ANTONIO STRADIVARI "SERVAIS" 1701

The renowned "Servais" cello by Stradivari is examined

by Roger Hargrave
Photographs: Stewart Pollens
Research Assistance: Julie Reed
Technical Assistance: Gary Sturm (Smithsonian Institute)

In 184.6 an Englishman, James Smithson, gave the US Government $500,000 to be used `for the increase and diffusion of knowledge among men.' This was the beginning of the vast institution which now dominates the down-town Washington skyline. It includes the J.F. Kennedy Centre for Performing Arts and the National Zoo, as well as many specialist museums, depicting the achievements of men in every conceivable field. From the Pony Express to the Skylab orbital space station, from Sandro Botticelli to Jackson Pollock this must surely be the largest museum and arts complex anywhere in the world. Looking around, one cannot help feeling that this is the sort of place where somebody might be disappointed not to find the odd Strad! And indeed, if you can manage to tear yourself away from the first video juke box (a recent acquisition) you will not be disappointed.

Housed curiously in a building known as the Museum of American History, is a magnificent, uncut, large pattern cello made by Antonio Stradivari in the year 1701 and known as the "Servais". Like the "Hellier" inlaid violin, which I also measured and recorded at this museum, the history of this cello is well documented. However until now no extensive measurements or drawings have ever been published. This cello is known as the "Servais".

The Hill brothers in their Life and Work of Stradivari say simply:

The "Servais" violoncello, as far as we know, stands alone. It is not only the sole example of the year 1701 but we believe it to be the only example which combines the grandeur of the pre-1700 instrument with the more masculine build which we could wish to have met with in the work of the master's earlier years.

Something of the cello's history is certainly worth repeating here, since, as is often the case, much of this is only to be found in rare or expensive publications. The following are extracts from the Reminiscences of a Fiddle Dealer by David Laurie, a Scottish violin dealer, who was a contemporary of J.B. Vuillaume:

While attending one of M. Jansen's private concerts, I had the pleasure of meeting M. Servais of Hal, one of the most renowned violoncellists of the day . . . He was also rather eccentric and sometimes caused much mirth among the audience by mounting on a table 'cello and all, so that his part might be well-heard above the orchestra and further making most comical faces which set the audience in a roar . . . The cello he played at the time I met him was a very large sized Strad, of the early period, and had never been reduced in size as so many were, owing to the difficulty men of medium size had in playing them, because Servais, being big and strong, found no difficulty with it.

Laurie goes on to discuss the use of a wooden rest or end pin by Servais's son who was also an accomplished cellist and eventually inherited the Strad from his father. Although Servais senior is credited with having invented the endpin, Laurie states that `M. Servais [junior], however, had been trained to use

the rest pin, as indeed nearly all artists outside England are.' This gives me the impression that the pin was probably in use before Servais senior's own need to lift the cello away from his rather large frame. In fact one might wonder how much of the extensive wear on the top left hand corner and the left hand edge of the C-bouts of the back were the result of the rather corpulent thighs of the Servais family.

Until the later part of the 17th century players seldom used the register of the cello above the second and third positions. As a result, neck and stop lengths were of little importance. Only when the potential of the cello was recognised as being something more than an instrument of bass accompaniment were such matters as string and body lengths taken into consideration. As a direct consequence of this development, many instruments of larger dimensions were drastically and often catastrophically reduced in size.

There is an interesting final paragraph to Laurie's Servais chapter:

I may mention that the work of reducing these large Strads was a most serious and difficult one; the only maker who could do it really well was one named Menningand . . . Even Vuillaume admitted his superiority in this, and latterly advised any one who wished such a thing done to go to Menningand.

Clearly such work was commonplace at this time and it seems likely that it is only thanks to the over-large Servais family that this particular instrument remains unaltered. Though Stradivari himself was not solely responsible for the development of the violoncello, the greatest changes to this instrument's design were taking place during his working lifetime: Needless to say, Stradivari made his own invaluable contributions, and he is justifiably credited with having perfected the proportions and dimensions which we now accept as standard. Of course changes did not entirely finish with Stradivari. Many features of the cello, quite apart from the aforementioned endpin, have been altered, but the basic pattern of the cello like those of the violin and viola-, has never been successfully improved since Stradivari's time.

I have chosen to illustrate this particular cello for several reasons: Firstly it is a thing of incredible beauty, and the extreme rarity of a large sized uncut Stradivari cello cannot be denied. Secondly in spite of its large size it is often used for very challenging recitals. I have spoken with players of this, and of a Strad of similar proportions, housed just across the street in Washington's Library of Congress. They seem to have experienced little difficulty in the playing of these two large cellos and have only praise for their magnificent sound qualities. Finally although we have very little information about Baroque cellos of the period, we do have Stradivari's drawings of the head and neck of the so-called "Violoncello da Venezia". This neck pattern was probably used in connection with the larger pattern of the "Servais" cello. I have reproduced the drawing on the poster, in addition, I have included outlines of the bridges which were probably used by Stradivari for this cello.

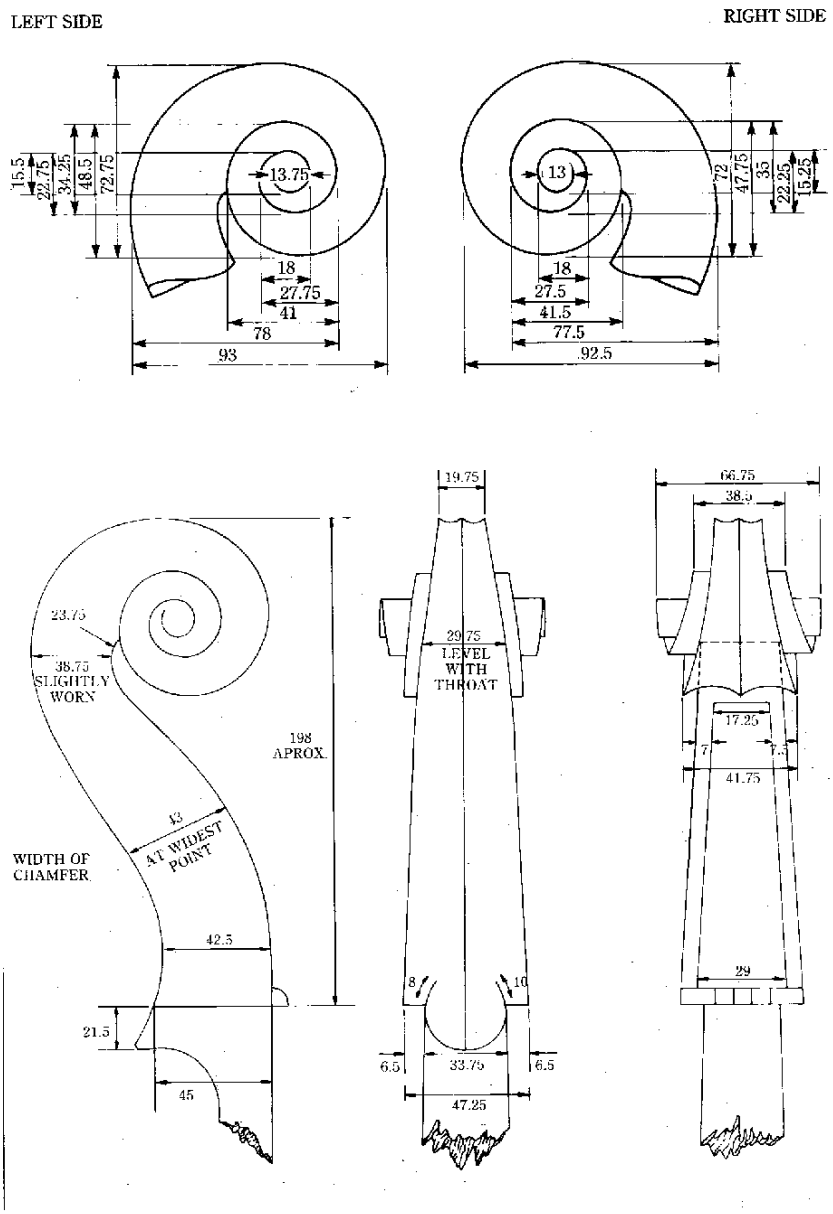
At the Stradivari museum in Cremona, several interesting items can be viewed which, according to Sacconi, were used in the construction of these "Venetian cellos", also referred to as bass cellos. They are as follows:

i) A sheet of paper upon which is drawn a design for the correct positioning of the f-holes.
ii) A paper model of the head and neck (reproduced on poster).
iii) A sheet of paper with the geometric development of the scroll and pegbox drawn with a compass. (See p.935).
iv) Paper ,pattern of the side of the pegbox.
v) Several bridge designs of different sizes in wood or paper. (See reproductions on poster).
vi) A facsimile of a bridge for the fixing of the neck elevation.

In connection with this, the "Servais" itself has revealed some tantalizing secrets which will be discussed later.

This cello is clearly the work of a man in the full prime of fife. Neither talent nor resources have been spared. It is a work which combines many of the best features of Stradivari's early and "golden" periods, having been made around the very point of change. It is not known if Stradivari made any other cellos between 1701 and 1707, when we see the first known surviving example of his "forma B" which was eventually to become the standard pattern of almost every maker since. What we do know is that the "Ser-

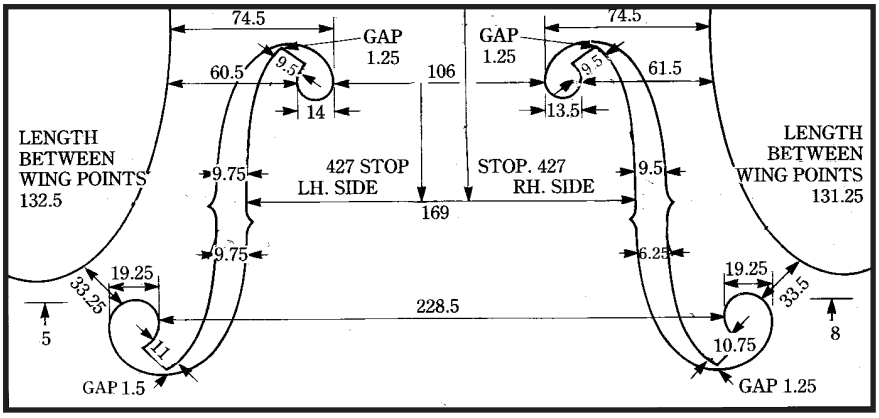
Head and Pegbox of the "Servais" Cello

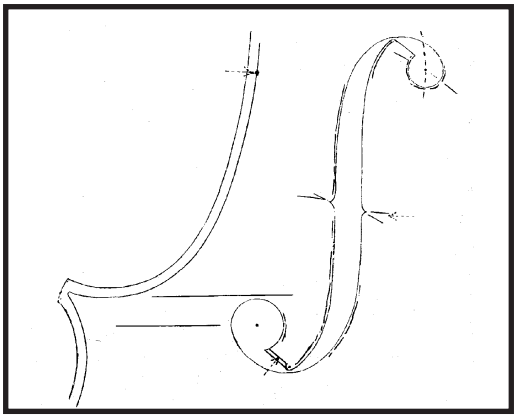


vais" at the time of writing is the last of the master's larger models.

The back of the cello is made up of two matching quarter-sawn wedges which have been carefully winged at the outside of both the top and bottom bouts. The wood is closely grown imported mountain maple. It has spectacular wild vibrating flames radiating downwards from the centre joint. This wide swirling figuration accentuates the grandeur of the form, an outline which might well have been created by Rubens. The edgework is clean and confident, and despite the previously mentioned wear to the top left hand comer, there is a symmetry and perfection which is only slightly illusory and which remains a constant feature of the whole instrument. Possibly because of the larger form, the edges seem unusually fine, although not at all weak. The purfling itself is narrow enough to have been used on a violin. Long, elegant mitres finish it at the corners and several have been filled at the stings as is often the case with Stradivari's instruments. These mitres seem to point towards what must surely have been the inside angle of the corner's end before the instrument was worn. The purfling blacks are very intense and the poplar whites have the usual longitudinal hairline pores in them which is also typical of the classical Cremonese school in general. At the top and bottom of the back, the purfling is jointed by diagonal cuts across the centre joint. At the button the locating pin protrudes half way outside of the purfling only. At the bottom, it shows slightly on both sides.

The purfling generally lies in the bottom of the channel but occasionally it appears to rise up the -sides where the channel depth wavers slightly. The channel itself must have been quite deeply incised and in places it remains well-defined. The peak of the





Sketch of the inside of the belly of the "Servais" violoncello of 1701. On the original the following are visible: the drawing of the design of the f-holes with a pen, the step at the straight line of the lower wing; the arcs of the circle for the position and inclination of the notches; the hole made by the compass on the edge of the centre bout, the parallel lines for the height of the lower eye and for marking out the outline for the positioning of the f holes (from Sacconi's `Secrets of Stradivari").

edge, now at the halfway position between the outside and the purfling was originally almost certainly closer to the outside edge.

In the upper and lower bouts the back arching does not appear to be particularly full, rising as it does rather gradually from the purfling channel. Only in the immediate corner areas is there some tendency towards scooping. In contrast the central cross arching is very full. There is no evidence here of a weak back arch, and despite the normal swelling of the soundpost area there is little deformation. Perhaps because of the overall flatter quality of the arching, the ribs are exceptionally high. According to the Hill Brothers they are the highest ever to be recorded on a Stradivari cello. The instrument is so well proportioned, however, that the ribs simply do not appear to be extraordinarily high. Unlike most cellos, the ribs of the "Servais" are in an excellent state of preservation. This may be due to the fact that they are backed with a canvas or linen material between the already deep linings. Although we know that Stradivari used linen to strengthen his ribs, I suspect that this lining material is not the original. The growth, cut and figure of the rib wood matches the back perfectly. In common with most of Stradivari's instruments the slope of the flame runs in the same direction all the way around the ribs. In this case from the belly edge it slopes slightly down towards the right.

The belly is made up of two wedges in the normal way. The two sides, however, do not match each other exactly, as is also the case with the "Gibson" viola, (see THE STRAD, September 1986). It seems likely that they are from the same tree but were not cut from the same wedge. Both pieces are of medium growth with quite pronounced reed lines. The bass side has two waves running across the lower bouts and over the left sound hole, which is not reflected on the right hand side. The belly arching, though similar to the back, rises more suddenly under the fingerboard and tail-piece. The long arch, not surprisingly, has sunk slightly at the bridge position. As may be seen from the arching templates, however, there has been some further distortion to the arching particularly in the lower bouts. Although such distortions are always a possibility with a cello of this width, in this case, the sinking may have been aggravated by the peculiar wave in the reed fines at this same point. I have made no attempt to correct the arching templates, and prospective copyists should bear these problems in mind. The apparent flatness of the belly arch is, no doubt, like the back, accentuated by the overall width of the instrument and I feel sure that the widely spaced and somewhat upright set of the f-holes have further added to this illusion.

As would be expected, the sound holes are cleanly cut. The large top and bottom circles have been neatly drilled at right angles to the plate. The circles are joined by narrow flowing body sections which are also cut at right angles to the plate. The nicks are small and tidy. There is some shallow fluting to the lower wings which increases in depth as the wings widen and scoop down towards the purfling channel. At the same time the flutes run up alongside the bodies of the holes producing a sharp outside edge and a slight "eyebrow" effect over the top curve. Above the left hole this effect is optically increased by the previously mentioned wave in the reed lines. There are a small number of tool marks clearly visible in the area of these flutings. This is, I believe, unusual for Stradivari at this period.

As well as their obvious beauty, what makes these soundholes particularly interesting are the traces of Stradivari's layout work which remain. Clearly visible on the inside are the ink lines which defined the shape of the right hand soundhole body. There is also a deep step cut from the inside of the lower wing. On the inside of both holes there are compass arcs marking out the position of the nicks and the corresponding prick marks in the tips of the upper wings. Finally there are the remains of the parallel lines which were used to fix the position of the bottom circles. I have reproduced the diagram of the Servais cello sound hole, which illustrates these features, from Sacconi's book. Further explanation may also be found in the book. Before leaving the sound holes it is worth noting that at some time a bridge was placed behind the present position. This can clearly be seen on the photographs. Quite why this happened can only be guessed at, but the bridge must have remained there for some considerable time judging by the depth of the impressions.

Although obviously more worn, the purfling, the corners and edgework of the belly are in every way similar to the corresponding features on the back.

Since the Servais cello has not been opened for many years, I was not able to take measurement of the plate thicknesses, nor was I able to trace any reliable figures. It is therefore important to note what the Hill brothers had to say on the subject:

The interior construction [of the Servais] also shows that Stradivari sought to produce a different tone result. He had hitherto considerably varied that all-important point, the thickness now making the back and belly of stouter proportions, now thinner; but he appears to have at last decided that the increased substance was more favourable for producing a brighter, more strident tone. After careful examination, and comparison with instruments of a later date

It is interesting that in these observations, made in 1888, there is no mention of a sunken belly arch. In view of what the Hill Brothers observed, I once again refer the reader to Sacconi's thicknessing diagrams. The diagram referring to Stradivari's cellos is reproduced on p.935. For further details of block sizes, linings and other inside work I must also refer the reader to Sacconi.

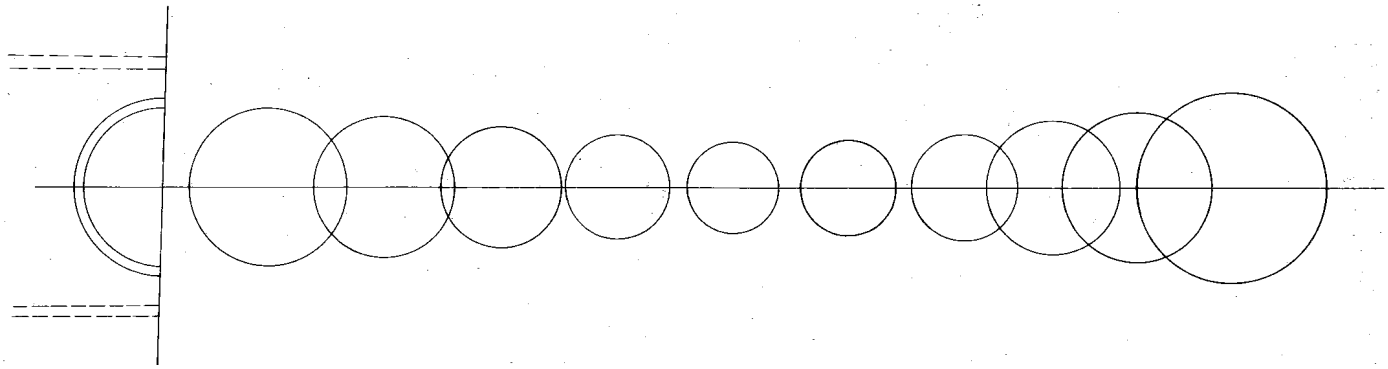
Although the flames are very slightly narrower than those of the back and ribs, the head wood nevertheless matches well. The flame does not appear to be shallower as was often the case (probably to facilitate easier carving). The head is cut exactly on the quarter and the workmanship throughout shows slightly more flair and boldness than is to be seen on earlier works. There is very little wear on the head and the wide chamfers still retain much of the original black lining. Unlike most violin heads of this and later periods, the turns on this scroll are not "oval" in appearance when viewed from the sides. The side view does however have a slightly angular flow described by the Hill Brothers as a "squarer aspect". The effect is very subtle and by no means reaches the extremes of Andrea Guarneri or his son Joseph. Generally when viewed from all sides the work of the head is well balanced. From the sides of the pegbox, for the first half turn of the scroll, the volutes remain fairly shallow, but they become increasingly deeper towards the eyes. The surface of the volutes remains relatively flat in cut with only a few faint tool marks visible on the final turns. A considerable amount of fairly thick varnish is retained in the volutes. The volutes on the left hand side of the head finish at the eye with a sharp sting. Instead of a sting, on the right hand side, a tiny flat cut can be seen at the point of entry into the eye.

On the vertical surfaces of the eye and the second turn are the usual traces of Stradivari's gouge, and here again a little extra varnish has settled and remains intact.

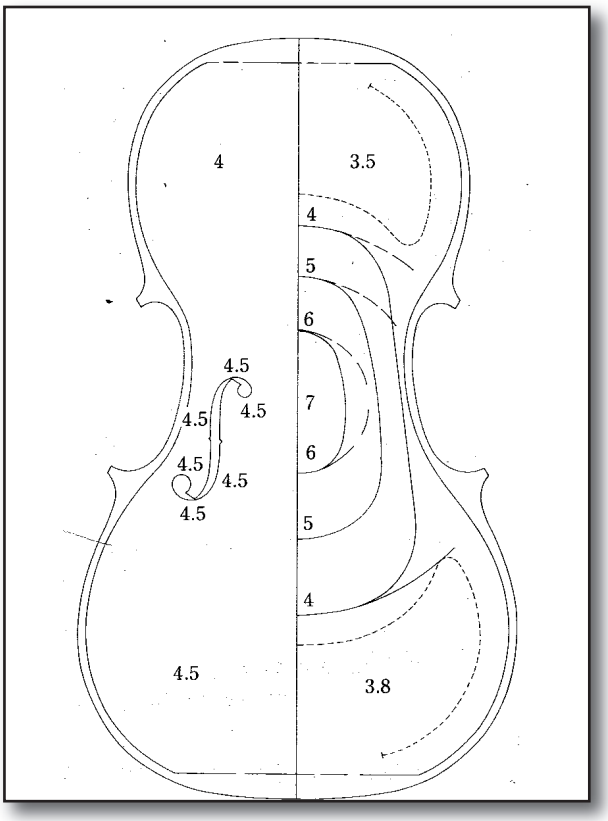
Signs of the gouge or perhaps only the scraper are also to be seen along the back of the pegbox and at the chin in the fluting. Along the back of the pegbox the flutings are deep, with a flattening across the bottom of the curve in the normal way. At the chin the flutings soften somewhat especially around the two protruding stings which continue the flow of the chamfer mitres between the chin and the shoulders. As the flutings run over the top of the head they become rounder in form and deeper under the front where they eventually blend gently into the throat at the start of the first turn.

Along the central spine between the flutings are the usual pin holes where Stradivari placed his compass in order to mark out the widths of the head and pegbox (see reproduction of Stradivari's templates). Slightly more unusual are the remains of the scribe line upon which these compass points were set. The pegbox, as with all of Stradivari's heads, is sensibly deep and wide. The cello bears its original label, dated 1701.

It is always difficult to find an adequate means of



Strip of paper bearing a compassdesigned the geometric development for the head and scroll from which were taken the measurements of the various widths of the back of the scroll and head



Thicknesses for the belly and back of the violincellos of Antonio Stradivari according to Sacconi

MEASUREMENTS (in nullimeters)		
	Back	Belly
Length (over arch)	791,5	793
Upper bouts	363,5	363
Middle bouts	252	253
Lower bouts	467	464
Edge thickness	Back	Belly
Corners	6,5	5,5
Centre	5,5	5
Bouts	5,5	5,5
Overhang (back)		
Centre bouts	4,5	
Top and bottom bouts	3.5/4	
Rib heights	Left	Right
Neck root	124,5	125
Upper corner	127,5	127,5
Lower corner	127,5	127.75
End pin	127,5	127.25
Purfling		
Distance from edge	5/5.5	
Total width	1,5	
Width of white	0,6	
Stop length	Left	Right
	427	427
Modern neck length	278	-

describing varnish. However, for what the description is worth, the cello has a rich covering of varnish, which is reddish brown in colour. In places the varnish is fairly thick and has a fine craquelure especially in the C-bouts and corners of the back and on much of the protected areas of the head. The ground, which is extremely clean where varnish is missing, changes from silver-grey, where the wear is extreme, to a golden-yellow, where only the varnish has disappeared. But even the most expensive photography and colour printing process cannot reproduce that reflective sparkle of life, . which is the hallmark of a classical instrument.

How are we to describe colours which change so dramatically in hue as the direction of the light shifts? What do such terms as texture and craquelure mean? There are certain characteristic crack formations for each type of ground and varnish film, which vary with age and with the methods and skills of the original maker. Some are microscopic, some are extremely coarse. Identifying the colour, texture,

craquelure, etc. of a specific maker is a matter of experience. Certainly photographs and words alone are inadequate.

Many of the instruments which I have so far described in this series of articles, have been in private collections and access to them is naturally very limited. This particular cello however, is on display during the normal museum opening hours. Since I can only ever paint a very limited picture of such works of art I might suggest that anyone wishing to know more about this particular cello can do no better than to pay a visit to the National Museum of American History.

The history of this cello is well summed up by the following quotations from E. boring's book How many Strads?:

The "Servais" came into 'Vuillaume posession about 1845, after the death of M. Raoul,its previous owner, a Parisian who was well known as an amateur player. The famous cellist, Adrien Francois Servais (born at Hal, near Brussels, June 6, 1807; died there November 26, 1866) desired to possess the instrument but lacked the necessary means to acquire it. Owing to the friendship of the Russian Princess Youssoupoff (Yusupov) to whom Servais confided his ardent wish, the 'cello was ordered by her to be sent to (then) St. Petersburg, but before it arrived, the Princess died. However, her family arranged to purchase it and Servais became the owner...

Servais used the 'cello throughout his life and at his death it passed to his son Joseph, who was also a fine performer; thus, two generations of celebrated players firmly established the name of Servais as the title of the instrument...

After the death of Joseph Servais, the 'cello was sold to Auguste Couteaux about 1885, who purchased it for the use of his son Georges, a student. M. Couteaux is said to have paid 60,000 francs for the instrument, a considerable enhancement in its value, as, when Vuillaume owned the 'cello, his price was 12,000 francs. In 1893 the 'cello passed to William E. Hill & Sons, who sold it to Prince Caraman Chimay, an excellent player, friend of music and collector of rare instruments, who had been a friend and pupil of Joseph Servais. Prince Chimay became the victim of odious publicity when his wife, who was Clara Ward of Detroit, Michigan, eloped with the gypsy violinist, Jancsi Rigo (who died, it is said, of the bubonic plague in Alexandria, Egypt, in 1899), as the result of an acquaintance formed during frequent visits Rigo made at the home of the Prince, lured there first by the fine collection of instruments...

Passing from the possession of Prince Chimay, the 'cello eventually came through Hill to Wurlitzer, a notable acquisition to America's treasury of great works.

The cello was donated to the Museum of American History by Miss Charlotte Bergen of Bernardville U.S.A., to whom lovers of music and musical instruments will be eternally grateful.