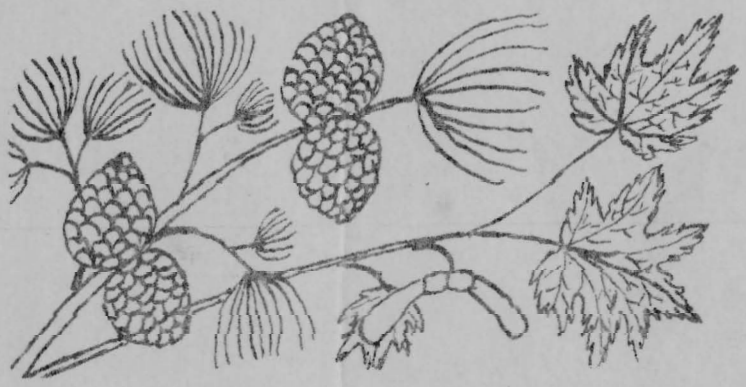
"I like to see a man proud of the place in which he lives, and so live that the place will be proud of him."

—Abraham Lincoln.

November 1959

The Violin Makers' Journal

THE OFFICIAL MONTHLY PUBLICATION OF
THE VIOLIN MAKERS ASSOCIATION OF BRITISH COLUMBIA



Devoted to the development and encouragement of the art of violin making in Canada.

THE VIOLIN MAKERS JOURNAL

PUBLISHED MONTHLY BY THE VIOLIN MAKERS ASSOSIATION OF B.C.

second Saturday of each month at 4360 Main St. Van.

Vol. 3...No. 1.....November, 1959

EDITORIAL

OUR SECOND ANNIVERSARY

With this issue The Violin Makers Journal enters its third year of publication. We mention this not so much with the thought of celebration and pride but with the realization that our existance during the last two years has been made possible by the readers themselves.

A child is born and grows gradually to maturity, but the pattern of its character is formulated to a great extent by its environment, so too with the Journal. Two years ago it made its appearance - it commenced to grow & but the character of its contents was governed not so much by those who had charge of it as by its readers who built up the Journal by the many articles they contributed.

A periodical, almost original in form, has thus been developed. The Violin Makers Journal has assumed the aspect more of an Open Forum than of a regular magazine. It formed this pattern without any conscious aid.

You may say "We followed the line of least resistance"., possibly so, but our aim being to develop the art of violin making it seemed only logical to let the leading makers all over the world speak for themselves.

On the occasion then of our second anniversary we take pleasure of thanking all those who have helped to build up what many declare is the only real violin makers magazine alive today.

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PORTRAIT OF AN IDEALIST

The Autobiographical series you have been running in recent issues has added an enjoyable feature to the Journal and I look forward to reading many more. To my mind the series has made a notable exception - the life story of Don White, secretary of the B.C. Association and editor of its monthly Journal. However, since it is hardly likely that you would personally do anything about it, I feel I must fill this gap in the series. And just in case you might be too reserved to publish it, I am writing this in the form of an open letter to all readers - and no editor can refuse to publish a letter unless it be libelous or seditious!

Don, believe it or not, is a Welshman. This accounts for the love of music which is so obvious when you meet him. That is not to say the man has only one interest in life - far from it. For a man who is crowding 63 he is exceptionally active mentally. However, I think he would agree when I say that the Association and its affairs has occupied his mind almost to the point of obsession, now that that organization has attained practically international status.

Don comes of musical stock. His father was for many years a cathedral singer in Wales and encouraged his son in every musical venture. Don's first instrument was, in fact, a flute. The family emigrated to Canada some 50 years ago and settled in an Albertan farming community.

Of the years immediately following I know nothing, except that Don met his charming wife at a little place called MacLeod, in Alberta. She was choir leader and organist at a church there and he just happened along one day to offer his services as tenor. They seemed to have spent a lot of time discussing music, when she wasn't pedaling the organ and he warbling. They also had endless arguments on that topic - apparently they could never agree on anything. So they did the only sensible thing - they got married. "He then came to respect my opinions" says Erika.

Speaking dispassionately, I suppose Don's first real love was a violin which he bought from the English maker William Robinson, after reading an article about him in the old British Weekly around 1922. It was a lovely instrument, Don't proudest possession. Even his music teacher used to borrow it to make a few extra dollars playing for the silent movies.

One day a few years later the whole White family piled aboard a horse-drawn wagon and headed into town, six miles away. While they were gone, their farmhouse home burst into flames. On their way back they saw the smoke rising and whipped up the horses for the last two miles, but they were too late to do much. Don sprang at the front door and battered it in with his fists in an attempt to save his precious violin. As the door fell in, the fire roared out like a furnace and Don was pulled back only just in time - but not without a struggle. "To think of it - only six feet away from my fiddle and yet I was helpless" Don told me. "It was the biggest tragedy of my life".

In 1930 Don and Erika left MacLeod and settled in Vancouver, where he joined a dairy as salesman. Twenty-four years were to pass before the memory of that fire had mellowed sufficiently for Then, in 1954 - "For some crazy reason" - he got the urge to make a fiddle (No doubt, the psychologist could advance an interesting theory about that!) For a man whose carpentry skill barely ran to fixing a shelf at home, it was a pretty good effort, even if it was only a box with square sides! Son David (who is something in radio mechanics or electronics) gave a hand. The "box" had good tone, despite the cheap wood and crude workmanship (the plates were bent to shape!) The sight of well-made amateur violins at the P.N.E. provided just the right psychological spur and Don set to work in his basement. Nine violins emerged in the course of about three years, a respectable rate of production in any amateur's book. At last, Don had found a way of unwinding the tension he had suffered for so long. Then came the founding of the B.C. Association, of which I have written elsewhere. (cont. on Page 13)

COMMENTS ON THE SAUNDERS GROOVE by Kristian Skou

I am not a professional, but I have built violins for 30 years, mostly on scientific basis. (I am a geologist also with some education in physics and chemistry). Besides the varnish problem I am very interested in the micro-structure of the wood. I am investigating the change this structure undergoes in the course of time. X-ray investigations are able to tell us much about this change, and the change has some influence on the tone of the violin. I have just finished a violin (in the white) whose top I have built from driftwood from Pearyland (North East Greenland). The age of this wood has been dated - by the C14 method - to 5780 years divided by 50 years. This violin is the best I have ever built, and I have learnt a good deal from this violin and from this wood, and in my correspondance I shall return to it later on.

I should like to know one thing about the Michelman varnish, and perhaps you can tell me: how is the varnish turning out after years use? Rosin in connection with linseed oil has a tendency to turn black, absorbing the dirt from the hand. Is this the case also with the Michelman varnish, or is it stable in contact with the hand?

R
improve the tone
for the reason given: "A sudden change of thickness gives rise to reflection of waves so that they concentrate more on the plate, and you get more tone." A sudden change of thickness can give rise to reflection, but not in that case. In orde
what happens
your hand, and give the rope a single vertical movement. You
along the rope to its farthest end, and then no more happens. Then fasten this end to the wall and do the same thing. Now the wave is reflecting from the wall and running back to your hand. When giving the rope several impulses up and down you will see the incoming and the reflecting waves interfere making a puzzlement of waves. Such a form of waves is not beneficial for the tone of the violin. Then place a string between the rope and the wall connected with both (you see the analogy to "The Saunders Groove") and repeat the experiment. There will be no or only faint reflection of the waves. For that reason "The Saunders Groove" may improve the tone of the violin.

You have a
Denmark is only a little country, and we have no association and no journal. I should not think we are makers enough for a journal in Danish, and we have the swedish "Slojd och Ton". But we know each other and are making our best. The climate is not exactly ideal, but the summer is sunny enough for the varnishing, and the winter dry enough (indoors) for drying out the plates before gluing together. Regarding the wood, the danish pine is not very good. It is growing too fast, the soil being too fertile, and the summer giving too much rain. Therefore we have to import our pine. Also the maple is mainly imported, but we do have curled maple in the country - now and then very beautiful, especially along the roads, while the maple in the forests rarely is curled.

Kristian Skou
Soborg, Denmark

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"Some people are always grumbling because roses have thorns;
I am thankful thorns have roses."

....Alphonse Karr

.....

WILLIAM J. FARRELL AND HIS "TRUE TONE VIOLIN"

by Alfred Slotnick

In the many discussions about plate attuning that have been taking place in the pages of the Journal, there has never been any mention of William J. Farrell. He is the author of a curious little book "True Toned Violin" published in 1921 by Cassel in London. According to the short biographical notice about him in Renne Vannes "Dictionaire Universel des Luthiers" he made violins on the Strad model, used good wood, orange varnish, and produ He was self taught.

I find him to be an interesting innovator, although he declined to accept such a title and instead claimed to be a close follower of the "Cremona School" and notably Stradivari.

Farrell's ideas are entirely unconventional, but paradoxically very common sense. He is very interesting to violin-makers because instead of laying down a series of strictures, he leaves room for individual improvisation.

Farrell's method is to first make a violin
iples, in the white, strung up, and then p
back as required to get good tone. Here's a summary of his main principles:

1. Rigid backbone. Then center portion of the back 1½" wide and running the entire length of the back, having a thickness of ¼ to 5/32", depending on the hardness of the wood. The rest of the back should be tapered to 3/32". Such a back shoul
were removed. (The underlying principle, asside from the rigidity, is to make a violin with as much wood as possible instead the popular opinion that the instrument should be as thin as possible.) This is key to his whole idea, for he says that the top should be free for the purpose of vibration without needing to contribute to the strength of the instrument. Thicknesses for the belly are 1/8 in the center to 3/32 at the edges. For the ribs 1 3/16 is enough, according to Farrell.

To quote Farrell "As a matter of fact, the thickness of the front plate does not matter a great deal providing sufficient wood is left in the center to resist the tension of the strings. The Plate that really does matter is the back plate, and this plate is the violin proper. The front plate is to all intents and purposes a diaphragm nothing more or less."

2. Buttres blocks. To add to the rigidity of the "Backbone" the end blocks have been altered and take their name because of the similarity to the butresses bracing the great cathedrals. The idea here is to provide greater strength to the back and leaving the belly less hindered the more freely to vibrate.

3. One piece back, two piece linings covering the corner blocks and bottom rib of one piece around the end block.

4. A bass bar whose glued edge is thinner than the projection ¼" - 5/32". The bar is not sprung in as this would check belly vibration. The bar is deepest under the bridge and not in the center of the bass bar.

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While in the mood I may just as well tell you about the Exhibit at Suffolk Museum, Stony Brook, Long Island held September, 1959.

In the past, I have somewhat remorsefully read about exhibits of musical instruments after they have closed. This time I was able to discover such an exhibit in time to visit it and I am afraid my readers will have to learn about it from me. A small museum, about fifty miles from New York in a jewel like setting of a town called S'ony Brook on the North Shore of Long Island, houses a small yet charming collection of paintings of instruments, and instruments taken from the paintings. William S. M[illegible] was a local artist who flourished about one hundred years ago. Eight of his paintings six of violins, one of a banjo and the other a self portrait with flute (more likely a traverse recorder), together with a unique violin of his (Mounts) own design, dominates the show.

The violin called "Hollow Backed" looks like an elipse, narrow at the top an[illegible] The f holes are slits of an approximate area of f holes. The belly is highly arched in one continuous curve like a finger board. The back is arched exactly like the belly and parallel exactly to the belly. The back is one piece of choice figured wood and varnished with a handsome dark orange varnish. A single painted black line suffices for purfling. The neck and fingerboard are conventional as is the scroll, but without carving. A diagram by the artist showing construction features and a patent issued by the U.S. patent office are also displayed. Interior construction features a $\frac{1}{2}$" deep bass bar of about 6" long. The corner blocks are massive at the back, but

A painting with the title "Catching the Time" depicts a quaint eccentric violin-guitar shaped, like the "Chenot" model, but much more slender and with conventional scroll and tail piece, but with reversed f holes. No chin rest is in evidence.

Another painting depicts a left handed violinist with an otherwise conventional violin.

Another painting is a portrait of a handsome negro youth with an old five string banjo. The banjo has a fretless fingerboard and a charming head suggestive of a violin scroll on its side.

Many other exhibits of exceptional interest were about. A hurdy-gurdy of the type illustrated in Vidal's book "Les Instruments a Archet" and apparently in playing order was shown.

Another curious instrument
cello. This particular specimen appears to have been made around 1800 or so by a craftsman whose knowledge of fine Italian violins must have been slight. The wood is rough hewn and haphazardly finished. The belly wood is slab cut so that the annual rings make a wild pattern. Purfling is nonexistent. The f holes are a travesty - much damaged. The neck and scroll are uniquely laminated. Out of kindness, you might call it quaint.

I must [illegible] a little discord in an otherwise fine exhibit. There are two violins one of which to quote the catalog "said to be the work of Gasparo de Salo", and the other instrument, to quote again, "Believed to be a Testore, said by some authorities to be the greatest maker of all times."

These two violins look like the work of the same Mittenwald shop in slightly different styles. If the two instruments were authentic, because of their crudity, they would be called quaint. There is not one Testore as there is one Stradivari for they were a large family of varying skills with several who claim to be masters, but this is the first time I have ever heard Stradivari or Guarneri del Gesu challenged. Who the authorities can be, I cannot imagine. Who would dare to publicly make such a claim? Incidentally both violins are miniatures whose body length I guess to be about 8". This would make them both 1/32 size instruments, suitable for a child of <u>three</u>.

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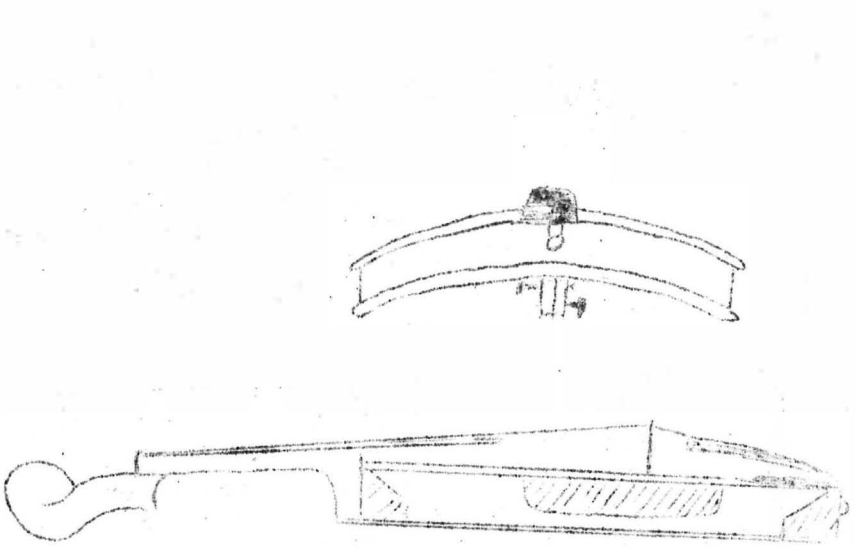
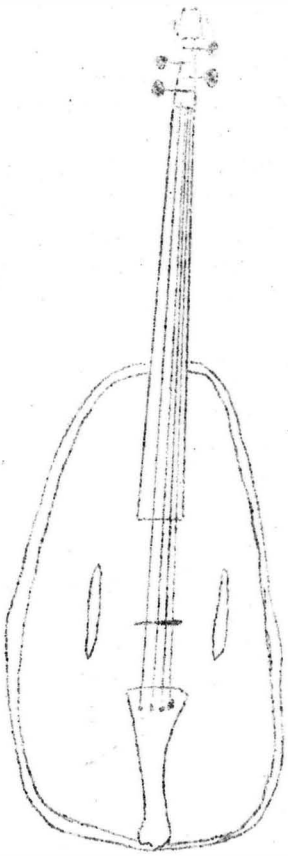


BASS BAR & END BLOCKS



THE MOUNT HOLLOW BACK VIOLIN

VIOLIN MAKING IN AUSTRALIA

By Norman Miller

There is no Violin makers association in Australia, and in fact very few makers at all, either professional or amateur. We are far away from any source of interest in violin matters, and an opportunity such as your Association has created is indeed to be commended.

In actual fact I am only semi-professional as my major source of income is Commercial Photography, but have been making violins for some five years, after many years of investigation and study of most of the available books and magazines on matters violin. My efforts have been fairly successful as three of my instruments have been bought by professional players, members of our State Queensland Symphony Orchestra; a violin and two violas.

I have adopted several construction techniques slightly apart from the accepted way, but still rational and not at all outlandish in method or principal, and would like to have someone interested in Violin making to talk out these methods, and to consider the approach of other makers. In this respect I would tell of my way of making the scroll. While the block is still square and solid, before cutting out the shape, I drill the peg holes, having of course drawn the outline of the scroll on the block. After cutting out the outline, and before shaping the scroll-head and volutes, I cut out the peg-box, placing the solid block in a vice, thus allowing work on the peg-box to be easily formed. The peg holes act as depth guides and thus are helpful in getting this part of the peg-box correct without difficulty. The neck outline and scroll head are then finished in the customary manner. All books and articles on scroll construction tell to cut the peg-holes last, and also the peg-box after you have shaped up the

head and sides of the peg-box. I feel that, while maybe admirable in imposing a difficulty to overcome in cutting the peg-box out from the delicate sides and thus proving to yourself that one has high skill in such a task, it is more practical and the chance of splitting the sides or causing other damage to them, by cutting the peg-box out while the block is still two inches wide adds ease of construction, and in no way mars the work. In like fashion drilling the pegholes while in the block avoids any chance of the holes splitting when the drill comes out; a perfectly straight hole can be drilled with the minimum of effort whether by hand or electric drill. I have not seen these principles described or advised in any book or manual but have adopted them after a fair consideration, having tried the usual way, I find that my way saves much time and possiblity of fracture to the peg-box sides.

I have quite a few other methods of a like nature and would like to chew the rag with other makers in this respect.

Compliments on your Association and may it continue to grow in membership and endeavor.

Norman Miller, 44 Russell Street, Toowoomba
Queensland, Australia

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CREMONA VARNISH

by J.E.Bushnell

About 15 years ago I became acquainted with a violin maker of Scotch descent who told me Vincenzo Pauorino had given the secret of the old varnish to one of his ancestors but they could not use it without modification because it would not dry. He said the Cremona formula would not dry satisfactorily in Venice which accounted for the general tonal difference in violins from Cremona versus Venice.

I popped questions at him from time to time and answering one of them he said, "Don't use a drop of linseed oil, you might as well put the violin in a straight jacket."

He just treats the surface with wood vinegar - "Holtzessig" on the bottle- a vile smelling wood preservative. His varnish looks very dark red in the bottle and is wonderfully fragrant. The first few coats sink well into the wood - then gradually take on a yellowish tinge then increasing in color toward the red as coats follow. He says, "No matter what color the violin shows this varnish is basically yellow." His varnish keeps - does not become unusable in a short time as Michelman says his does. Have made none of his preparations a s yet.

Am experimenting with various light oils and at present am wondering what will develop from the use of oil squeezed out of English walnuts. My teacher back in 1904 (I am a youngster of 73) told me to break up those in a piece of silk and as the oil squeezed through rub it on my violin to clean and polish it. Nothing else seems to do a s nice a job.

J.E. Busnell,
Nelsonville, New York

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A man may fail in duty twice
and the third time prosper.....

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MORE ABOUT WOOD TREATMENT

Editors Note: We are not able to give the name of the author of this article. His letter and article became separated and we cannot trace the letter. Author please advise me so that credit may be given.

The Detroit Public Library has a fairly extensive collection of books on violin making and violin lore, among which are several which are quite rare.

One which is interesting and which adds to the literature on wood treatment is The Violin and its Construction by August Reichers. The book was originally published in German sometime prior to Riecher's death in 1893. The English edition was published in 1895.

Riechers learned his art under Hans Ficker, and Bausch of Leipsic. In the 1870's, at Joachim's urging, he set up shop in Berling. Joachim held Riecher's work in high esteem and was apparently the violin maker's most illustrious patron. In the intoduction to his book Riechers states that in the course of his work he had handled hundreds of violins of classical vintage.

In one edition of Hart's Famous Violin Makers and Their Imitators the author states that Riecher's violins are excellent.

Riechers appears to have been an early advocate of wood treatment or impregnation. He states that examination of an Amati which he owned led him to believe that the wood had been treated in some fashion. The wood had an unnatural color and when sanded acquired a polish that was not evident on untreated wood. He tried coating the plates of an excellent fiddle of his own make with hot rosin. The instrument lost its good tone and the results, he states, were not favorable.

Later he came into possession of da Salo cello which, although not in use, was accompanied by its original bridge. The bridge appeared to be treated, and upon opening the cello he found that the wood of the instrument had also been treated. Through devious means this lead him to his own system of wood treatment. This system consisted of covering the finished violin with three coats of pyroligneious acid followed by a coat of mastic and a solution of gamboge. This foundation was followed by thirty coats of varnish the making of which he also describes.

The literature reveals that pyroligneous acid is a weak acid and is a by-product obtained in making hardwood charcoal by a rather archaic method. The acid in its original state apparently has no commercial use, but at one time it was a principal source of acetic acid.

It would be interesting to hear comments from some of your readers on the scientific aspects of Riecher's methods (particularly Michelman and Skou) and to learn if any of your readers have ever tried this method. I should also find interesting a current evaluation of Riecher's violins if any of your subscribers are familiar with them.

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The wisdome we most admire

is of those who come to us for advice

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"THOUGHTS OF VIOLIN MAKING"

by T. Leo Lynch

I think your Journal is splendid and do hope you keep up the good work as you have already made great progress toward cremona technique which has been lost for two hundred years, until Gilbert came along and gave us a few keys to putting tone into the violin and now we know we can put any tone we want into the plates and raise or lower that tone, or the tone of the plates by the gums and oils we use in making the varnish and using them individually and separately for a certain tone in that particular need like raising the tone of the top and giving power to the back and to sweeten the inside of the violin thus getting all the necessary tones to make the classic violin with the minimum amount of wood. Also the maximum amount of wood or tone.

I've carried on the research work that was started by Dr. Wallace E. Belt M.D. of Dodge Center, Minn. who worked with Gilbert for quite a few years, then worked with the late Chas E. Herbrig a very successful violin maker in St. Paul, Minn. who advised me to try Stephan Kujawa's varnish. That was the missing link to a chain of requirements to bring out the greatest qualities. A truly great violin requires to have sweetness, power, ease of articulation to the end of the finger board as E.H. Sangster mentions, and beautiful tone. Its all done with gums and oils. I find no fault with E.H. Sangster's methods or Carmen Whites or Lee McNeese's or even H. Ellersick's remarks of boil them in oil providing he uses the right kind of oil and Mr. N. Nicholas of Mention-Garven, France has a good suggestion when he mentions old oxidized oil of turpentine with a dryer in it. I have found four oils that are very beneficial to the tone of the plates. For instance if you have a squeaky pair of shoes oil them. It works with a violin also for purity of tone and your gums can be catalogued by their melting points for tone points. A high melting point gum has a high tone point. A low tone point gum has a low melting point or is a softer gum. The oils, be sure it is vegetable oil, it is sictive, it will dry, then put a dryer in it to speed up the process.

Lots of research work should be done on Michelman's chemical processes on oils and hard gums as well as has been done on the soft and medium toned gums. I've only known three men who could unite the hard gums (copal's and amber with oils successfully and one of them is deceased now, the other one we still have with us Stephen Kujawa and he has offered to tell us how to do it and if we miss this chance to learn how, we are missing the boat as I have tried it many times and always failed so far. If it isn't done just right your copal will make your violin squeal and squeak like a tin can at the end of ten years - I know. On the other hand if it has too much oil or soft gum it has very little tone if any and will not work on a thin violin.

Regarding Lee McNeese, this man does not write enough to please me and I have to go along with him in this northern climate and shy away from linseed oil as we have a heck of a time drying it here. I want to try his filler as soon as possible as he is in about my latitude. I'd like to know more about his methods. Kujawa should put his methods on paper for a manuscript as he knows more about oils and gums than any other man on earth. I'd gladly give a hundred dollars for such information to refer to.

I like a back up to 13/64ths with softening in it and a top less than 7/64ths preferably 6/64ths in center of good high toned wood of a fine grain and 8/64th at edge of center bouts. This system lowers the plate tone considerable. So - raise 'er up. This can be done but don't use a hard varnish to do it or you spoil your violin and ruin the tone.

Lets hear from Car Forseth, he knows his history and I think he knows more

about Joseph Del Jessue than we do and we need information on his thickness badly.

Honeyman the scot said, "It is easy to sweeten a loud violin," then seek and treasure a violin with a powerful tone as it can be sweetened easily thus giving it a carrying tone. A sweet powerful tone carrys as it has no distortion to interfere with its carrying power but it must also have a certain amount of solidity to pierce and carry well. This can be given with a properly made varnish.

I am looking for futher comments from Walter Jacklin, as they are really heavy with information and wisdom. Your fund of knowledge is our dire need so please write. Your every line is our gain.

T.Leo Lynch, 1201 North Fourth
Austin, Minnesota

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FREE FIELD TESTING

by Alvin S.Hopping

There has been ridicule diredted recently at the suggestion that violins be tested in an open field - obviously not during a rain or snow storm. The reason why such a test could be helpful has not perhaps been clearly explained.

To those who have access to an anechoic chamber or room such as found in the Research Depts. of Radio Corp. of America; The British Broadcasting Co.; Bell Telephone Co. etc. such open field tests are not needed. The very fact that such companies have spent thousands of dollars to construct such echo free test rooms points out the difficulties encountered in attempting to use a concert hall to conduct a series of tests on acoustic equipment. Echoes set up in an ordinary hall destroy any hope of judging the various quality factors such as eveness of response, tone quality etc.

Hard surfaces, smooth walls tend to make a violin sound more brilliant and for chords may be pleasant enough but for scale runs can be rather disturbing.

Testing radio loudspeakers before an open window with the microphone pickup outside facing the window is recommended by the British expert G.A. Briggs in his book "Sound Reproduction" (Wharfedale Wireless Works, publisher) in which he also discusses open field testing.

Because violins are played in conventional concert halls does not necessarily mean that such structures make the best place to evaluate them.

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TESTING VIOLINS

by Robt.Freethy

Here is how they tested violins in Chicago 1887 given me by John May who showed me the principles of violin making. At that time there were about 1200 violin makers in the U.S.A.

They rented a large hall, the violins were numbered. The player was blindfolded. Out in the hall was an enclosure made of cheese cloth so the judges could not see the player or violin. The player was handed each violin which he could not see. Three or four judges took down marks, number of violin etc. Marks were averaged and the winner was chosen.

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A FEW RANDOM THOUGHTS

by W.G. Hall

To the average person who plays a violin, it is merely a violin. It has no particular merit in its construction. In fact, nothing is known about the loving care that was bestowed on it by its maker. But--when it sings beautiful melodies, with an almost human-like voice when played upon by a great artist, the praise for its tone, is generally lavished on the violinist. On the other hand, when an old-time fiddler, with native art, makes the rosin fly, and the toes tickle; as his nimble fingers dance over the strings, adding the little twirly ornaments of his own fancy, to the old familiar tunes, the compliments are reserved for the fiddle. Between these extremes of appreciation, one finds other extremes in relation to the art of making a violin, in the instruction, and literature of the instrument.

Volumes have been published, on the methods used by the Old classical makers, much of the matter being highly controversial, owing to the same errors being copied from one writer to another. All kinds of conflicting ideas appear, as a great many of the writers, never even made a violin. Others who did, do not appear to have contributed much to the art by their efforts, as I have yet to hear of any great artist, using as his concert instrument, any one of their productions in a perusal of the biographies of the really great violinists, of past and present times, one is struck with the fact, that they all used old Cremona masterpieces, so why all the ballyhoo about modern makes?

Apart from all this, most violin books on construction leave the amateur, where he has to guess his way through the maze of methods. There are the different ways to graduate plates, select wood, season it, arch the plates, and above all to varnish it. I have a grudge against writers on the last subject, as a result of endless experiments I have carried out, which were a waste of time, and with results at variance with the specified instructions. All I can say for these experiments, is that I made a nusiance of myself, by monopolizing the kitchen stove, and stinking up the home with smells, despite my wife's outraged feelings, and warnings, that some day I'd set the house afire. Luckily, this never happened, although I kept a pail of wet sand handy, as recommended by one wgiter, though it would have been less troublesome to have had a fire extinguished. However, I had good patient friends, who were certified chemists, whose services I enlisted in the quest for the varnish of Cremona, their knowledge was at my disposal, in procuring gums, colors, oils, and everything I had ever read about. Also I enlisted the interest, and services, of a few artist friends who painted in oils. They searched old records of ancient recipes, but to no avail, but offered the opinion that no one could duplicate a varnish made in the early seventeenth century, as the effect of time light, and climate, would have to be considered, as altering its original appearance. So who now living could verify this!

Anyone can verify the effect time has upon varnish, by simply hanging up an instrument, for a few months only, and noticing the changes that occur. In fact, I have kept them hanging up for a period of ten years, and the varnish had so mellowed that it was not even like the original coat. One of the oldest colors known, is Artists Rose madder, and asphaltum. These mixed give a lovely mahogany color, with a basic under coat of yellow. Mr. George Cnump, gave these colors a few years ago in "The Strad", and a recipe for making Amber oil varnish, with Mastic varnish. These gave much better results, than the hundreds I have tried. So after fifty years, of trial and error, I find one can save all the messy trouble of making one's own by buying from a reliable dealer, as according to the so-called experts, all the colors used by the ancients, are still to be had, so when it is so simple, why not buy from the firms who employ the finest craftsmen, as their interest are the same as yours in seeking the best, and they are much nearer to the source of what is best, than you or I are.

W.G. Hall, Listowel, Ontario

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THE GRADUATION OF VIOLIN PLATES

by Dr. M. E. Gordon

It is also a fact that most of the old masters thinned the backs, not to any predetermined pattern, but to each individual instrument. The outline of thicknesses therefore varies, usually only slightly, in each instrument coming from the same maker. Surely it must be obvious that the only way such a variation can occur, must be because the final toning took place after the violin was assembled in the white, strung up and tried. The practice is still done today by some Italian makers but none of them will divulge where to scrape or thin in order to vary the tone or pitch of a particular string. Perhaps someone will take this point up and experiment on a set of new violins, (a minium of four would be necessary) and endeavour to vary and modify the tone and pitch and timbre of each string separately by scraping varying areas of the back plate. Obviously any scraping would also affect all the strings to a degree but there are areas which predominately control certain strings. The outline of a back could then be plotted according to its influence on the strings.

I firmly beleive that the old masters made their first plates a constant thickness of about 4mm (or 1/8") and that they purfled after the body was assembled. Then planing out and scraping out the purfling groove would give a slight thinning to the edges of the top plate. But the main source of tone came from the back plate, and not only tone but volume as well.

This fact has been proved adequately, to my satisfaction, by the incident which occured to me of my own made violins. This violin had, when orignally made, a very good tone, with clarity and carrying power. When it was about 1½ years old, and after tape recordings had been taken of its quality, unfortunately it fell accidently and the front plate was shattered, and irrepairably damaged. I removed it and made another front plate, more or less to the same dimensions and thickness. When completed and varnished, the tone of the violin was exactly the same as with the first front plate. When it was about 3½ years old, the violin was loaned to an artist who one day tried to move the sound post, resulting in a very badly arched front plate. The plate, not only arched under the post, but because of the tremendous force used, parted in the mid joint and because of the sudden release of force the ri ht f hole wing was shattered, with more arches around the f hole. Again I removed the debris and remade yet another front plate for the same fiddle. To my great surprise, when the tone is now compared to the origianl tape recorded tone, there is again no appreciable difference. Nor is there any appreciable difference between its present tone and a tape recording of the instrument when it had its second front plate.

Now, the chances of maing a second and third front plate absoltely identical to the first, is so remote that one can say that it is impossible, especially so when different woods were used on each occasion. The first was Jugo Slavian Spruce, the second was Swiss Pine and the third was also Swi s Pine but from a different region.

I think that so long as the general contour of the front matches that of the back, the thickness of the front does not alter tone but it does alter loudness. A very thinned front plate will sound very loud, but have no carrying pwer. A very thick front plate will sound dead and also not carry because it cannot vibrate properly. But a front plate carved to about 1/8" will vibrate and give to the tone emanating from the back plate. Therefore, where the front plate is overthick, some toning can also be done when the violin is assembled and strung in the white.

I know of no existing Strad or Guarnarius which is thinned in the centre of the front plate. There is no reason for this to be, and I cannot imagine either of those two masters accidentally making such an error, besides, as I have said, final toning must

have been done when the violin was complete and strung, but before varnishing. So how could they have thinned under the standing bridge? I regret to say that the originator of that "red herring" was guessing, without assertaining his facts, and his guess was wrong. I have personally seen and handled the "Swan" dated 1737 and there was certainly no thinning of the centre front. Incidently, one could still see the marks of the masters tools on the wood of the front and back plates, together with scratch marks of sand paper, while the varnish was very thickly applied.

Now for the question of wood filler and preservatives! The method used was an oil filler, which was oxidized by the sunlight before varnishing, and such oxidization can take anything from months to years. Here again I am convinced that the basic filler was a mixture of crude linseed oil with some crude Italian turpentine oil applied fairly thickly while warm or hot, and then exposed to strong sunlight. Such a treatment was repeated until the wood itself turned a medium warm brown colour. The varnish was then applied thickly and with a brush (brush marks can still be seen on some old masters). Again the varnish was applied either boiling hot or warm, depending on the practice of the area concerned. As for the varnish itself, the one used was the simplest, cheapest and easiest to make. Does that give anyone a clue? Another lead on colour is that madder root is a weed growing in profusion both in and around Cremona, Brescia and Milan, as I have seen for myself.

I noticed in one of the earlier Journals that some mention was made of using Canadian Spruce and Maple for violin making. I have never handled any of these woods. Are they different to Swiss pine and Italian maple? Are they accoustically suitable? Are they resonant (i.e. able to vibrate freely) etc. Perhaps one day I will try some and compare results, but for the moment I am content to use the small stock of timber which I have had seasoning in my workshop for quite a number of years.

I think that your Journal fulfils quite a need at this present time, and I look forward to it each month. Some of the articles are illuminating both in fact and fiction, both are equally interesting to read.

Dr. M E. Gordon, 1 Trafalgar Villas,
Stoke, Plymouth, England

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PORTRAIT OF AN IDEALIST cont.

Now, as secretary and editor, it is a matter of wonder that he still finds time to build fiddles. The job of launching the Journal and the struggle to wheedle contributions of material from craftsmen traditionally reluctrant to impart either their views or their methods is something all readers will readily appreci te, now that the Journal has reached its present high standard.

In between times, there were the prize flowers to be grown - Don has quite a reputation locally and his gardens, front and back, are glorious sights. There were also the little matters of helping to organize the new Association's stand at the P.N.E. the monthly meetings, speakers, encouraging the "orchestra", etc., etc. Last year, Erika became ill and Don ran the home and looked after her too, as well as earning a living. In a letter he wrote me about that time, he scrawled "I am as busy as a hen with 50 chicks".

The Association and, through its Journal, all of us, can be glad that Don regards his work for violin technology as truly a lobour of love. The inspiration and enthusiasm which is so evident on reading through the Journal month after month is an eloquent tribute to its hard-working dedicated editor.

These are qualities which are bound to spread the Journal's (and the Association's) influence far and wide and to evoke response throughout the world, where-ever violin makers are honest enough in their art to seek the truth in pure research and original though.

John Lawson, London, England.

ANNIVERSARY NUMBER:

You will notice on page 1 (the editorial page) that this issue is numbered Vol.3..No.1.. In other words this number marks our Second Anniversary and we now observe two minutes silence, or will someone play "Hearts and Flowers" while we pat ourselves on the back.

Joking aside, we do feel rather proud that we enter our third year of publication with our head still above water and swimming strongly. We have grown far beyond what anyone would have thought possible. What has amazed us is the manner that professional and expert amateur makers have supported us. One could almost say "They have nothing to gain, their technique has become established and they produce first-class instruments", yet their love for the violin is such that they are not satisfied unless they make their knowledge known to the world. With this esprit de corps we can enter our third year with confidence and with the thought that the work we are attempting to do is well worth while.

SUMMARY:

I had hoped, in some manner, to summarize the results of the past two years, but this task has been more or less taken out of my hands by the receipt of a letter from Leo Lynch. This is published elsewhere in this issue and covers the ground pretty well. I do feel, however, that a full summary should be attempted, We still have much confusion in the presentation of so many methods and theories, that a sifting out of much of the "chaff" might be an aid, at least to the beginer.

BACK NUMBERS:

Many of our new subscribers write in asking for back numbers of the Journal. We have, we believe, supplied most of these requests, but should any of our readers wish to secure more we can oblige, but cannot go back further than August 1958. Previous to that our Journal was very small and we kept no stencils from which we could make reprints. Some time we will reprint in the Journal several important articles which appeared in those early numbers. We should say here that back numbers are 25¢ each.

GREAT MINDS:

It is a strange thing that letters I receive seem to follow a pattern. For a while they will talk on one subject. Then without any apparent reason the next batch of letters will take up an entirely different topic. Or is it that "Great mindsthink alike"? That was the thought I got when I received serval letters, two of which appear in this issue, suggesting that the old masters sanded down their violins after they were strung up. It is queer because I don't believe it has been mentioned before. I always

practise this method but hesitated to say so for fear that it would display faulty graduating on my part. "Now it can be told" This system I should think would almost do away with all theories of tap-tones or weighing of plates etc. You just graduate to the accepted standards, glue your fiddle together, play on it in the white for a few weeks then sand it down till it sounds its best. But there's the rub (no pun intended, or is it?) when does it sound its best? Should we take just a little more off and produce a real Strad? or perhaps ruin a good fiddle. And should we take it off the top or back or both? Or should we take it off just one side of the top or back or both? Your guess I hope is better than mine but Strad knew, and that perhaps was his greatest secret. It would account for thin spots in many of his plates and other irregularities. Think this over and if you have an answer shoot it in to me.

VISITORS:

Several subscribers from distant parts have visited Vancouver this Summer and while here have called on several of our members. These visits have been much enjoyed by all parties and new ideas have been exchanged. Three such fine fellows were Sid Jackson from Shellake, Sask., Raymond Haake from Whitefish, Montana and Dr. Dan Steffenoff from Portland, Oregon. Should any of you readers come to these parts please remember "We are as close as your nearest phone" We will certainly give you a royal welcome..

THE ITALIAN VIOLA SHOW:

This exhibition is still in progess, at the time of writing so we cannot give the report we had hoped--we expect to have something next month. We also promised Carmen White a write-up on Tap Tones. This also will have to wait till December. Hope you will forgive me Carmen! I have had a busy time what with heavy correspondence and then laying out a new setup of Advertisers. And don't forget, you readers, please support these good people who help our Journal with their advertisements. They are all hand-picked reliable firms.

THE ARIZONA VIOLIN COMPETITION:

The Arizona Violin Association held their second annual violin competition during the last two weeks of October. We expect our friends had a successful show but at this time it is too early to have any results. These people are certainly showing a very progressive nature. Good Luck boys.

WOOD TESTING:

Probably one of the main reasons for failure with many makers is the fact that they do not take sufficient care in the selection of good wood for their violin plates. To pay a high price is not the solution, wood for both plates should be selected to match one another. In this connection the following letter from Mr. Alvin Hopping will prove of interest.

Dear Don:

I am making a thorough study of methods of wood testing in an attempt to set up a test to evaluate wood in bulk which would possibly eliminate the need for making the very accurate test pieces used in past wood tests. Perhaps it may be possible to test the wood in log form or even the trees as they stand. I have some promising results on the conventional slabs used fo tops and backs which may lead to means for grading of wood before sale.

Part of Strad's secret may have been exceptional skill in this important selection of wood. So many books instruct the amateur to obtain the best wood but neglect

to say how to judge it.

Yours sincerely,
S.A. Hopping

C DAR? RED WOOD AND DRIFTWOOD:

In his article this month Kristian Skou mentions the success he had using driftwood obtained from around the arctic circle. He does not disclose just what kind of wood this was but evidently it was not pine or spruce. Other readers tell me that California Red Wood has been used to produce some of the finest violins they have heard. Now I have a letter from Reginald Price advising the use of Canadian Red cedar. Other information in this letter makes it well worth printing:

Dear Mr. White:

I have been making fiddles and violas for nearly 40 years. I am a master builder (joiner) by trade and have gained a lot of experience from the late William Glenister Landow also from the late Geo. Wulme Hudson. Some of my best toned fiddles were made with Canadian red cedar. Geo. Wulme Hudson said it was the best toned wood he had ever used. I treat the inside of my instrument with a coat of linseed oil before gluing up. Also the outside until I got a smooth finish. The tension on the plates are then equal but I apply the oil sparingly. Also this oil must be from the druggists - the first crushings. Purified oil or the oil decorators use is not much use. Geo. Wulme Hudson only used this oil and he made some of the best tones fiddles here. I make all my fiddles by weight, back 4½oz, front 2¼oz, finished instruments without chin rest 15⅛ oz.

Trusting to hear from you again with best wishes to you and your members.

Reginald Price.

MODERN VIOLINISTS:

In a letter to my fried William Hall of Listowell, Ont. I happened to mention that many of the modern violinists lacked imagination and that the trend seemed to be towards loudness and mechanical playing. In a real chatty letter he says in reply.

"Regarding my opinion on modern violinists. It agrees with my own. "They lack imagination." Anatole France in his delightful novel "The crime of Sylvester Bormon" has the old philosopher say "To know is nothing, to imagine is everything". This suits my way of thinking, as I was born in Ireland, and have quite a bit of the mystic in my outlook. I like to hear music played that stirs my imagination, but it seems the modern trend is to produce a trumpet-like tone, with dazzling speed. The first time I heard Kubelik play, I thought here is the introduction to the machine-age. Others who have left a lasting memory, are Kriesler, Marie Hall, (who was picked up off the streets) Thibarn, Huberman, Sziegetti. For the present-day ones, I'm too old fashioned to enjoy their fireworks. Music should appeal to the emotions."

ROELOF VEERTMANS' BOOK

We start this months installment with the outline of the Amati Viola then continue a few more questions and answers. I still receive many compliments on this work and pass these on to the Author.

EDITORS NOTE.

The following article has just come to hand and we feel that it should be published this month in order to partly clear up Mr Carmen Whites' questions about tap-tones.

TAP TONES BY CARLEEN M. HUTCHINS.

In the September issue of The Violin Makers Journal Carmen White describes beautifully the confusion that exists today about tap tones in the top and back plates of a violin, viola or cello.

We too, tried to hear by ear the pitches in each plate. When we held the plate at thumb and forefinger distance from one end and tapped in the center, we could get the pitch of the back fairly well. However the top plate with f-holes and bass bar gave too many different tones to determine eachone accurately. Dr. Saunders, Mr Hopping and I spent two years developing an accurate scientific way of finding the frequency of these pitches.

It took us another two years to discover the relation of tap tone pitches between top and back plates that would make a good instrument- on the basis of my work. We did this by keeping one plate constant (no changes). Then we thinned the other one in successive stages until we got the tone qualities we were looking for. This meant taking an instrument apart and putting it toget er again at least four times. A detailed account of this work was published in The Strad for August and September 1958.

We are now in the process of testing instruments of other makers whenever we can get the top and back plates off at the same time. We hope to test many old as well as new instruments in this way.

I know from my own way of working where to put the tap tones of each plate to get a certain tone quality and response for each instrument. But it seems most likely that other makers' ways of arching, graduating balancing and finishing the wood may require a somewhat different placement of tap tones. Mr Weertman is describing some of these variables of construction most effectively, showing how they can make quite a variation in the tone of the finished instrument. The more tests we can make the more we will know about this.

Mr Hopping is in a position to test plates (top and back) for a small fee to cover operating costs of his equipment. / These tests will give a violin maker a photo strip showing the frequency and relative strength of the tap tones in each plate when it is held and vibrated by our method. In this way we can help any violin maker, who wants to take the trouble to work out the best relation of tap tones for his way of making instruments.

Continued on page 18

In general I find in my work that the tap tone peak of the back plate should not come at the same frequency as those of the top plate. If they do, I get a hard gritty tone that is uneven and makes the instrument difficult to play softly. A cello intentionally put together in this condition (with peaks matching) was described by a good cellist as "an overgrown puppy that he coundn't control. When I took 1/32 of an inch off the flanks of the lower bouts of the top, Mr Hoppings' tests showed the peaks to be alternating. The thinning of the wood caused the peaks of the top to move down scale just enough to alternate with those of the back. In this condition the cello is now a fine instrument- judged by the same good cellist and others.

I always weigh the plates at each step of the thinning process. In the case of the cello top just described, the weight went from 508 grams to 460 grams. Our research thus far shows that the relative position of the tap tones in top and back is far more important than the relative weight of each plate.

I have found several ways of alternating the peaks between top and back plates, depending on wood quality thicknesses etc. But there are not enough data to make definite statements on this as yet. When the peaks are too far apart the resulting instrument tends to be dull and weak toned. I once made a new top for a violin to correct this, and it worked.

I regret that I am too busy to go into lengthy correspondance, as some of your members have discovered. But I will be glad to try and work with anyone who wants to do something about it. We are a research group, and the information we find will be published and made available as far as possible.

Carleen M. Hutchins.
October 15th 1959.

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The remaining pages of The Journal are devoted to the

next instalment of Roelof Veertman's Book.

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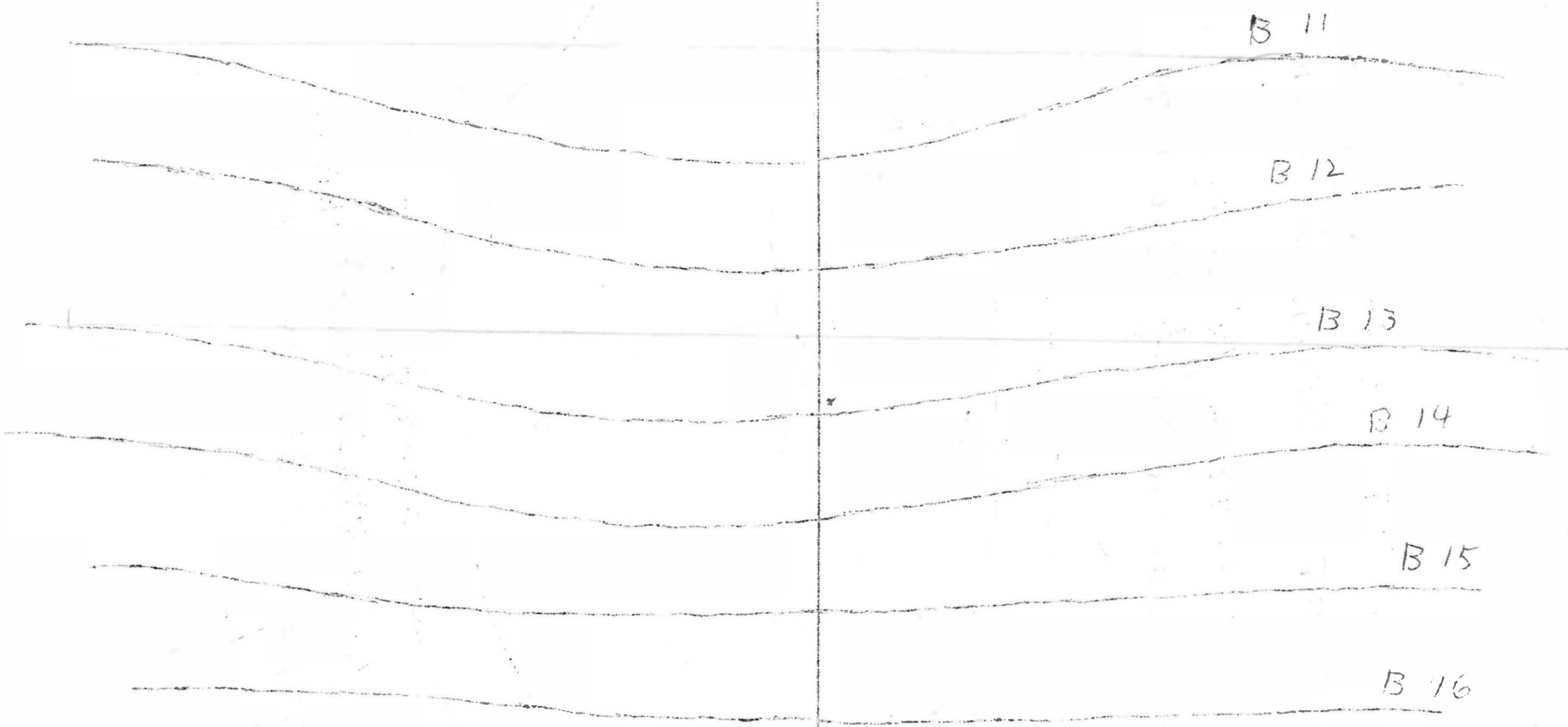

ACTUAL TEMPLATES OF AMATI 1683 VIOLA BACK.

RWD
June 1959

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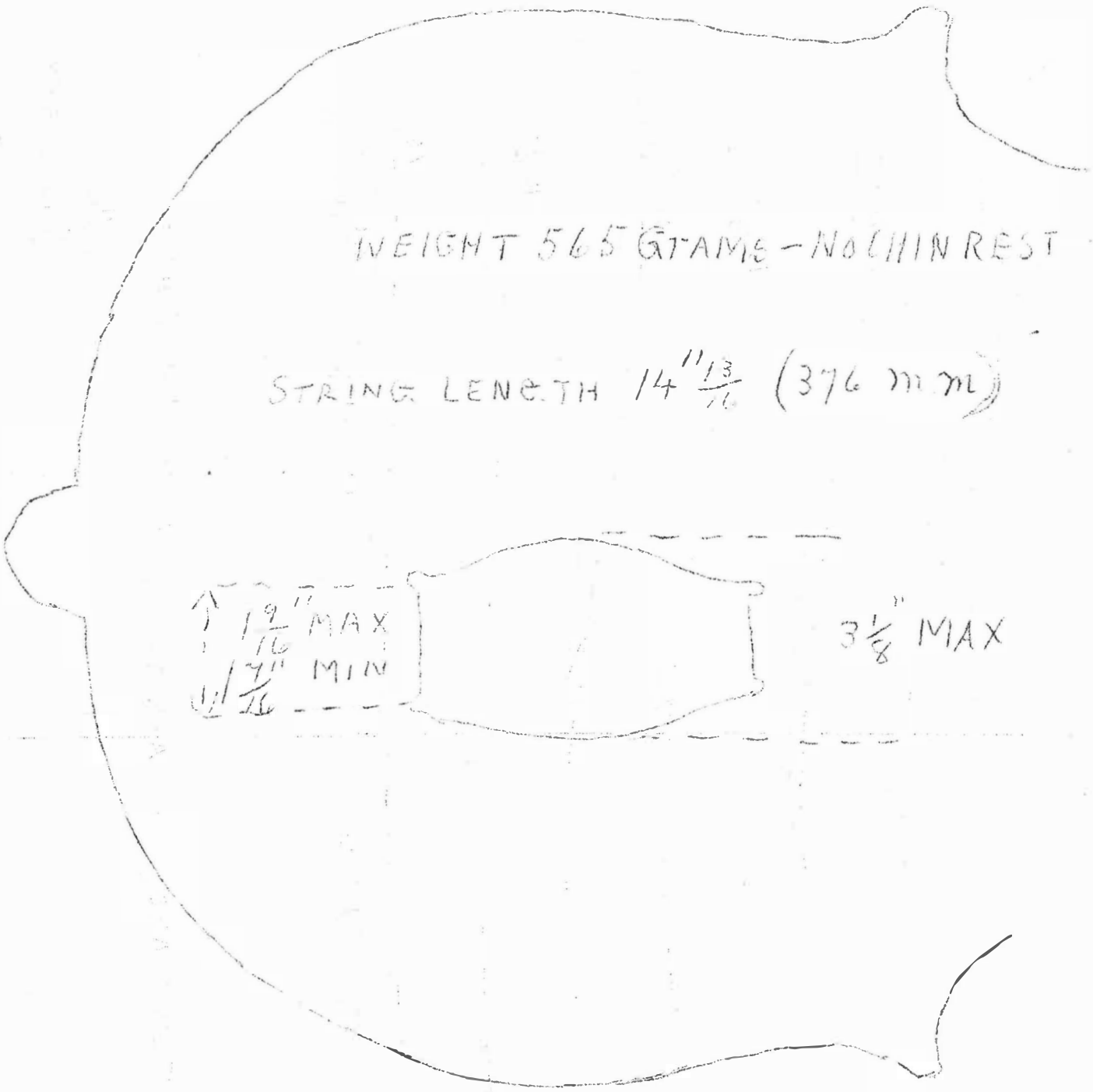


OUT LINE OF AMATI 1685
OWNED BY SIDNEY COHEN.

PLATE 1.

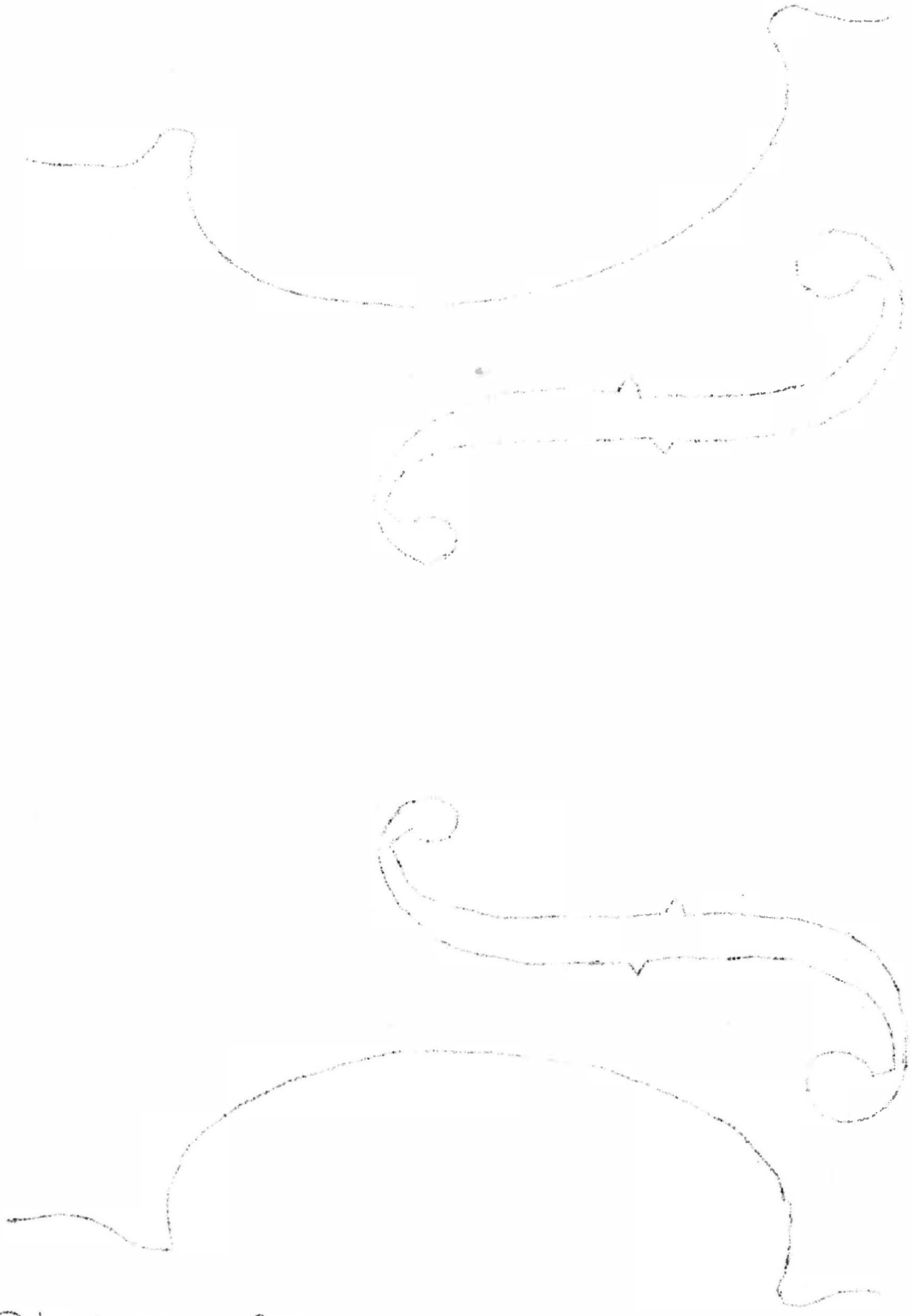


PLATE 2.

AMATI VIOLA 1685

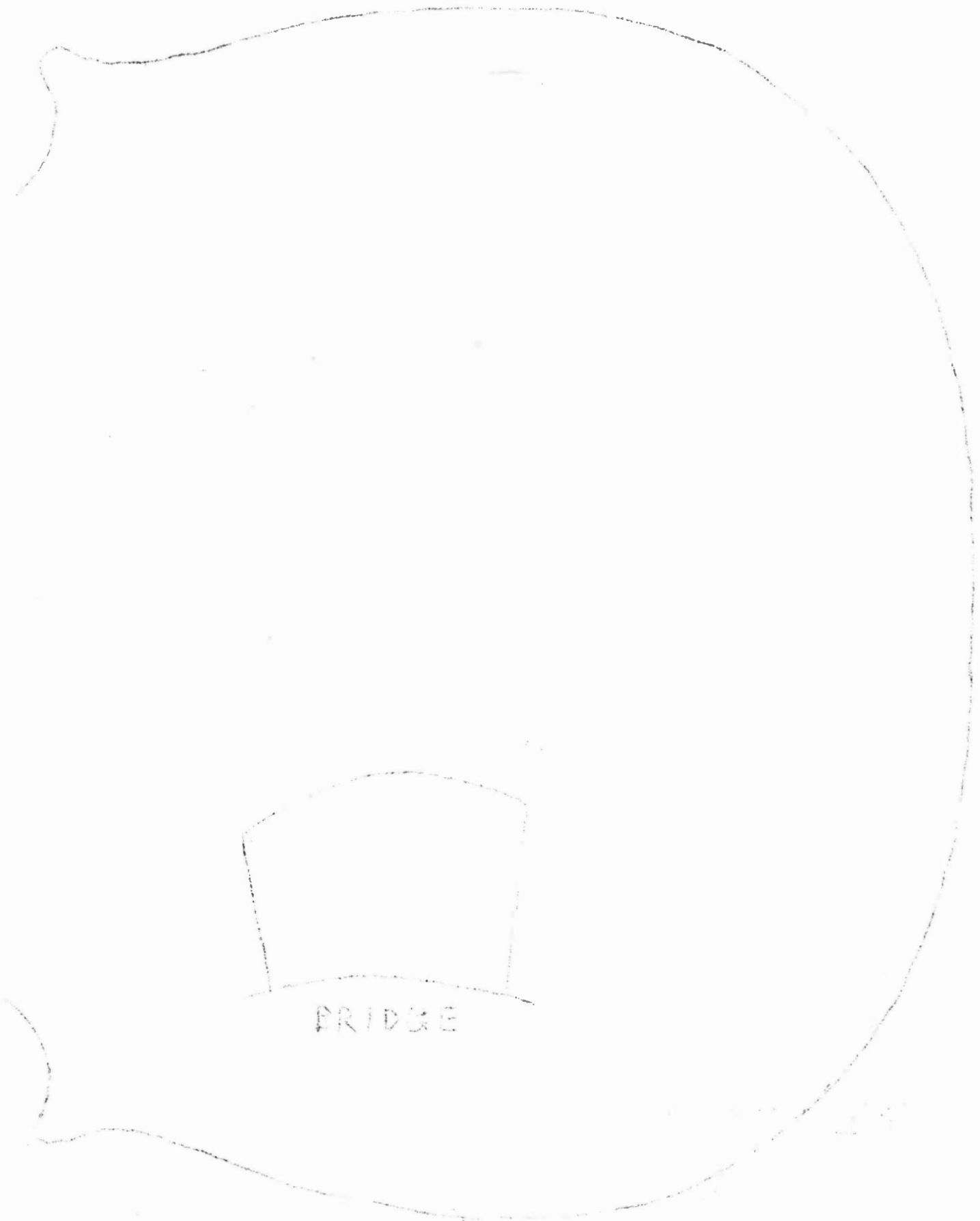


PLATE 3. AMATI VIOLA. 1685

FURTHER DISCUSSION ON TECHNICAL POINTS

QUESTION:

In most text books a violin bridge is given a specific height. If we have an instrument which lacks brilliance would it not be possible to rectify this deficiency by providing a higher bridge. Please explain the effect of a bridge higher or lower than normal.

ANSWER:

I would say, that lately the strings are so excellent and precisely made, that they sound their best when the A pitch is 440 C.P.S. The tension is thus always the same. The reaction of a high bridge on the fiddle top is thus more than a low bridge. Assuming that when a string is bowed or plucked, that the tension does not change much, but that the distance of the bridge top to the saddle is shortened a fraction and that from bridge to tail saddle the tailpiece swings a little from side to side. (When you string up an instrument, the tailpiece does not lie normal, until all strings are on and at least practically are in tune). All this causes the bridge to rock on its base and tip the top forward. The amount of tip remains the same for either a high or a low bridge; the front face angle however that the bridge makes with the top is less for the high bridge than for the low one so while the pressure is more, the change of angle is less than with a low bridge. A too high a pressure, will tend to overload the top, resulting perhaps is an uneven tone fabrication. A too low a bridge, in spite of its greater angle of pressure, may not be abl to excite the top enough, the tone may then be even alright but be lacking in brilliance. So, we better stick with the approved average, as shown in Joseph Reid's book.

QUESTION:

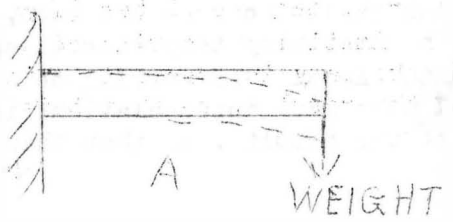
Several makers have suggested to me that some of the best instruments of the "Old Masters" were graduated to a thinner degree around the area of the bridge than at the edges. Would you comment on this and it effects your theories of construction?

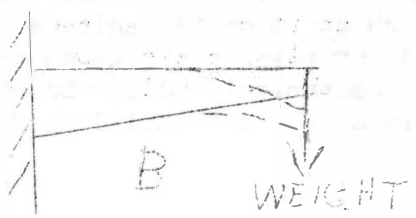
ANSWER:

In considering an answer to this question it might be well to again use the illustration of the stone and suspension bridge. It will take very little intelligence to imagine what would happen to these structures should the central portion be constructed lighter (thinner) than the rest of the bridge.

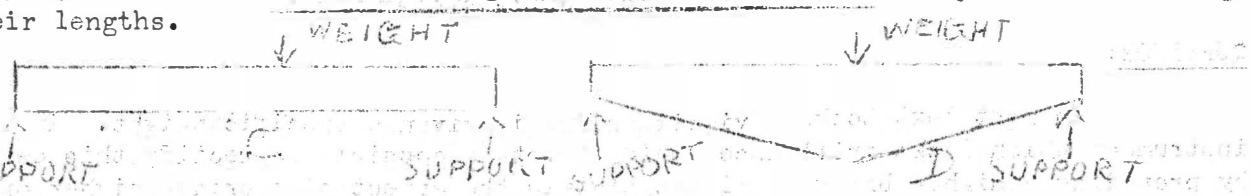
Let us attack this problem, by assuming that our bridge would collapse at the central point. We will therefore discuss the correct (maximum) thickness under the bridge region of a violin to the minimum thickness at the periphery of the instrument. This can be argued pro and con by, for instance, comparing things in general first.

Assume and ordinary contileur beam. Even casual inspection will convince any one that beam B will support a load just as well as beam A, provided that the cross-sections where the beams are enclosed in the wall are alike. But beam B will weigh less, because it is tapered lenght wise.

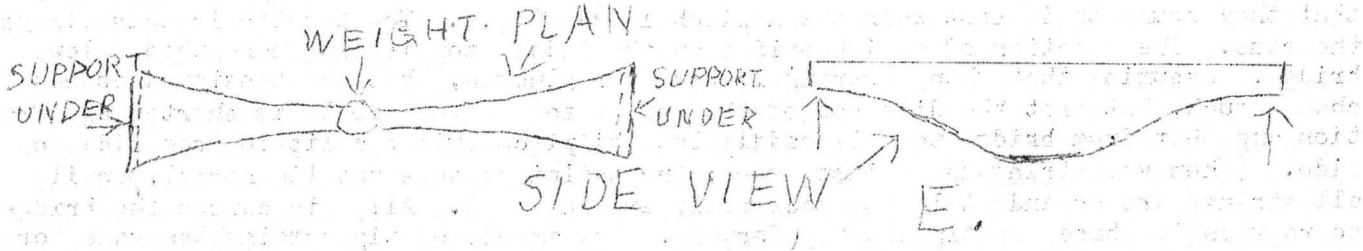




So far we have taken beams of equal widths. Let us inspect a beam supported at both ends and contrast is with beam D again we feel, that beam D is equally capable of carrying a load as beam C, assuming again that the beams have equal widths through out their lengths.



However supposing the beam D is very much wider over the supports than where the load is applied, but we still want to make the beam as light as possible and of such proportions, that the material of which the beam is made is stressed equally every where, then perhaps the beam looking down on it, appears like this.



Common sense would even tell the non-technical reader, that the above statements seem reasonable assuptions.

Now when we look down on a fiddle, we find a similar situation. The bridge weight on a beam, having the shape of a fiddle, supported all around by the sides. The condition however is very complex, but we may pry the lid of the cooking pot and at least get a whiff.

In order to vibrate, all parts must suffer some displacement. Let's make a fundamental cross section. At A top and back are at rest and the sides are straight up and down.

When we excite the strings, the bridge not only pivots on its felt, but bear down as well, due to occasionally increased string tension. The top deflects; the wood has to go somewhere and pushes out the sides. The soundpost pushes down on the back, which bulges out some more. The maple will be pulled in from the edges and the sides come together. All these displacements are extremely small and rapid of course; and from the above it seems clear, that the sides should not be too stiff, so that top and back can move freely.

Coming back to the original statements, we may consider the top a beam, freely supported on all sides, and since very much more material is available around the edges in proportion than in the center area where the pressure is applied, it means that while we graduate the thicknesses evenly from center to edge, it should not be quite

but more Templates taken from the best of the Cremona crop show a very strong tendency to conical sections. Of course, when shallow curves are made, very little difference exists among these curves and it takes a great many templates (I spaced them one inch apart on the Andreas Guarneri and now on the Amati I am working on and 2 inches on the Seraplino cello) Due to natural warping, I make many interpolations in order to determine the original design and when done inspect the results, so that this inspection

creates the feeling of having made (or not) a faithful reproduction).

Now having established a set of curves and wishing to determine as near as possible, the least amount of wood, consistent with such distribution of thicknesses that the stresses are nearly uniform [illegible] we may assume an empirical principal, that as we draw a reduced fiddle shape, as wide at the waist as the width of the bridge and compare it with the actual width of the waist, the relationship is roughly as $2\frac{1}{2}$ to one, what seems to point out that the wood in the sides could be quite thin, while the center is relatively thick. Assume that the cross section at the bridge is a parabola, both top outside and inside, we may enlarge the scale in any direction and not change the principals involved, we may also consider that the section resembles a bridge structure and still not alter the design principals involved. When we construct then a stress analysis diagram, we can at once measure the relative stresses in the different parts of the parabolic arch and as well the relative thicknesses. By inspection it is at once clear, that not too much difference exists, say at panel members 9/10 and 5/6, in spite that the bridge is smack over 9/10. Evidently too much wood is in the 5/6 region.

However, when we substitute a byperbolic curve for the outside, the pictures change. The stress 2/10 in both cases has not changed much, but a good deal of wood has been removed our stress 9/10 and 5/6 have acquired a much improved relationship. The periphary at 5/6 is roughly $2\frac{1}{2}$ times that of 9/10 so the proportional stress should be around $2\frac{1}{2}$ less also, in order that the UNIT STRESS may be nearly the same all over.

In actual practice of course we run into all sorts of trouble. The f holes upset the apple cart some, then we have a bass bar, that makes a true appraisal of the action of the belly near impossible. Just the same, unless we try to unravel the mystery of the fiddle in some logical manner, we may as well join the "Legion of Screwballs." With this I do not mean to slight any efforts of anyone, who has not had the advantage of some technical instructions, since many important advances have been made by other inventions. However, anyone who has the slightest knowledge of physics and chemistry should use that knowledge. Joseph Michelman is an excellent example of clear thinking. I am not a chemist, but I advise his deductive reasoning and on my cello, in order to get the particular shade of the Seraphino I added some of his brown varnish to my own (prejudiced!) varnish.

NOTICE.

In the next chapter we resume the original text of Mr. Weertman's work. Another Question and answer chapter will appear later on in the book.