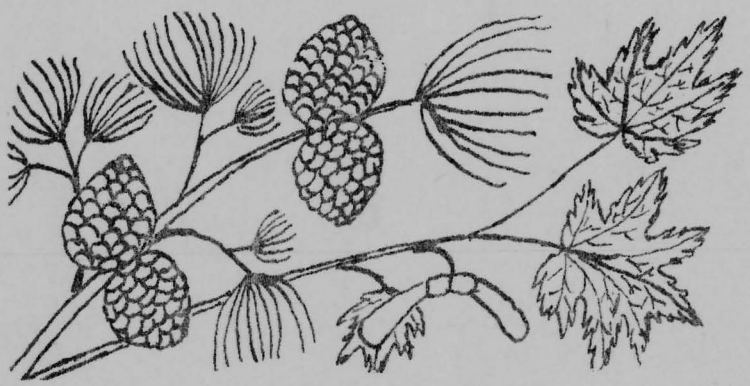
JUNE 1960

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

The Violin Makers Journal

A Non-Profit Periodical . Published Monthly

By The Violin Makers Association Of B.C.

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EDITORIAL PAGE OF *The Violin Makers Journal*

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AN ENGINEERING TRIUMPH:

"Well the engineers have finally done it; they have figured out how to take a live performance in a concert hall and make it sound exactly your own living room."

Report of concert in The Queen Elizabeth Theatre, Vancouver - "The Vancouver Sun".

The ab
stringed instruments. If this trend in the acoustical arrangements of the modern concert hall continues, the demand for strong toned violins will cease. The engineer can now "blow up" the soloist instrument to any extent he wishes.

Vancouver's Queen Elizabeth Theatre completed last year is supposed ultimate in acoustical architecture. Experts from all over America were consulted. A defeatist attitude was apparently exhibited from the start:- "We cannot build a hall large enough for 3000 listeners and have the sound carry to the far end of the hall." That seems to have been the verdict. So they put in a "Public Address" system.

To our mind this is a terrible indictment of their profession. There are large halls all over Europe and this continent built 100 years ago wherein a man's speaking voice can be heard all over the hall distinctly - and don't tell us this is art! Possibly it is
loud speakers.

The leading artists of the world visit Vancouver and nearly all play or sing in The Queen Elizabeth Theatre. It is rather tragic
hear them in their natural voices. It's canned music from now on!

We should emphasize the fact that the Engineers have provided us with the very latest Stereophonic sound, an achievement of which we feel they are justly proud. Not only is it as good as any that you may have in your own home at the present time but you have the added fascination of watching it being can d right before your own eyes!

To the Violin Makers with soft swe t-toned violins it

- 0 -

Most of the shadows of this life are caused by standing
in our own sunshine.....

- 0 -

"GETTING THE MOST OUT OF MATERIALS"

by Leo. D. Larsson

Another heading could be "Getting your moneys worth out of materials" as many of us are a little careless with out materials. While this article covers two pieces of wood of given size at hand for a fiddle back, the idea is to stimulate thinking, develop economy and ability to salvage good material for tops, backs, ribs, linings etc.

Much of the wood reaching the violin maker comes from dealers who specialize in supplying this material and it is usually sized for minimum waste. Material from other sources can at times be of wide variations in dimensions and such is the case with two blocks recently acquired for a fiddle back. Each block is 16"x 7 5/8" x 1 1/8", now let us see what we can do with them by using a circular saw and maybe a band saw.

In all the drawings we will use the same symbals to indicate the same item, R will be material cut off that can be used for ribs, B, block for a back, B 1 - B 2, two halves for a back, J, jointing edge, C 1 - C 2 - C 3 etc., will refer to the type of cut suggested with the saw. The numbers 1, 2, 3, etc. will be the alternative ways the materials could be worked.

Believe it or not there are five ways these blocks can be worked, but in working material for backs, the type of figure, how it will match up in joining and what you are willing to accept in these, are factors. Before we start there are two thoughts to remember. First, the old Italians were not afraid to use different types of figures in their woods, jointed backs, and not afraid to add a little to a block to gain the necessary width, now referred to as winging. Second, when working material with power tools do not try to work down too close to the finished sizes. Particularly in deep cutting, as condition of blade, type of material and other factors can cause drift so as to undercut into the material you wish to use.

We are not illustrating 1 as we can just join the two blocks ending up with a board about 16" x 15" x 1-1/8". From the center joint 4 3/8" each side, the side pieces would be trimmed off which could then be sawed up for rib material. You would end up with one fiddle back and enough rib material to last you for years.

Each block could be cut as in 2 at C 1, R section to be sawed into rib material B section to be handled as in 3 or 4. By using those methods you would end up with two violin backs and a lot of rib material. The Cuts C 1, C 2, C 4 etc. with a circular saw will be about 1/8" wide and while the dividing of the B block in 3 could be made completely with this saw, with the material at hand it may mean not enough wood is left unless a very flat model was to be made. Therefore we suggest cutting 3 as follows.

After the first C 2 cut is made the block must be turned end over end so that the same side of the block is against the rip fence when the second C 2 is made. The C 2 cuts should each be about 1⅛" deep, exactly in the center of the edge of B block and then a true set, sharp band saw will cut C 3 with a thinner kerf to divide B into B 1 - B 2. Any of the J edges can be used to give the best figure matching in the joining.

In cutting hardwoods, particularly curly maple, on a circular saw it is best to make two or three passes over the saw, each time setting for a greater depth of cut. The curly maple frequently springs close on the saw causing binding also burning of blade and material, but handling as suggested above this condition can be kept to a minimum. Why not cut C 2 and C 3 as one cut with the band saw? It can be done but deep cutting in curly maple with a band saw frequently develops saw drift.

Method 4 will give you more safety when cutting the material if you are using a tilting arbor circular saw. Start cut C 4 leaving about ¾" on the thick side of the edge. Saw will have to be set at correct angle so when the block is turned over sideways

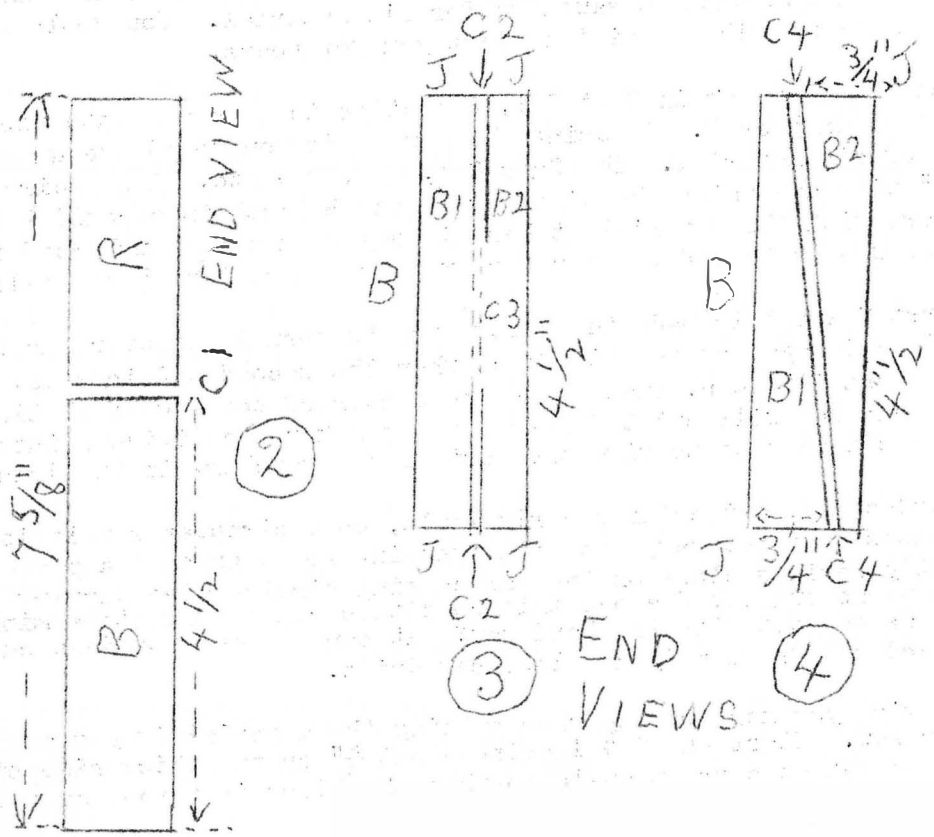
to the other edge for the second C 4 cut both kerfs will meet true. Joining at J gives the usual gable block. When using extra long material it sometimes gives more latitude in figure matching in the joining.

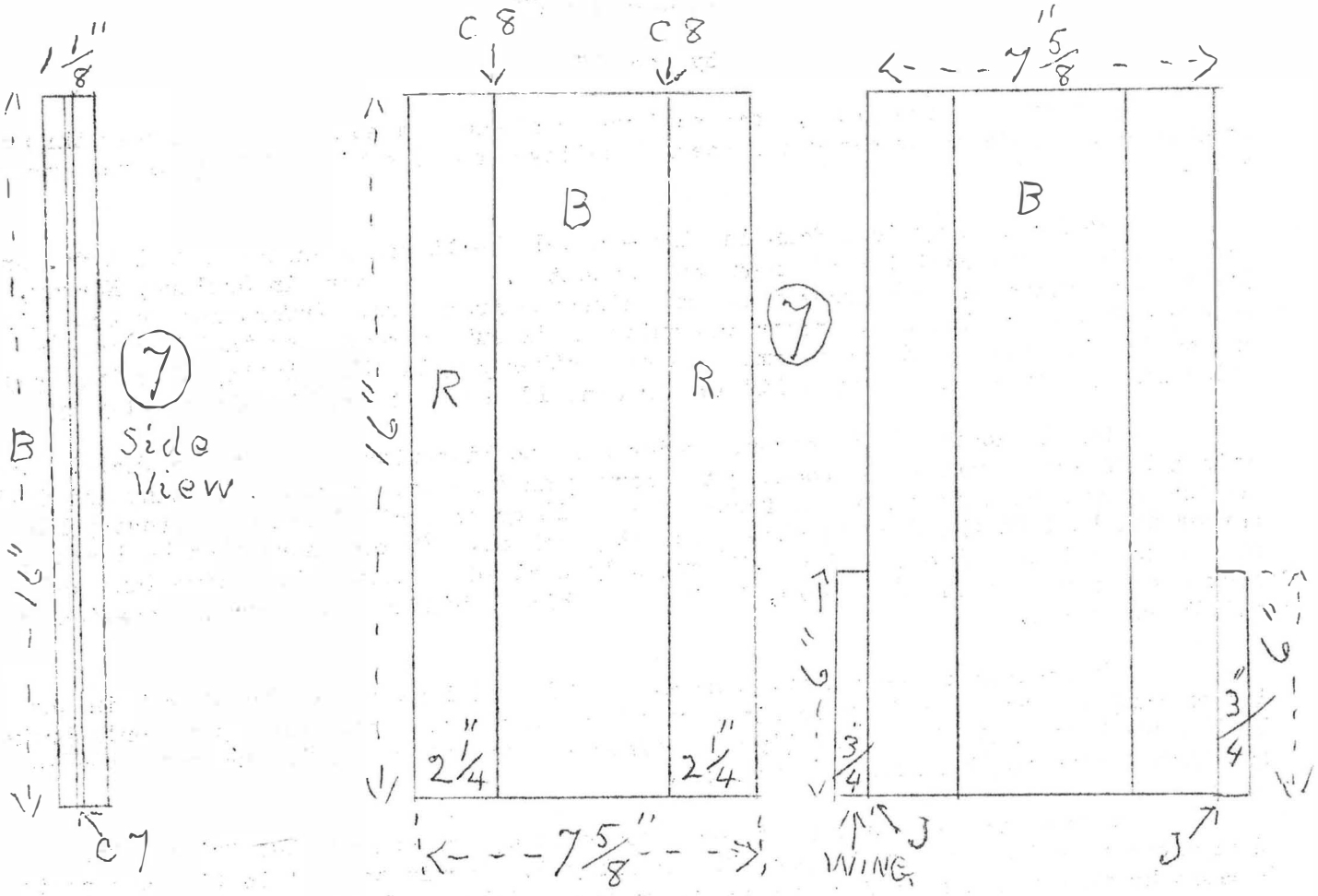
Now we come to 5 and 6, B being the full width of the 7 5/8" block. M line indicates the middle. The saw will be tilted at a 45 degree angle which is the maximum, sometimes you can squeeze a little more. The distance between the rip fence and the top edge of the teeth will be 4 5/16" which will be the maximum width of B 1 – B 2 blocks allowing very little waste for joining and a narrow model ripped. Before joining B 1 – B 2 as shown at 6, some verticle cuts C 6 will be made on B 1 – B 2 as shown in 5 A for rib material. Joining would be as in 6.

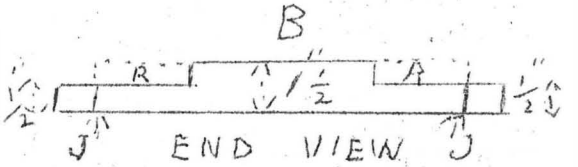
In using method 7 you would have lots of precedence among the old master violin makers. Block B is the full size 16" x 7 5/8" x 1 1/8". Each edge is ripped down the middle about 2 1/4" deep C 7, or more, then the block is laid on the flat. A cut is then made to just meet the C 7 cut, this last ripping designated as C 8. From these strips cut out of the block, rib material will be made but also two pieces about 1" x 6" must be cut. These latter will be joined to the lower side edge of block B which will give the necessary width for the lower part of the back, a winged back.

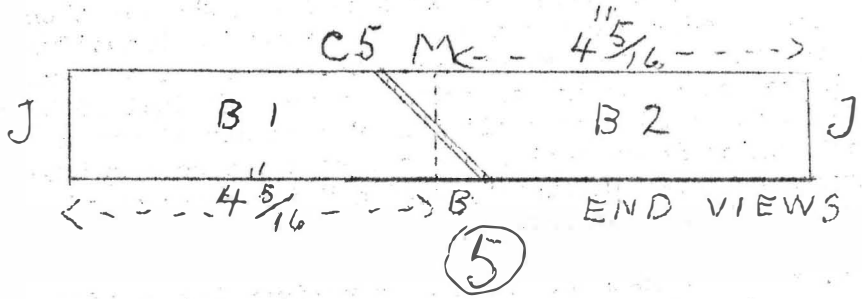
This is what can be done with the material at hand. Material of other dimensions may extend or limit the processes also change the sizes of blocks B and R. The angles of the cuts C 4 in 4 would change and vary definetely in 5 the angle of the cut C 5 would be varied a lot.

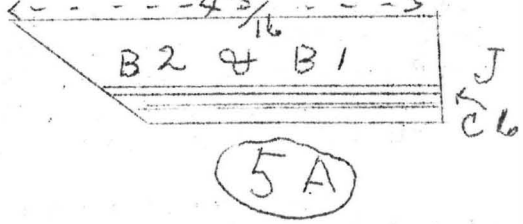
Today with so many types of small as well as large power tools on the market, many violin makers are using some of them while others maybe toying with the idea, wondering which tools and how . If there are enough interested readers in this subject of power tools, the writer will consider writing a series of articles on the selecting and using power tools in violin making. Let our good editor Don White know if this is something you want.

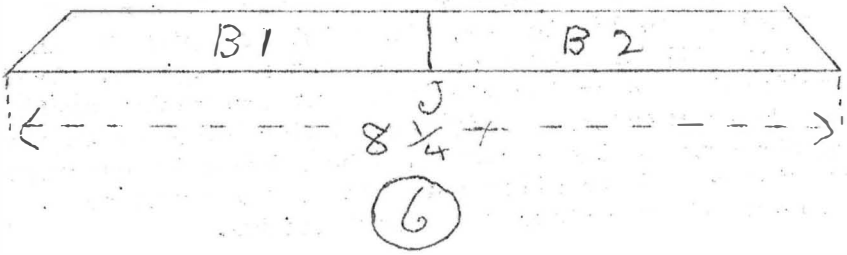



1 1/8"
B
16"
C7
7
Side View
C8
C8
B
R
R
16"
2 1/4"
2 1/4"
7 5/8"
7
7 5/8"
B
6"
3/4"
3/4"
6"
WING
J
J


B
R
A
1/2"
1/2"
1/2"
J
J
END VIEW
WING JOINTED BLOCK


C5
4 5/16"
J
B1
B2
J
4 5/16"
B
END VIEWS
5


4 5/16"
B2 & B1
J
C6
5A


B1
B2
J
8 1/4"
6

"PEDER SVINDSAY"

by Don White

"Some are born great, some achieve greatness and some have greatness thrust upon them", but Peder Svindsay's success I believe can be attributed to patience and hard work.

Peder is a typical Scandinavian - a well built man standing a full 6 ft. and with a voice that proclaims his Norwegian ancestry. He was born in Orkland, Norway, his parents owning a prosperous farm some distance from town. Unfortunately both his father and mother died while Peder was quite small but he remembers that his father was handy with tools. He also remembers his father playing the violin, this inspired Peder some years later to buy a fiddle for himself and to teach himself to play by ear.

On the death of his parents Peder went to live with his Aunt and Uncle. Week-ends and holidays were spent roaming the Norwegian forests. Fishing, hunting and felling trees created a love for the forest and at 18 Peder decided to make Forestry his career and he left the farm to attend Forestry School. It was there that he learned of the great timber lands of B.C. He suddenly decided to leave his native land and seek his fortune in the New World, taking with him as his most treasured posession the childhood violin.

He arrived in Vancouver, Canada, in 1927 and immediately found work in the lumber camps. Here he met Ernie Lindberg and a close friendship was formed only broken by the death of Ernie last fall (1959). Lindberg had made a violin and Peder became fascinated with the hand made instrument.

Work at the lumber camp suddenly came to an end and the two friends found themselves back in the city temporarily unemployed. Partly to fill in time and partly because he felt the urge Peder decided to make a fiddle for himself. He bought tools and some very fine wood at a music store and during the winter of 1936 made his first violin. The tone was suprisingly good.

During this period Peder heard all the leading violinists his pocket book would allow. He was particularly impressed by a recital of Mi scha Elman who was then in his prime. Elman's violin was a Strad Peder could not help comparing its beautiful tone with that of ordinary violins even when played by good artists. Peder also heard several Guarnerius violins and was impressed by their strength of tone. He decided that in the violins he made his aim would be to embody the qualities of both Stradivarius and Guarnerius instruments. The model which Peder designed has turned out some splendid fiddles. Arthur Polson, Vancouvers talented violinist, used a Peder Svindsay violin for his United States tour, which was a notable success.

His model does not however, remain constant. Fond of experimenting he will often try something different, also, he will change measurements to suit the type of wood used. Length of his favourite model is 14 1/8 inches, the waist is a full $4\frac{3}{4}$ in. ribs of normal height. Arching will vary with type of wood used or tone desired. Graduations change somewhat with the density of wood or its ring note but are mostly $6\frac{1}{2}$/64ths reducing to about $5\frac{1}{2}$/64ths at edges. Backs 10/64ths to 6/64ths. Peder believes that a fairly light bass-bar aids in giving strength to the G string. The F holes he executes with perfect precission and are just wide enough to allow entrance of the sound-post. The neck he sets at a somewhat acute angle which allows for a high bridge.

I dislike the term perfect as I believe nothing can be so-called but when you examine a Peder Svindsay violin you are forced to exclaim: - "Here is faultless workmanship!" Scroll, F holes and purfling -- not a blemish. The wood around the F holes beautifully graved. The Vancouver violin makers call him their Master-Craftsman.

It is however the varnish and polish that first attracts the eye. Starting with a light yellow ground color he varies the succeeding coats through browns and reds and more yellow, finishing with clear varnish. It is hard to believe that varnish can be applied so evenly and when polished, not too high a gloss, the different colors sparkle as the violin is turned in different directions to the light.

Such
closest friends.
page. These
bow as anyone on this continent, and one could write another article on the subject.

All these winnings were, however, dwarfed by his magnificient win of a Grand Silver Medal at the International Viola Show held in September of last year at Ascoli Peceno, Italy, against violas from all over the globe. A credit, not only to himself, but to Canada as well.

Yet with all this success Peder is not yet
is "The best violin is still to be made". We wish him long life so that he may be the one to accomplish this achievement.

- O -

Wood burns because it has the proper stuff in it;

and a man becomes famous because he has the proper stuff in him.

--- Goethe

- O -

It is not accident of fortune, nor an extravagant whim, that all great cities, deeming it a civic necessity, maintain a symphony orchestra, and it is understandable why other centres wish they could afford one.

For great music is a treasure that enriches the community that possesses it and, as Spencer says, ministe

Toronto Telegram

- O -

Be careful how you live

You may be the only bible your neighbor reads

.....White

- O -

MORE ABOUT GRADUATION AND LINSEED OIL

by E.H. Sangster

It would seem that many violin makers have many ideas and theories on how a violin should be made and over the last century and a half there have been thousands of Strad and Guarnerii copies made by expert workmen, yet none have produced the tone and articulation of the old makers. This seems hard to believe when we consider the fact that copyest had wood equally good and dimensions thicknesses and every item exact. There must have been something the copyest failed to do that all the old makers did before 1750.

Now we have only two clues that I know of. First, letters written to Father Micanzio in 1638 apologizing for delay on a violin he ordered for Galileo. Second, a letter written by Stradivari apologizing for delay because of the non drying of the varnish. These to perfection.

Now a word to Mr. Clifford A. Hoing on "Spoiling by Oiling". Mr. Hoing speaks very strongly but I am sure Mr. Hoing has not done much experimenting with linseed oil and the time element or he would not speak so strongly. Now if Mr. Hoing will purchase a good violin in the white as I did and take the top off and regraduate it 6/64 all over and rebar it; glue it back on and take the back off, regraduate to 10/64 in centre and 6/64 at edges; glue the back on and smooth with finest garnet paper. Then warm some pure raw linseed oil in the water bath and with a brush give the violin a good generous coat all over. Hang the violin out in the sunlight every day possible for at least one Season. He will have a violin of the most beautiful yellow color which will not need any other filler just varnish and he will also know more about what pure raw linseed oil and time will do for an instrument.

And now a word to Mr. Martin Starkman on violin arching. In studying the archings on a number of fine Strads such as The Soil, The Danela, The Lord Nelson, The Dolphin, The Titian and The Duke of Edinburgh what do we find, no two of them are alike. In 1960 Strad made the famous "Tusean" one of his finest, but from 1690 to 1698 he made what are known as the long Strads but from then he abandons the Long Strads and goes back to the Tusean and from 1700 to 1720 makes violins of the finest and no two are alike in arching.

This tells us that violins can be made with many types of archings if the fundamentals of good archings are followed. In Hill's Book, "The Life and Work of Stradivari" page 62 they tell us that in the Boissur Strad 1713 the arching of the belly is higher than the back but in the Dolphin 1714 it is the reverse, yet they both are among the World's fine. This again tells us that fine violins can be made with many types of archings. There are several things that every violin maker would do well to remember. When you look at a large Elm, Oak or Pine tree remember it did not happen over night. It took one life time. Time. Also remember that a fine violin must have quality of tone and ease of articulation when it is new or it will not have them when it is old. If it were otherwise we would have thousands of fine copies of Strad made a century or more ago with Italian tone quality. There just aren't any. Yes! many are fine when played by themselves but when we compare them to even a fine Gagliano, they are found wanting. It is my opinion (based on forty years work) that Strad or none of the great makers ever varnished an instrument until they had oxidized the filler for at least one year. Time and Sunlight was what gave them the tone and this is why the method was abandoned after Stradivari passed on. Time.

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The lazy man aims at nothing and usually hits it.....

- 0 -

TAKE COURAGE

THERE IS ONE FACT WHICH IS SO VERY OFTEN OVERLOOKED BY THOSE WHO STAND IN AWE OF THE GREAT ITALIANS, AND THAT IS: WERE IT NOT FOR THE INGENUITY OF THE MODERN MASTER, THERE WOULD NOT BE ANY GREAT MASTERPIECES LEFT FOR THE WORLD TO ENJOY.

CHARLES D. SMITH.
VIOLIN MAKER

THUJA PLICATA OR WESTERN RED CEDAR?

by "I. B."

When speaking of our favorite trees, shrubs, or flowers, most of us refer to them informally as "holly", "Maytree" or "snapdragon." It would seem too stiff and formal to say that the ilex and antirrhinum are growing well just now and the crataegus oxyantha is blooming beautifully.

But common names, though they are very useful because they are easy to remember and usually more pronounceable than botanical names, can be confusing because they sometimes vary with the locality or one name is given to several quite different plants, while botanical names are international so there is only one for each species, and each species has only one name. The plant nurseries, which want to supply us with exactly the right plants, use the botanical names for precision and the common names for the benefit of the layman.

Mr. Hall of Listowell has recommended the use of botanical names by violin makers who are discussing various woods. This makes sense. Violin makers should be just as precise as plant nurseries.

"Maple" is not the same maple to everybody. To the Eastern Canadian it is most likely the Rock or Sugar Maple (Acer Saechar m); to the B.C. resident it might be the Broadleaf (Acer Macrophyllum); and it's hard to say what it would be to a European--probably Norway maple (Acer Platanoides).

"Cedar" is not the same cedar to everybody, in fact it isn't even a cedar to most of us. Anything but! To some it is an Arborvitae (Thuja), or "yellow cedar" (Chamaecyp ris) and to others a juniper (Juniperus). To indicate which so-called cedar is being discussed, adjectives are sometimes used, as Western red cedar (Thuja Plicata). But red cedar to Americans is a juniper (Juniperus virginiana) which Canadians call red juniper or pencil cedar. Confusing, isn't it. One goes "round and round".

No wonder one contributor to the Journal was not sure what the Western red cedar tree really is and guessed it to be a pine. Or that at least one reader didn't know what a European writer meant by German pine. Was it pine as we know it (Pinus)? Or was it perhaps the Norway Spruce (Picea abies) commonly used in Europe for violins under the name of German pine?

It does seem that if violin makers are to get anywhere in their discussions on the woods they are using, considering the utter chaos there is in the common names of trees especially the soft-woods, they should follow the example set by plant nurseries, catalogues and reliable books about plants life, by giving the technical names of their trees. Having properly introduced it, Sitka spruce (Picea sitchenis) they could, still following the example of most of the above, revert to the use of the common name for easier writing and reading.

Some violin makers don't know the botanical names of the trees they use. Mr. R.H. Williams has given a list of B C. spruces and firs with their technical names, which should prove helpful. There aremany books about trees and their identification which would also help. One in particular called, "Native Trees of Canada", put out by the Canada Forestry Branch, is an excellent book, beautif lly illustrated and containing a great deal of useful and interesting information and worth a great deal more than it costs, Two dollars.

But if a luthier would rather go ahead making violins than learn how to identify trees, we would not want to miss the valuable information he could give, for lack of a Gr ek or Latin name. A brief descriptien of the tr e and its' leaves, bark, etc. and the locations in which it is found, would serve quite well to identify it to others and enable the Interested Bystander, who would rather study trees than make violins, to dig up the technical name.

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EXTRACTS FROM A LETTER RECEIVED FROM

William Hall
Listowell, Ontario

I enjoyed reading the book of Weertman's. He seems to be an original and unique person. His views on mathematics are quite logical, as this science is at the back of every advancement to-day. I have no doubt about their importance in relation to violin making.

There is no doubt, that Mr. Weertman is qualified to give opinions worth consideration, as he can put abstruse problems in a readable form, so any ordinary Joe can understand what he's driving at. While my knowledge of mathematics is nil, I have sufficient intelligence to understand that from a scientific standpoint, they have been one of the first means to liberate the human mind from the darkness of superstition, by giving us a true picture of the heavenly bodies, which up to the time of men like Giovana Bruno - who was burned at the stake, and Galileo who was held prisoner for years by the Jesuits, opened the heavens for all to see, and suffered for opposing the teachings of the old monastic system. What a debt of gratitude humanity owes to these great pioneers in the art of mathematics. Were it not for Newton, and a few others, all the wonders of present day civilization, with its gadgets of comfort wouldn't exist.

Weertman's theory about balancing a body of irregular shape, has many things to recommend it; as taking a violin body it conforms to what is an irregular shape. But he has figured out the radius of its centre of gravity is around 10cm. Now on the other hand, the arching centre, for long arch is in most models 14cm from edge of bottom bout on a 14" violin. This is the highest point. The ball and bat example he gives is feasible and is a good analogy. This point could be the centre of gravity of the whole instrument, and it would be most interesting to work on this to find a mathematical formula that will agree with this thesis.

One thing I do like about Weertman is that he has the real scientists approach to the problem, and I find the same thing with N. Nicholas. Science verifies facts and records them, as he says mathematics is a visual art. I think this a profound observation, as we find even in music such as J.S. Bach's.

Bach's music is a most amazing diversity of what may be termed-mathematical problems in sound. It is only the vain, or ignorant, or a combination of both, that sneer at this approach to violin making. It makes me burn with indignation, when I read about the old masters not being able to read or write, such snobbery is absurd. One has only to think of the magnificent old churches on the European continent built in what was termed the dark ages, and the great Florentine artists. In music: vocal art reached perfection in the music of Palestina, violin music performed in the first opera by Montoverdia in the 15th century. The first violin school by Corelli about Strad's period, his great pupil Tartini, who discovered the natural and artificial harmonics, another pupil Nardini, The works of these old masters still furnish inspiration for modern composers, and it takes a very fine artist to render their works, yet we read downright ignorant references to the lack of education in the old Cremonese masters, who supplied the instruments to performers in Royal courts throughout Europe. In the work of Javolec, one can see the manuscripts, drawings, wood models, tools, left by Stradivari and copies of the letters written by Strad's sons, and grandsons, which are also translated. It is time these ignorant references should be scotched for good, as they only whow how little the authors of them know about the tradition and history of the great men who have left imperishable memories of their contributions to an art, that has not been equalled to this day.

Craske the English maker, whom Hill's consider the best master copyists of the old Italians. Some compliment! Yet Meredith Morris in his book on old English makers, damns Craske's work. Craske was quite a character, who locked himself in his workshop and made thousands of instruments. I had a very good del Jesu Copy. The varnish was not so good, but it had a good quality tone. Craske repaired Paganini's famous del Jesu. The great artist was in a big sweat about the repair, and stood over Craske while he made the repair. So you can take your choice of critic, or artist.

Very few indeed, get the chance of seeing old famous instruments, except in photos, as most of these are owned by artists who are constantly travelling, and as Weertman points out, when repairs are necessary there are only a few entrusted with doing the work. Outside of Hill's, there are only about three. So one may take as hog-wash, statements to the contrary. The same applies to the care of bows, one great artist I knew would always wait until his concert tours took him to Berlin, where he had his bows and violin attended to. In many cases, no charge would be made for the workdone, as it was considered an honour to get his patronage.

Your investigations along the line of Strad measurements, is an informative angle. It is surprising how near to each other are the measurements of the old masters, which I think, show there was a norm that they all worked from. Which leaves only the choice of wood as the deciding factor to deal with in regard to tone. It is easy to verify the difference in tonal quality, that the archings influence: The high model of the early English and German masters, have a usually high-pitched piercing tone; like, say a coloratura soprano. The latter models, adopted on the flatter patterns of Strad., a rich mezzo-Soprano voice. While the old Brescians; da Salo, Maggini, a contralto, with del Jesu Guarneri coming in between with a blend of the best features of both. These different models offer a wide field for thorough investigation. One of the reports of Dr. Saunders, show how artists like Heifitz, and the other artist - whose name for the moment I forget - possess a perfect ear for determining pitch, and how the Guarneri of the former responded to the note D as a fundamental tone. It is important that only artists, should try violins for tone. As there is a vast difference in trying out violins, by playing Jigs and Reels on them, to playing conertos, that exhbit every compass of the fingerboard. Say the like of the D major concerto of Paginini, which embraces every known technical device of which the violin is capable of producing. Harmonics, artificial and natural, three and four note chords, complete melodies for each string, up to its highest pitch. Dazzling arpeggios, runs of up and down bow staccati. It takes a perfectly balanced instrument to produce all these, so they can be heard in every part of a concert hall. On one of Fritz Kriesler's appearances (Last) I heard him play in the huge Maple Leaf gardens an unaccompanied violin solo of Bach's, on his wonderful Guarneri violin. It was not only a revelation of the artist's ability, but also the violin's capabilities. Notes that were played as if in whispers, were clear and distinct, in the farthest seats where I sat. The audience gave a standing ovation to this dean of all violin artists.

One thing that struck me as the greyhaired artist left the platform, amidst the frenzied cheers of admirers, was the great care he was taking of his violin, hands were reached out to take it from him, with I presumed the intention of making it easier for him to descend from the podiom, but there was Kriesler with outstretched hand warding off, well intentioned gestures of the crowd, and with his other hand, clutching the beloved violin close to his body. To me, it was an unforgettable scene that has lived in my memory for the past fifteen years or so.

- 0 -

A great deal of talent is lost in the world
for want of a little courage..... Sydney Smith

- 0 -

PROPOSED TESTS OF VIOLIN WOOD

by Alvin Hopping

I am trying to concentrate on wood tests as being most promising and basic in relation to all the varied aspects of violin construction. The equipment I am perfecting will of course also test the effect of any treatment of the wood in addition to making possible the initial selection and grading of the wood. I have seen no really meaningful tests so far published. Of course there have been testing problems and I am still having some but have made good progress. I am enclosing a test strip showing a second of time stretched out to 31 inches. The upper widely spaced marks are taken from the standard frequency source and the lower closely spaced marks were taken from the material under test - by counting the closely spaced marks in the space coverd by one second as shown on the upper frequency standard we have 360 cycles per second as the frequency of the material we are measuring. This record was made on equipment of my own design and uses electrically driven pens using India ink and quite a lot of electronic equipment, a few more changes are underway before I get down to an exhaustive study of wood, wood pretreatment, filler, varnish etc.

Also I am enclosing a small piece showing the decay of vibration of a wood sample as measured on another piece of equipment also of my design - which I hope will be a significant sure of the viscosity or internal friction of the wood structure. As you can see it took 1/45th of a second for the vibration to cease after the driving force was removed.

I have had violin makers show me how they select the proper top wood to match a certain beautiful maple back wood - by rubbing the top wood and listening to the rustling sound thus produced; also the kind of ring the two woods had when caused to vibrate. From what I have been told very few makers can guarantee to duplicate a certain tone quality found in one of their previous instruments which to me makes it seem there is still a lot of guess work going on.

I have laid out the following program of wood tests:

1. Elasticity (Young's modulus) - Longitudinal (lengthwise) Transverse (cross
2. Damping or after ring or internal friction or viscosity grain)
3. Weight
4. Grain count
5. Hardness - workability
6. Frequency response - tone quality
7. Kind of wood - species
8. Absorbability (water test)
9. Microscopic study of section across the grain

Nos. 1, 2, 6, have engaged my attention and special equipment has been needed to take the electronic responses. All of my tests are made under dynamic conditions - very similar to making tests while an instrument is being played as compared to static tests where pieces of wood are bent by placing weights on a test strip. Static tests have been displaced by dynamic tests in airplane design; speed tests by Naval Dept. on boat design; automotive design.

I certainly intend to subject many test strips to the above tests and then perhaps when the fiddle is finished a duplication can be made. Perhaps (6) Frequency response may be the most important to the above.

A long after ring and high elasticity would seem to indicate a wood of high efficiency - can efficiency be too high?

- 0 -

MY IMPRESSIONS OF EARLE SANGSTER

by Norman MacKeigan
Sydney, Nova Scotia

I used to visit Earle Sangster at his shop in Halifax, Nova Scotia, back in 1935-37. He has certainly come a long way since those days, although he made good fiddles even then.

I was in his shop several times and he used to tell me then that he knew Stradivari's secret. This was of course the sun treatment, for a time I considered him another crackpot I had seen so many of them, one fellow who made violins and hung them up in his workshop claiming the vibration from the machinery improved his violins. another fellow who varnished his violins in the nude in a plastic enclosure to avoid dust, and all this stuff, but his violins were good, and two I know of here are still good. So later I started to make the odd violin again and sun treated them, but did not then nor do I now believe that linseed oil is the right filler. It would not surprise me at all if propolis is the final answer to a filler, I have tried f some years to get propolis from the Cremona region of Italy. It is said to be a yellowish color there, although the colour should not make any difference except in the finished look.

Domenicus Montagnana, lived in a different part of Italy, he was one of the great ven and his violins under light show a reddish orange tint that is very beautiful. It just might be the different coloured propolis, of course I don't know, I just wonder,

I haved used horsetail for some years now, and as a writer says in your Journal it does pick up mineral, perhaps this is why some tests on Strad and Guarneri varnish show traces of mineral.

I made my first violin when I was 13 years old, brought up on a farm with those long winter evenings, and a broken violin for a pattern, and no idea about the thicknessing, wood green out of the forest, sides bent around a curved row of nails, etc. I made my first violin, all in white, tailpiece, front, back, pegs and all, but it was a start. I'm 55 years old now and all down through the years it has been my hobby. For many years the pressure of living kept me away from it, but always I looked ahead to the time when things would ease off and I'd get back to the bench. And you know chiselling a dense piece of curly maple is hard work, and yet I feel so relaxed after it. Maybe too relaxed.

- O -

A lady customer asked the little girl whose father owned the candy shop: "Don't you sometimes feel tempted to eat pieces of candy?"

"No, that would be stealing," replied the little girl. "I just lick some of them."

- O -

For asking questions little Bobby has a flair.

His weary parents call him their little question heir.

- O -

THICKNESS OF VIOLIN TOPS

by Andrew J. Priest
Dallas, Texas

It has been observed that there is some discussion in your columns with reference to the thickness of violin tops. In 1943, Mr. Abraham wrote a series of articles in the Strad on violin making, and according to his judgment, the thickness of the top should be 1/8" in the area beneath the bridge and extending approximately 2" behind the bridge and 3" in front of same in a semi-elliptical shape tapering to 7/64" and then 3/32" in the area immediately preceding where the top is glued to the ribs.

Honeyman's Guarnerius was 5/32" in an elliptical position under the bridge reducing to 3/32" in the area immediately preceding where the top was glued to the ribs. This Guarnerius was only 13 7/8" long with the upper bout being 6 5/8"; the middle bout 4 1/2" and the lower bout 8 1/8".

Honeyman's Gaspar De Salo, which he claimed had the greatest carrying power of any violin he had ever listened to, was 14 3/16" long with the upper bout being 6 3/4"; the middle bout 4 9/16" and the lower bout 8 3/16". The top was 3/16" in thickness under the bridge tapering as the two above mentioned violins to 1/8".

Mr. Abraham's comment was that a thick top gave a big, loud tone, and a thin top gave a small, thin tone (see Strad, January 1943). I have the dimensions of the backs of these violins if anyone whould care to know them.

Many believe that the thin Strads and many other Italians have been victims of those who had the "Scaperitis". That is, they had been worked down by repairmen who felt they could improve the tone on the work of the masters and improve the resonance of the violins by scraping them thin.

A few years ago I examined a beautiful cherry purple Benjamin Banks violin, and upon laying the bow to it found that it was thin toned and roared mightily but did not have the characteristic solidity and sweetness of a Banks fiddle. Upon putting the calipers to the top I found that it had evidently been thinned down to 3/32" under the bridge and 1/16" in the outlying portions of the top.

Make your fiddles of thoroughly seasoned wood and if you want them for today, let the tops be thin, but if you want something that will steadily improve every day that it is played, leave the tops about 1/8" to 5/32" in the area under the bridge with sufficient tapering of the plate as your experience may indicate.

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NOTICE TO LOCAL READERS

The next meeting of The Violin Makers Association of B.C., July 9th, 1960 will be of special interest.

Miss Helen Hagnes, winner of the Silver Cup in the violin section of the B.C. Musical Festival held last March will play several selections.

This talented 11 year old player will use the late Ernest Lindbergs violin which was presented to her as the most outstanding player in the Festival.

Members are asked to bring their wives, families and friends. Other artists will also entertain you.

- 0 -

AN INVESTIGATION INTO THE GRADUATIONS OF STRADIVARIUS AND GUARNERIUS VIOLINS

by Don White

PART 5

Allow me to commence this intalment with a correction. Earlier in this series I quoted from the book by Frederick Castle as follows: Quote "Concerning data for the "Joseph", Honeyman states thus:- "The belly is always thickest at the edges and thinnest throughout the central areas." end quote. Several readers have taken me to task suggesting that Honeyman would never have said anything of the sort.

I have, myself lately read several booklets by Honeyman and nowhere can I find a statement of that nature. Honeyman was a very conservative individual and the graduations he recommends are quite orthodox. However we must remember that Dr. Castle stated that the above quote was taken from a letter to Castle from Honeman. Is it possible that Honeyman in his latter years awoke to the fact of peculiarities of graduations in Guarnerius violins? We will never know but to keep the record clear I will gladly withdraw the quote.

I had hoped before this series had advanced so far to have inserted the theories of Dr. Frederick Castle. Several makers have written me suggesting that I appear to be shy in "jumping off the deep end" - his theories being to say the least, out of the ordinary. Let me assure these kind friends that this book "Violin Tone Peculiarities" will be fully reviewed in good time.

Before introducing his ideas, which I believe will cause some disturbance, I feel we should clear up some of the theories so far presented. Even this tidying up process will have to wait till the next chapter.

I have one more witness to call to the stand before summing up my case. I present to you Mr. Frederick D. Rowe of Ft. Lauderdale, Florida. Mr. Rowe before retiring to Florida resided at Minneapolis and was then in partnership with that Grand old violin maker Jacob O. Lundh. Both produced outstanding instruments. Mr. Rowe himself has made, since 1910, one hundr d and sixty eight violins, six violas, and a couple of cellos. The violins, except in allowing for difference in weight and strength of wood have all been made according to the basic graduation plan which he will now outline. Jacob Lundh followed the same principles in graduating his violins except for a couple of slight changes that he made in arching and bass-bar, to give a "tougher" tone, as he called it. A tone he always loved.

THE GUARNERIUS "DOUBLE HEART" SYSTEM by Frederick Rowe

First a little about Stradivarius graduations.

I believe all of us are acquainted with the page in the Hill Book showing graduations of ten or twelve Strad. violins and I have always wondered why the average maker seems to pay little attention to that information. The information, I believe is correct at least it coincides perfectly with any first hand information I have gotten from the real fiddles. You will notice that in his "Golden Period" 1700 to about 1715 with the very slightest of variations his top thicknesses were 6/64 all over, (incidentally, no thin spots) and his backs were just about 10 or 11/64 at center graduating out to about 6 at far bouts. Perfectly simple graduations and I have used them mostly in copying Stradivarius with very satisfactory results.

Mr. Lundh and I always referred to Guarnerius graduations as his "Double Heart" system, this applying, of course, to top only. The diagram, Fig.1 will show you what I

mean. The dotted lines showing a distinct heart at each end of plate.

Perhaps I can explain the graduations better by telling you exactly how I make them.

I start by planing and scraping my top to 7/64 all over (trifle flush at edge area where a little scraping and sanding will be necessary after pufling is in). Then in the area around inside edge I mark off 3/4 inch from where lining will set, at ends of plate allow this 7/64 area to extend 1½ inches, not clear across top but at the blocks. Now inside this marked off area around plate, carefully scrape thickness to 6/64 all over. Now with scraper blend the two thicknesses together.

I have found where he sometimes came down to even 5/64 at center around bridge and sound-post area but unless wood is very solid I consider that too thin for the sound post area, not because of Tone considerations but because of the heavy pressure at that point.

Your reference to "Thin Spots" I am not able to help you with. Except for one J.B. Guadagnini I have not found intentional thin spots in either tops or backs, and I can't believe that the makers themselves put them in except possibly by accident and we can all rest assured that such a workman as Stradivarius didn't have many accidents of that nature. (Unless you wish to accept the 5/64 around bridge area, mentioned in my last paragraph as being a "thin spot".)

The Guarnerius backs have, to my knowledge, a more definite pattern - 11 or 12/64 at center thinning to about 8 at edges in center bouts and to 6/64 at far bouts.

To those who will suggest that these tops are too thin and will play out in a few years, just remember we have the greatest maker that ever lived to back us up and after all the great players have to have violins with sensitive rich tone clear up to the bridge and consequently turn to that type of violin, mainly "Josephs".

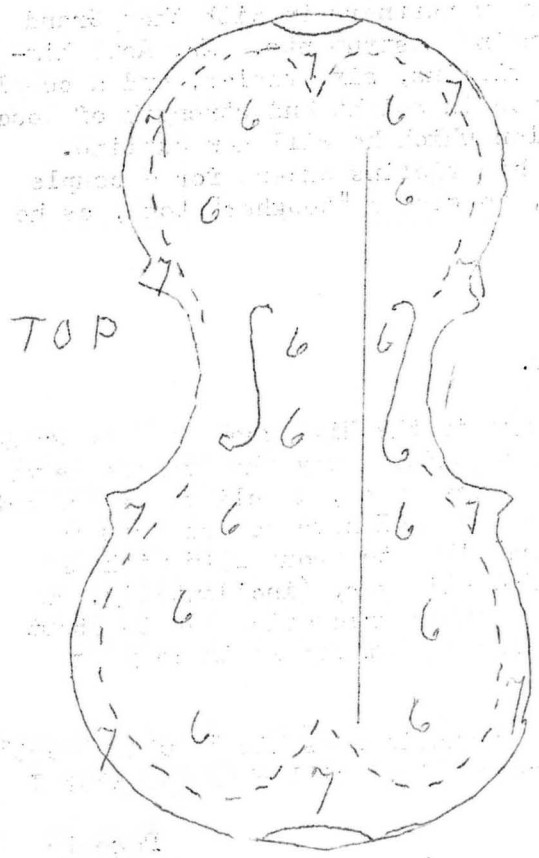


FIG 1.

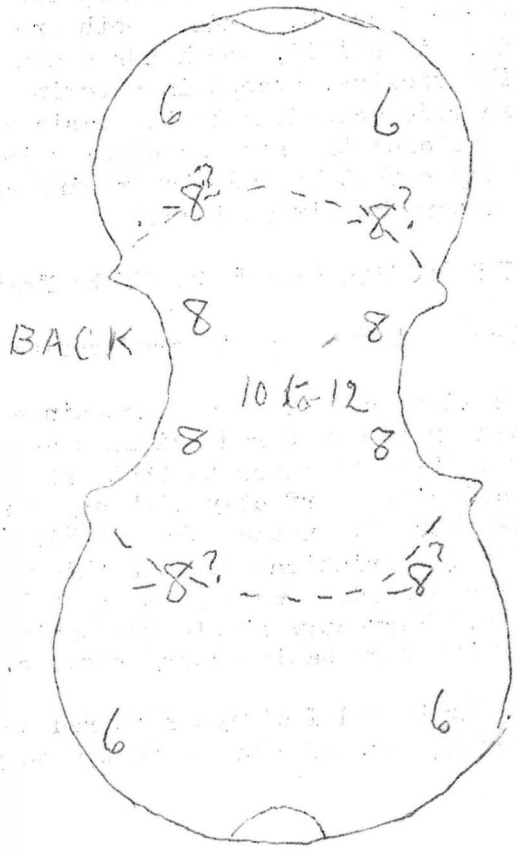


FIG 2

THE MATHEMATICS OF THE VIOLIN "F" HOLES

by Clarence Cooper
Forest Counsel
Victoria, B.C.

Many times all of us have gazed at the "f" holes of the violin and had mixed thoughts about them. Maybe we have spent too much time in unproductive contemplation and have failed to appreciate at what we are looking. The time has come to describe what we see and to examine in detail the reason for the form and position of these "f" holes.

For a moment let us consider the single "f" hole as if detached from the violin. We notice that at the top it begins with a small circular hole which appears to enlarge into a spiral, expanding over the top to continue as the line of a helix ending in a small apex about half way down the whole length of the "f". At the same time, we notice that part of the spiral is truncated by an oblique line which appears also to truncate another line of another helix. We can also imagine that this same line may have cut off the whole spiral form that this second helix line may have had for its termination. Again the second helix line ends in a small apex lower down in the length of the "f" hole; but facing the opposite direction to the first.

The lower half of the "f" hole seems to be a reversed repetition of the top. We notice, however, that the lower circular hole is larger.

Now that we have some conception of the geometry of the "f" hole form, let us proceed to consider the physics of sound relating to sound passing through such form of holes. Fundamentally, when sound is propogated towards a wall, if there is a hole in that wall the sound waves at that spot will pass through such hole. The sound waves emerge from the hole on the opposite side, either in the form of a beam or in the form of a cone, with the apex therof at the orifice of such hole. When the sound waves emerge from the hole in the form of a cone the sound is dispersed in all directions, whereas if they are in the form of a beam there is no dispersal, but you would have to be in line with the beam to hear the sound. Of course, as the beam of waves goes farther away from the hole they would tend to disperse, but the sound would be weak. The cone form of dispersal of the sound waves is the most desirable for violins because it would then be heard in all directions and be said to have carrying power.

The form in which sound waves emerge from the "f" hole depends on the form of the hole. What could be a more suitable type of hole than one formed from the spiral expanding into a helix, which in themselves are based on a conical form? There is possibly also the added effect, that the helix can be developed from the cylinder which would embody the beam form at the same time and hence add fortitude to the intensity of the sound. We wonder if the older masters, in developing the "f" form from the spiral and helix in using those works of another older master - namely Archimedes - vaguely conceived that this should be the method of sound dispersal from their instruments.

The next feature that should be considered relating to the "f" hole deals with the problem of maintaining the intensity of the sound. This problem gives rise to consideration of the size of the hole as contrasted to the form mentioned in the preceding paragraph. The hole size should be such that it will accommodate the shifting position of the nodes of the sound waves for the whole scale when played as a glissando. In substance, the hole size has to be sufficient in extent to cover an octave, then, for the purpose of the length of the "f" hole it has to correspond to some octave related to the instrument. It does not appear to matter what octave you select of your scale except I would suggest that it is consistent with the form of the body of the violin that you select the fifth octave of the one relating to the length of the body of the violin, measured along the centre line from the inside of the ribs from the neck to the tail end.

In short, the "f" hole length is approximately 1/5th the length of the body of the instrument (inside measurement). This length is determined actually by relating it to the centre line between two parallel lines drawn perpendicular from the centre line to touch the top and bottom of the expanding spiral curves of the "f" hole, which will be described below. The distance between these two parallel lines is 1/5th of the length of the centre line.

At this point I would like to return to more observations on the characteristics of the "f" hole to compare some of the measurements, looking again at the circular holes of the top and bottom. The top circular hole is smaller, and when we compare its diameter with the bottom one we find that it has a relationship of 5 to 4, i.e. the major third. In the various books on the size of these holes they give the figures as 4/16th inches diameter for the top and 5/16th inches for the bottom, which is a 5 to 4 relationship of the major third. (These dimensions are applicable to Stradivari violin forms only). The expanding spiral forming the top of the "f" holes for both the top and bottom has a diameter twice the diameter of the circular hole and its centre is on a line through the centre of the ciruclar hole and parallel to the line truncating the second helix line. This is merely an octave arrangement in the spirals, thus covering the whole octave (glissando) as mentioned above.

Subject to comment later on, the length of the "f" hole is divided into a major third, i.e. 5 to 4. Considering the point of division as at the lower notch, from a line drawn perpendicular from the centre line and on both sides of the centre line. This perpendicular is the line usually accepted as the one on which the bridge is placed.

Before dealing with the location of the "f" holes, I want to mention the various axes of the violin without describing how one developes them, as such is not the subject of this article, so please accept them for the time being.

To orient the planes of the violin I must again refer to my articles on the development of the violin form in the August, 1959 issue of the Journal in which the centre line was laid down as being divided into 72 units. For the purpose of both the top and the back we can consider the centre line as one plane at right angles to both. Now, for the purpose of the top the second plane would be at right angles to the centre line and passing through the point 40 units measured from the neck end of the body. This plane through the points 40 would be the plane line of the bridge and also pass through the lower notches of the "f" holes. It is the plane that divides the "f" hole relative to the centre line into the major thirds (5 to 4). The top half of the "f" hole would correspond to the 5 division and the lower half to the 4 division. Also, the two parallel lines mentioned in a preceding paragraph, which touch the top and bottom of the "f" hole respectively, are a distance from the point 40 on the centre line of 8 units and 6 2/5th units respectively and added together, give you 14 2/5 units which is 1/5th of 72 with the length of the body (inside measurements).

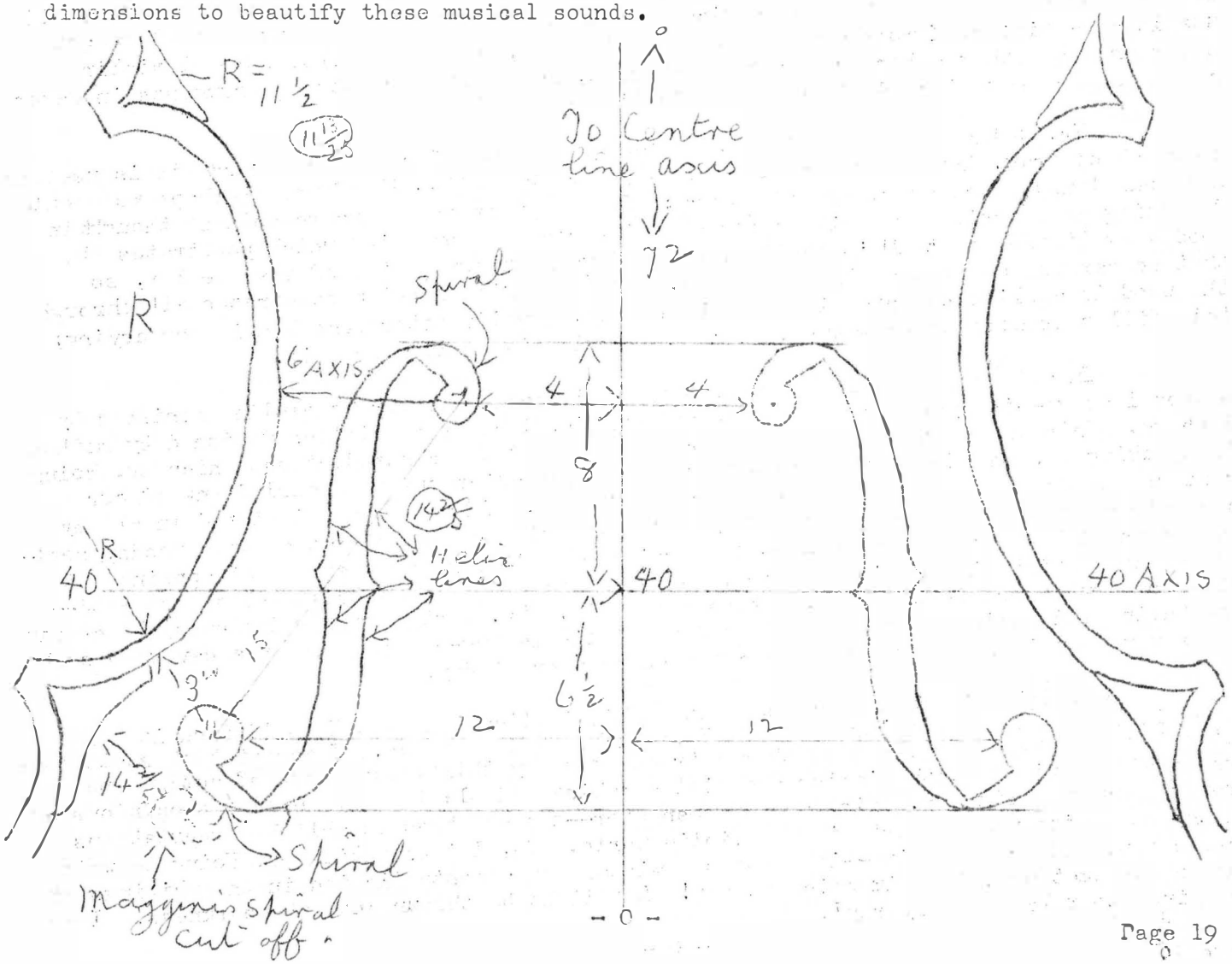
You may be wondering what the other axes of the violin are? Well, as a matter of interest, the third axis, which pertains to the back only, would be a plane at right angles to the ribs, and is located in the octave relationship, i.e. 1 to 2. It is one proportion from the top of the ribs measured from the underside of the top and 2 proportions from the bottom of the ribs where the back fits to the ribs. This fourth axis is the plane to which the curvatures of the top and back are related.

I do not propose to describe the method of drawing the "f" hole outline and relating their positions on the top. The reason is that it would take about six chapters of a book to develop each for the two spiral forms, and one each for the four helix lines. Also, the curves would have to be harmonized on the actual top or the inside of the instrument to get super accuracy. However, if you wish to try, I would suggest that you could get the mathematical formulae and help from any Machinery Handbooks. If you do, I would further suggest that in developing the helix form you reduce the circle selected,

so that they are the fifth octave of the curves of the top to which you would be relating them, remembering, of course, that the "f" hole is 1/5th of the body length relatively.

A practical suggestion, if you do not choose to develop your own "f" hole form, is to take the pattern from a similar instrument and examine it as indicated in the previous paragraphs. You could check size of circular holes and the spirals from them by drawing circles of twice the diameter of the circular holes and place over to try to fit. The pattern could then be placed on the instrument and located between the two parallel lines. The edge of the top circular hole nearest the centre line would be four dimensions from the centre line, and the edge of the lower circular hole would be 12 dimensions from the centre line. By way of recheck the centre of the top circular hole (measured from the inside of the middle rib) would be a distance of twice the distance which the centre of the larger hole is from the inside of the middle rib measured on lines which are a radii of the curvature of the ribs. It is interesting to note that the distance between the centres of the top and bottom circular holes is five times the distance from the centre of the lower circular hole to the rib. The rule that the dimensions are in the octaves along the length of a plane and is a major third at right angles to the plane is again repeated.

Now, as we return to reflect and gaze at the "f" of the violin, we need no longer have mixed thoughts for they have become unscrambled and the "f" appears now as a musical pattern embodying the octave and major thirds represented in the form of spirals and helices from which musical sounds can emanate in full freedom. Our contemplations may now be made productive in developing our thoughts on the variations of dimensions to beautify these musical sounds.



ROBERT MINSTER TEASES EARLE SANGSTER

The April issue of your Violin Makers Journal came and was avidly read. It is a very fine issue. But the contents of Mr. Sangster's article "Facts About Violin Making" brings several questions to mind. The first is minor. He writes and I quote: "Now take the thickness of a violin dated 1704 as given by Hill & Sons, back 10/64 thick in the center, graduating to 6/64 at theedges. Top 6/64 all over".

These graduations belong to a violin dated 1711, Page 193. The one dated 1704 Top graduations - varies between 5/64 and 7/64. So there! Mr. Sangster; and in the future don't split hairs with me. However, his last paragraph on sizing a violin with raw linseed oil, puzzles me. His method of sizing and drying I readily admit is a good one. His patience I applaud. But then he adds: "It takes patience to wait that long but the reward is great. In my opinion this is the reason the method was abandoned after Stradivari's death." So I am led on to believe that this was the method of sizing violins that Strad used!

Lets go Hill Bros.; and they write: "In 1715 the Elector of Poland ordered 12 violins from Stradivari and sent Volumier the Director of his music to Cremona to await their completion. He remained 3 months and then too the instrumentsback with him to Poland." 12 violins in 3 months or 12 weeks. One violin every week. And Volumier sitting there Yacking and jabbering and not lifting a finer to help. Another 3 months to size the violins, and finally 3 more months for 10 to 12 coats of oil varnish. How did he do it?

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REPLY TO MR. HOING'S "SPOILING BY OILING"

by Carmen White

Mr. Hoing is a noted professional maker and I have the greatest respect for his opinions and for his writings. It would be fine indeed if he would write more and write definitely. He correctly states that "my writing s are full of contradictions", but he does not point them out so we can discuss them--I insist that the violin itself, all its literature, lore, and tradition are full of contradictions--that none of those matters conform to any set of rules of any kind.

For example, in the same issue of the Journal in which Mr. Hoing condemns the use of linseed oil as a filler, we find an article from Mr. Earl Sangster advocating it! Let it be noted that Mr. Sangster himself is a professional violin maker of long standing, of established reputation and of unquestioned ability. Thus, it would seem that there are contradictions among professional makers also! Mr. Hoing must not be offended when it is pointed out that Mr. Sangster's violin which won first prize in the contest in British Columbia two years ago was treated with linseed oil, and I myself have played on the violin and I add my unqualified opinion that it was worthy of first prize!

On the other hand, at the risk of multiplying the contradictions Mr. Hoing mentions in my writings, I insist that I do not and have not advocated the use of raw linseed oil as a filler. I do not use it myself. I tried it only twice, and one of these trials was very successful, the other, not good. I do not use it, but Mr. Sangster uses it successfully, and he is a professional of established standing. Mr. Michelman, a great chemist, advocates it on the strength of his chemical analyses of woods from old Italian instruments with modern chemical methods. In spite of the fact that I do not use it as a filler, I must admit that these two men, one a fine professional violin maker and the other a Harvard graduate chemist, make two very strong arguments in favor of the use of raw linseed oil as a violin filler.

Mr. Hoing says that since anything we use must "contact the wood" it is useless to speak of "raw, untreated wood". But we do speak of it--all of us. Perhaps we should make our language clearer, so let us try: There appear to be two schools of thought in finishing and varnishing a violin (1) a sealer coat of some kind which penetrates the wood very little if at all is applied, and the varnish put on top of that sealer, so that no varnish penetrates into the wood, and (2) a filler which penetrates all through the wood is applied to both sides of the plates, usually after some heating or drying; this filler is allowed to mature, then the varnish is applied over it.

In all my references to raw, untreated woods, I refer to violins finished by method 1 above--in my references to treated woods, I refer to violins finished by method 2 above. This explanation should help remove some of the contradictions which Mr. Hoing is speaking of, and I am sorry indeed if these contradictions have misled any of our readers and friends who want to make better violins. I have always insisted in all my comments about the violin that the finest instrument made of untreated white woods, sealed and varnished with heavy gum-in-oil varnishes will bring only signal disappointment to the owner with the passing of time. I have always advocated treatment of the wood--with some substance in the wood, not on top of it. Mr. Justin Gilbert deserves all credit for having made this contribution to modern violin making--he made it in a day when such ideas were considered even more radical than they are today.

Mr. Hoing is absolutely correct in his implication that I would find it hard going in professional circles and that I am lucky to have a job. I accept both statements without question, but neither of them detracts from my thirty odd years of active and practical experience with violins and violin making and playing. We need the opinions of professional men like Mr. Hoing and Mr. Sangster--men who have established reputations in the competition of experts in the violin world. So, let us invite Mr. Hoing to write more often, and to the point--if he sees a mistake or a contradiction in the writings of some of us amateurs, let him point it out! 'Let light be thrown into the darkness! I am the first to welcome every ray'.

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TONE WOOD, OR RESONANCE

by Geo. R. Wright

After making, repairing, and studying violins for 63 years, I have come to the place of bewilderment. Because every book I have read on the art has emphasized the importance of selecting well seasoned Resonant wood.

I could also mention the names of a few (Master violin makers) who told me their hands could detect the 1st class resonant wood.

I have vigorously tried to develop this very important technique, along with tap tone. But alas, this resonance theory has broken down on me and I wish some of our readers could come up with the answer.

For many years I had a yen to make a violin with an arbutus, Menzierii or Madrona, back, neck and ribs. You see, I am an experimenter and not a professional maker. Finally I procurred some wood and before it was 3 years old I had it into a fiddle.

The back had no resonance whatever and it was impossible to get a tap-tone out of it, in fact it was almost like tapping a sheet of lead. If I had not been an experimenter, I would have thrown it away and taken something with some resonance in it. However I finished, using the usual graduations and etc., then the miracle happened. I took it to our Association meetings where some of the good players got hold of it and they all seemed to agree that it was the best one I have made to date.

I wish Mr. Laubi . or someone who knows something about tone wood, would give their opinion on it. The only reason I can think of is, that it is 33% heavier than our B.C. Maple.

I would also like to say something about Propolis. In view of the fact that my name has been connected with this subject, perhaps I should pass on some of my findings.

I did and am still working on this wax and trying to come up with a formula, but I have come to the place where it looks impossible to do that.

My tests are very limited, only having propolis from three different localities and climates and I find they are all different. Therefore I am convinced that the bees use whatever is at hand.

I will say this, I have found Ethylene Dichelorid, the best for dissolving it, although this is a very dangerous substance to use, it is so inflamable.

What I am trying to find out is, what is left in the residue I believe there is more in it than what we get out. Who knows? And what will get it out.

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If your wife wants to drive a car

don't stand in her way.....

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MOSTLY ABOUT VARNISH

by Kristian Skou
Soborg, Denmark

Regarding your little inquiry about the right (Italian) name for Stradivari I think we have to attach importance to his own signature from his personal handwritten letters, of which a few ones are left. He always writes: Antonio Stradiuari. The little change from "u" to "v" I think we should allow. The form Stradivario is found on a little medallion with a portrait, but the genuineness of this - the identity with the great violin maker - is dubious.

Reading in the January number of the journal (just arrived) that Bob Wallace's top wood is Douglas fir I find it interesting, that among all the wood qualities I have tried just an old piece of Douglas fir (also called Oregon pine - Latin: Pseudotsuga) regarding acoustical qualities gets nearest to the Pearyland wood.

Mr. N rman Miller, Queensland, Australia, is asking me - in the December number - for some comments on his method of varnishing. First I may say that I am glad to learn that my articles in "The Strad" have been of value to Mr. Miller in his experiments with the varnish, and I should think his method is excellent. I cannot think that Ferric Ammonium Citrate should do the wood any harm, and 4 coats of outer varnish is tonally much better than 12 to 15 coats of the same varnish. If I should object to the method at all, it should be from an aestetical point of view. I prefer not to give the wood any artificial coloring. The only coloring I allow the bare wood is the golden brown tinge it obtains when exposed to the sun for several months before varnishing. It gives the impression of greater depth in the varnish, if the colored varnish is placed above the wood, and with 5 or 6 coats of my varnish the violin has color enough. I wonder, why Mr. Miller does not care for my drying the varnish directly in the sun. Should it be for fear of cracks in the plates, especially along the joint? A violin has to be built in such a way that the plates cannot crack in the sun. If the violin is not built in such a way, it will lose its tone later on. Perhaps we are able to prevent the violin - sooner or later - from being exposed to central heated rooms when very cold and dry outdoors, and the stretch in the plates caused by drying out under those circumstances is of a larger scale than the stretch caused by the sun. But a violin cannot be built - or must not be built - within a short time, the plates being glued to the ribs in a very dry condition, and the drying out takes a long time - several months. Kiln - drying, but the natural drying process is more than evaporation. It is also a chemical process, oxidation e.g., and the chemical process cannot be accelerated in the same degree as the evaporation. The natural drying out causes a hardening of the surface of the wood, the cohesion between the fibres increasing, and that is what we need for violin plates, whereas the kiln-drying process sooner will cause a loosening of the linkages. That is also the cause, why Vuillaume's "baked violins" lost their tone. A violin whose plates are properly dried out in a natural way and glued on to the ribs in a very dry condition has a much greater responsibility in tone than without this measure, and it will not lose its tone. And the plates will not crack, when exposed to the sun. For the rest, as a glue for the joint I can recommend a glue named "Araldit" produced by the Swiss concern "Ciba". It is very, very strong.

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"In listening, you stimulate the other fellow to do his best."

--Dr. Karl Menninger

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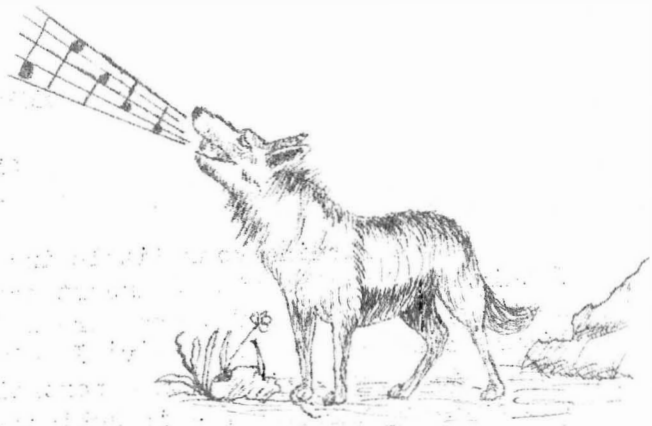
WOLF NOTES

by The Editor



We suggested last month that we might miss the July issue in order that your Editor might enjoy a few weeks holiday. Well, we intend to do just that, but hope to bring the August issue out on time and make it an important one.

The one drawback to missing a month is the fact that I would like to clear my desk of the many items which you should hear about. Hence these Woolf notes may drag out for several pages.

THE WEERTMAN BOOK:

We write "The End" to Rolof Weertman's book with this instalment. There have been various opinions as to its merits. In appraising its value one should remember that we were told early in the book that it was a "scientific approach to Violin Building". Many who are unable to understand the mathematics of the work are inclined to declare the work as"a waste of time" while those, on the other hand, who have engineering or scientific training write in saying that it is the finest work of its kind yet written n a future issue we hope to have the book reviewed.

I would suggest that those of us who may not be too well aquainted with mathematics, acoustics and science in general would do well to brush up on these subjects. We ask the scientists to assist us in our endeavour to build a "perfect" violin, yet we refuse to do him the compliment of learning his language. You cannot expect him to come down to your level when he explains about wood tests, stresses, frequencies and curves etc..

CHARLES D. SMITH:

You probably noticed on one of the advertising pages last month a quotation by Mr. Smith. I felt this quotation so worthwhile that I intend to leave it there as a constant reminder. Here are some more extracts from his letter.

We enjoyed the article about our friend Mr. Herman Beaver. Have just received a couple of photographs from Herman and maybe he will send some along for the Journal.

In your wolf notes in February, I notice that you almost took hold of Fred Castle in Your graduations, or am I wrong?

It is my personal opinion that Dr. Michelman has made a great contribution to the art of violin making. I plan to contact Dr. Michelman also Mr. Carmen White and see if they might give me the benefit of their latest experience. I have studied Dr. Michelmans book since it came out and have been delighted with the results. We have made comparisons with several fine examples of the great Masters. My son Ed, is besides a fine craftsman, also a fine chemist and I am steeped in the legends and lore of the ancient masters.

There are those who seem to think that the modern craftsmen have a long ways to

go to reach the level attained by the great Cremona Masters but I think most any honest observer will admit that he is well on his way.

There is one fact, which is so very often overlooked by those who stand in awe of the great Italians, and that is, were it not for the ingenuity of the modern master, there would not be any great masterpieces left for the world to enjoy.

W.L. LAUBI RETIRES:

Those of you who have constantly purchased your wood from the reliable firm of W.L. Laubi, Switzerland will be sorry to hear that he is closing up his business. I would suggest you write immediately if you want to get a last piece of his wonderful tone wood. I give you his letter as it contains other information:-

Dear Don:

Thanks for your article about my person and business, though the last sentence is based upon a misunderstanding: I should emphasize that many makers take it for a self-evidence that a tonewood dealer offers timber seasoned over 10, 20, 30 or more years, which shows a complete lack of understanding of that tonewood business by the most honourable gentlemen of the violin makers guild! This would mean that a dealer keeps in stocks 10, 20, 30 or more times the quantities of annual production and sales. This is impossible as considerable amounts of capital would be invested over very long periods. I hope I explained this sufficiently with my poor English.

Perhaps it may interest you that due to the sale of the land and building at Dubendorf, where I am installed with my plant and stockyard, and the extreme difficulties to find another suitable location within the surroundings of Zurich, but also by personal reasons of family and heritage, eventually I am obliged to give up that highly specialized business. I cannot say yet what I am going to do, anyway for move I am reducing my stocks as far as ever possible and do not replace temporary what is sold.

Enclosed a small sample of several types of propolis I could find:

1. Italian, very light
2. Switzerland, yellow
3. Switzerland, red
4. Switzerland, brown

All 4 samples are alcoholic solutions, could be used as fillers, but all show the disadvantage that varnishing upon propolis is cubersome, alcohol varnish is difficult to apply evenly, fat or "essence" varnishes dry bad in their first layer and are inclined to chip away later. Nevertheless there is a certain probability that propolis has been used in former times in Italy, perhaps in form of a paste, as filler but never as part of the varnish itself. Except of No. 4, I have no propolis for sale (100 gr. - s.frs. 10.-). Experimenting with propolis is not harmless, there are people who are highly allergic to that stuff. It can produce ugly abcesses in the nose!

With best wishes and kindest regards.

W.L. Laubi

GGOD BOWS:

While talking about Mr. Laubi I was reminded of another of our advertisers. The Modern Music Co. Vancouver. I promised to give them a "plug" on bows. Not for commercial reasons but because I happened to see some splendid French bows they have just imported so good I thought it my duty to tell you about them.

TEMPERA:

Several readers wrote in asking for the recipe for Tempera mentioned in our Editorial last month. I will have to keep this 'on ice " for a while as I feel we should clear up some of the oth r topics first. I see I could make some sort of joke in this paragraph somewhere - after all eggs too would keep well "on ice" wouldn't they?

Reginald Price of New Molden, Surrey, England tells me that his last fiddle was treated with Tempera as a filler and it is proving one of the best he has yet made.

WILLIAM LEWIS & SON 85 YEARS IN BUSINESS:

While talking about our advertisers I should have mention d that the well known firm of William Lewis & Son, Chicago are this year celebrating their 85th year in business. As part of their celebration they have issued a competely new catalogue, a real work of art, describing and illustrating their full line of stringed instruments and supplies. Miss Gladys Bell, Editor of V & V., asks you to fill out the card you will find in this issue and mail it so you may receive your copy of this attractive catalogue. It's worth while. Mention if you are a maker or violinist.

STRAD GRADUATIONS:

My sincere friend Norman Miller in his good natured but business like manner attacks the theories I am endeavoring to uncover. It is, as you can imagine, impossible for me to rebuttal his arguments for if I attempted to do so all my space would be taken up in what may well be a fruitless debate. I put the facts before you as I find them. It is for you to decide if they are worth following up. I could perhaps sum up any arguments I might present with a kindly reminder that Norman seems intent on declaring that he follows traditional lines proved to be correct by the "old masters". The further I carry my probing the more I am convinced that at last Strad and Guarnerius did as I am disclosing.

THE JOURNAL MENTIONED IN "THE STRAD" MAGAZINE:

Those of you who take this old reliable magazine will have noticed that this month they kindly gave us a splendid write-up. This being the result of our sending a few copies of our Journal to Mr. Lavender the Editor. He feels we are doing splendid work with our little paper and believes it will increase in popularity as the years go by.

You will note that this month we carry an advertisement for "The Strad". If you do not already receive this valuable publication then we feel you would do well to rectify this omission. It is a fitting companion to our own smaller effort.

THE HOBBY SHOW:

Planning is now underway for the P.N.E's 16th Annual Hobby Show which this year will again run a full two weeks, from August 20th to September 5th. Exhbits will be displayed in a brand new building. There is a section for String Instruments and competition is always keen. You will be competing against the best makers all over this continent and (I understand) Australia.

For particulars and Prize List you may write me or send direct to:-
Mr. Norman C.M. Collingwood, Manager Hobby Show, P.N.E., Vancouver 6, B.C. Canada.

ROELOF WEERTMAN'S BOOK:

The final instalment of the Weertman book follows on the next page.

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CONCLUSION

This work which I now draw to a close has been a serious attempt to apply scientific knowledge to the noble art of violin making. It has really been a scratching process upon the surface of an art we refuse to admit as being lost. I do not for one minute suggest that I have given all the answers but if I have at least convinced you that science and mathematics can assist us with out problems then I can rest satisfied.

Criticism I expect but the approach cannot and should not be condemned because so far it has not furnished the final solution.

We do not do away with ordinary simple arithmatic because certain problems demand the application of calculus. In order to make any progress even a part solution (that in itself is correct) is a definite step forward.

You and I and many others may prepare the ground and the atmosphere. Someday another genius may be Born, another Stradivarius, to carry on the traditions. He will start where our accumulated knowledge and experiences leaves off. We all have our work and should be proud of it because someday a McWilliams, a Henry Smith or a George something will erect a monument on our foundation. He'll value all the good and not linger on, or condemn the valueless.

It would seem that our problem is to find the difference between a Strad and the kind of fiddles we make and then proceed to wipe out the difference.

We admit the genius of Strad should not be reduced to mathematics, but people are apt to forget that mathematics in itself is an art and it is an art to visualize where and how to apply it and as such it does not crowd out the artist and genius, but it gives the ordinary man at least a chance to accomplish something, who knows a little of figures and has a love for the art. After all, "all is fair in love or war".

There must be some reward for the fellow who has achieved results, even if he did not follow the same methods as the other fellow, who got there first.

None of us actually know how and why the old masters worked. So there is a fair chance that most of what we do is a bit different, what difference does it make how each of us try to reach the goal. That goes for the goofballs too, they have as much a right even if doomed to failure; at least they have fun and don't we all?

I like to compare my hobby with my work. The local resident engineer and myself do all the work of drawing plans etc. The plant here is being expanded 50% and we try to improve everything as well, so constantly our little minds are in high gear. We have quite a bit of respect for what has been done before and tradition, but still are constantly dreaming up ways to improve efficiency; making conditions better for the operators etc. As it is the plant is the biggest producer in America, so you know we must be on edge, so do better constantly. But I need constantly to be clear eyed and even as to fiddle building I scan new schemes and often they are not worth while, but sometimes a good idea is suggested and thus we gain more experience.

The same manner or approach of thinking I use in my work I employ when I think about fiddles. Stand on a firm platform of facts and reference and then, proceed to probe and if possible test the results. Otherwise file the information, even, if for the time being it is meaningless or just now cannot be used. Perhaps later on, together with other data it may have great value. I have seen that happen several times. Just the same you may have a blind spot. Good evidence may be presented and you may be totally unable to appreciate it.

These thoughts I leave with you, all I ask is that you give my work the respect I hope it deserves. If I have in some manner advanced the noble art, then I rest satisfied.

Roelof Weertman

THE END