for the back, sides and neck, and even more importantly the kind of wood used for the top plate. Therefore, a brief description of the top wood, as well as the wood used for the back and sides follows:

1672 Mahler- top wood unlike (very wide grain) all other violins, violas and cellos with one exception- the 1667 Saville violin. The back wood is also unusual. There are no violins with wood other than maple. There is only one viola (but 9 cellos as noted above) where poplar or willow is used and this is the 1672 Mahler.

1690 Tuscan Medici

According to the Hill brothers it would be 18 years before Stradivari made another viola. There were two violas made in 1690, the tenor and the contralto. These were the Tuscan Medici violas, commission by Cosimo de Medici, The Duke of Tuscany. One violin of this set, the two violas and a cello are in *Goodkind's Iconography of Stradivari*. From the photos presented in this volume it appears that wood from the same log was use for the backs and sides of all five instruments. The top wood on the violin and contralto viola appears to be from the same log, with even wood from narrow center to wider flanks.

The reason why the 1690 contralto viola is of importance is that all of Stradivari's Contralto violas to follow were of the same pattern and markedly different from Stradivari's first viola of 1672. From the Hill brothers book Antonio Stradivari, pp 97-98:

The next viola after the 1672 Mahler known to us is dated 1690-eighteen years later, the year which gives the first of the "long strad" violins as well as the Tuscan set- and the creative capacity displayed in these instruments is equally traceable in the viola. The distinctive features at once apparent between this and the former viola are the narrower outline, the lower and more slanting position of the sound-holes, flatter arching, Broader edges, and shorter corners.

The question we cannot answer, but can only surmise, is why Stradivari reduced the upper and especially the middle bouts of all of his subsequent violas from this same model? This is not simply an academic question. One might also ask why Stradivari made a tenor viola in 1690 along with the contralto viola of this same set? The Hill brothers provide a reason as follows, p 99:

The moulds and other necessary patterns use in making the violas of the Tuscan set are preserved in the Dalla Valle Collection, and we note with interest that Stradivari Calls the larger one "tenor", the smaller "contralto": the moulds are also lettered T.V. and C.V. The distinctive titles favor the supposition that these two distinct

types of violas were then generally recognized and known respectively by the names cited. These pairs of violas by Stradivari were doubtless intended to be played in compositions of the character of the "Sonata a Cinque", by G. Legrenzi (1625-90), and the "Sonata Varie," by J.B. Vitali (1644-92).

The remarkable fact is that Stradivari did not make another viola like his first, the Mahler in 1672, despite its sound overall dimensions, if not typical of the kind of wood he used for his violins then and ever since. Even Andrea Guarneri, with his successful 1676 Conte Vitali contralto viola made only a few more, his last in 1697, the Primrose.

Once again, the Hills may have provided a likely reason. P 100:

From 1660 to 1700 the small viola was superseding the large one, though fewer violas of any kind were then made. Between 1700 and 1750 there was almost a cessation of viola-making in all countries; this coincides with the dearth of chamber music composed at this period in which the viola was given a part.

1696 Spanish Court, 1696 Archinto

Another set of commissioned instruments, by the Spanish Court, would follow the Tuscan-Medici commission. From Hills: *We pass on now to 1696, which year gives us two remarkable violas – That of the quintet of inlaid instruments which for some years was owned by the Spanish King Philip IV, and another known as the "Archinto," from having belonged to a count of that name, who was also the owner of a Stradivari quartet. We presume he was the Conte Giuseppe Archinto to whom the well-known Allessandro Rolla dedicated some of his duets for violin and viola.*

Only the Spanish Court contralto viola is presented in the Goodkind volume. There are no photos of the other members of this quintet. From the Hills, p 101: *The figure of the maple used for back, sides and head is charming, and homogeneous throughout.* From inspecting the Hill and Goodkind photos, it is clear that they are photos of the same viola. It is interesting that the wood used for the back, sides and neck look like they were also from the same log as the wood used for the Tuscan Medici quintet. From looking at the Goodkind photo of the Achinto viola and comparing it with the Spanish Court tenor and the Tuscan Medici set, it looks like all came from the same log. The photos of the tops of the Spanish Court contralto and the Archinto violas did not permit (Goodkind photos) close examination of the grain. From the Strad poster it looks like the top wood of the Archinto viola is like the wood used for the Medici quintet. I would surmise that the top wood of the 1696 violas was from the same log as was used for the Tuscan Medici quintet.

So what can one conclude from all this? It is certain that Stradivari made in 1690 and 1696 the violas described above because they were commissioned by people with sufficient resources to make it worthwhile. The special attention given to the wood selected for the violas as well as the other members of the Tuscan Medici quintet raise the question whether Stradivari made a special effort to select for his most illustrious customers the most attractive wood, and perhaps wood that had given good results in violins made from the same logs of maple and "pine"? These are questions, which are worth bringing up. One could also wonder whether Stradivari would have made any more violas if he did not have the market for these violas at this time? One might also ask why Andrea Guarneri made only a few violas after the 1667 Conte deValle, according to the Hills, in 1690 and his last in 1697?

1701 Macdonald

From the Hills: *We now come to probably the best-known example of the violas - that named the "Macdonald," dated 1701. --- The wood of the back is of one piece, of broad and moderately handsome curl, the sides and head matching, that of the belly shows a broad and well-marked grain.*

From Goodkind's Iconography one can readily agree with the description of the appearance of the wood of the viola. There are at least 6 violins from the period 1701 to 1703 with backs, sides and necks that appear to be from the same log as the Macdonald viola. The top wood is similar to other violins of the period.

1715 Castelbarco

The Hills do not say anything about this viola, which ranks with the 1701 Macdonald, the Tuscan Medici of 1690, the 1696 Spanish Court and the Archinto violas. The attractive back, side and neck wood as well as the top wood are similar to numerous violins made between 1713 and 1715.

1727 Cassavetti

The top wood is winged, both sides passing through the ff holes. The back wood is similar to the 1727 Barrere violin and the 1740 Soleviev (Omobono). The wood for the sides shows a very faint figure. The Hills do not comment on this viola except to say, p 104: *From 1701 we pass to 1727 before meeting with another viola.*

1731 Paganini

The Hills comment, p 105: *The next example was made in 1731 --- Though showing noticeable signs of an old man's hand in the finish of the work, this viola exhibits a well-conceived and broadly-carried-out design, in agreement with that of the "Macdonald."* The top wood goes from narrow in the center to wider, then narrower, then wider; however one cannot see the grain on the R lower bout from the photo. The one piece back wood has a very steep slant, and a fairly wide attractive figure. The sides show a narrow figure different from the back, with the figure going in different directions.

1734 Gibson

The Hills comment, p 106: *The last Stradivari viola in chronological order known to us also of this period, though its original label is unfortunately wanting; we refer to the viola which is the property of the distinguished player Mr. Alfred Gibson;* --- From the Goodkind photos the top appears to be constructed from two different logs, the R side more even than the left side. The left side shows narrow wood center to upper ff hole, then much wider for 10 years or so then narrower, to outer lower ff hole then gradually wider. The back wood shows an indistinct horizontal figure and the sides do not match, showing a narrow fine figure with a slant.

Goodkind presents in his Index of Instruments, p 723 a list of seven more Stradivari violas, which are not included in the Iconography of photos. Riley, Volume I,

pp 60, 61 presents the same violas in a *Chronological List of Known Stradivari Violas.* These are listed below:

1685 From Riley volume I, p 61, *Today there is no trace of the violas ordered for the Duke of Savoy.*

The 1687 King James:Monza.

The 1695 Hill

The 1696 large Spanish Court tenor viola (From Goodkind, in Riley, Vol I, p 64: *in El Placido Royal in Madrid).*

The 1700 Corsby

The 1710 de Boulogne (From Riley, volume I, p 61 *Some experts question whether this instrument ever existed*).

1715 Moscow State Theatre.

1721 Carli; Paganini.

1723 Christie's auction; Gillott.

Nothing can be said of the appearance of these violas since photos are not available. So what can be said of the wood of the violas attributed to Stradivari, whose photos are presented in Goodkind's Iconography? The first viola, the 1672 Mahler viola is unlike all other violas and violins. It has especially wide grain for the top wood. This in itself is unusual. The Mahler has figured poplar or similar type wood for the back and sides. There are no other violas or violins, which have this kind of wood for the back, sides and neck. The top wood had exceptionally wide grain. There apparently is no record of who played this viola or what it may have sounded like.

The fact that 18 years would pass by, according to the Hills, before another viola would be made, in 1690, is also significant. There must not have been much of a demand for violas. It is also of interest that a very large viola was made that year and that the size and shape of the 1690 small viola as well as all the subsequent violas made by Stradivari were very different from the 1672 Mahler viola, as detailed in previous chapters.

Subsequent violas made in 1696, 1701 and 1715 were like the 1690 Tuscan Medici contralto viola. Stradivari's prolific output of violins and cellos during this same period contrasts with this meager output of violas. The Hill brothers and Maurice Riley give reasons for this.

From the Hills, p 107, 108:

The violin having come to be recognized as the leading and most important of the stringed instruments, the viola occupied the attention of makers less and less. There was in existence at the commencement of Stradivari's career a considerable number of fine violas by Gasparo and the Amati, and in consequence the construction of violins and violincellos afforded more scope for his exceptional powers. We may mention that neither

Joseph Guarnerius filius Andrea, Joseph Guarnerius del Gesu, nor Carlo Bergonzi appears to have made a single viola. David Techler of Rome, the maker of so many fine violincellos, gives a little side information, which is of interest here, when he records on the margin of his label, dated 1730, "la terza viola." *Thus in upwards of forty years of his working life he had made only three violas.*

The last three violas made in 1727, 1731 and 1734 attributed to Stradivari are problematic. I have never believed that Stradiviari's two sons Omobono and Francesco did not make violins or cellos during their lifetime working in their father's shop. Only two violins the 1731 Hamma and 1735 Dushkin (no violas or cellos) are attributed to Omobono. The 1734 Peterson violin is attributed to Francesco.

The back wood of Francesco's 1734 violin is very similar to the 1734 Gibson viola, neither being particularly attractive. Other atypical features of the 1734 viola are noted above such as the use of different pieces of top wood from different logs. The old master must have overlooked this. He probably did not notice the atypical shape of the top plate, which resembles more the typical curvature of a back. And the color of the varnish is yellow without a trace of brown or red-brown. One must certainly entertain the possibility that the old master simply gave Francesco the job of making the 1734 Gibson viola.

Omobono's back wood for his 1740 Solovieff violin is very much like the back wood used for the 1727 Cassavetti viola. The winged top plates are also peculiar. The wings occupying almost half of each side show very different wood, fairly wide compared to the narrow center wood. The very faint side wood is also not typical. On the other hand the workmanship, as judged from the photos of the viola is superior to that of the 1740 Omobono violin, which shows difficulty with bending the ribs for the C bouts and shortened corners. One wonders whether the workmanship of the sons needed the watchful eye of the master?

One can raise questions why the wood used by Stradivari during his last decade included many pieces, which were not as attractive as during the earlier periods. One can also question why the wood used by Francesco and Omobono after the father's death was not nearly as attractive as during any period of the masters long productive life. Was this wood just left over after the production of so many instruments from earlier years? Was it too expensive for the sons to purchase? Where did all this wood come from? Was there room enough in the Stradivari household sufficient to store great quantities of wood for long periods of time? Or was there a common shelter for wood storage used by the old Cremonese masters?

One cannot regard these violas and other instruments made during the last years of Stradivari's long life as having less value than others at any other period, whether or not he actually made or supervised the construction of these last instruments. I can say that the best violin I have ever heard performed in concert was the 1736 Muntz Stradivari violin made one year before Stradivari's death. We had the privilege in hearing this violin played right here at one of our Friends of Music concerts in Brookings, Oregon, March 12, 2004. The soloist was Judith Ingolfsson, accompanied by her husband Ronald Sat. Her playing was as remarkable as the tone of the violin. I was privileged to look at this violin after the concert and was impressed by its beauty and state of preservation after so many years. I also thought the 1736 Muntz violin had the best tone of the fifteen Strads and del Gesu violins played by Elmar Olivera on the disc *The Miracle Makers*.