The Care and Maintenance of the Nyckelharpa

By Annette Osann

During the last centuries the nyckelharpa has been a rare instrument in Continental Europe, so the musicians who opt for nyckelharpa have traditionally needed to become very familiar with the instrument.

Future nyckelharpa players should be acquainted in particular with the construction and technique of the keyboard, but also with sound optimisation.

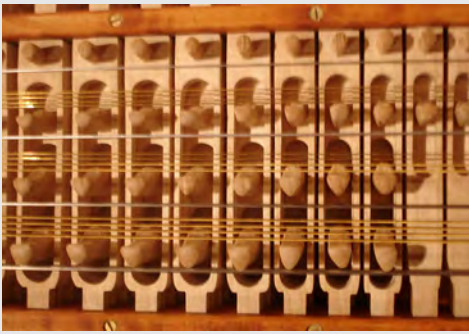
Based on my many years of experience in teaching the nyckelharpa and the adjustments required for playing the instrument, I decided to compile some explanations for issues that crop up again and again.

What should a nyckelharpa player know about his instrument, what must he take into consideration when purchasing the instrument, what can he do to care for and maintain the nyckelharpa – all this is shown as completely as possible below.

In my experience as a nyckelharpa and violin maker, these explanations and methods have proven essential and extremely helpful.

Content:

1. Problem identification and solutions
2. Cleaning the instrument
3. Strings
4. Bridge
5. Sound post
6. Keys and tangents
7. The bow



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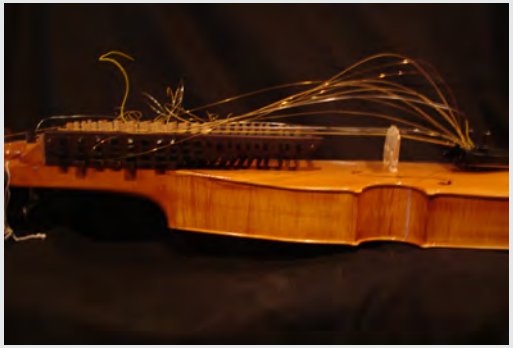


1. Problem identification and solutions
Troubleshooting

The instrument does not respond, makes noise or sounds flat

- the diameter of the strings is too big
- the strings are dirty *(Photo No. 1)*
- too much resin or old rosin
- the bow hairs are worn
- the bridge or the sound post have moved *(Photo No. 2)*
- key on the string: the tangents are too loose or too thin.

The instrument rattles and clatters

- Open string: the notches in the upper nut or bridge are too deep and/or the string rests on the wood at two points. *(Photo No. 3, 4, 5, 6)*
- One melody string or resonant string touches a tangent by resonance. *(Photo No. 7)*
- The resonant strings are so close that they touch each other. *(Photo No. 8)*
- Key on the string: the tangents are too loose or too thin.
- The melody string hits the resonant string when the key is pressed. *(Photo No. 9)*

Photo No. 8

Photo No. 1

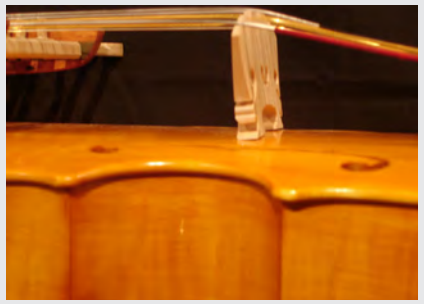


Photo No. 2

Photo No. 3

Photo No. 4

Photo No. 5
Photo No. 7

Photo No. 6
Photo No. 9

Constant or recurring background noise

- buttons of clothes or jewels hit the instrument while you are playing
- the string's winding wire is damaged
- the fine tuner or the mechanics are loose. *(Photo No. 10)*

What you can do yourself

2. Cleaning

A quote from Leopold Mozart, 1789

> *"One must always keep one's instrument clean, and the belly and strings especially must be cleaned of all rosin-dust before one begins to play."*

- After playing you should clean your instrument with a soft cloth, a microfibre cloth for example, to remove the rosin. *(Photos No. 11, 12)*

If the varnish has lost its shine, you should give the instrument to an instrument maker for polishing. He can also clean the instrument from the inside (rice). *(Photos No. 13, 14)*

Be very careful when cleaning the instrument yourself with varnish cleaner, especially in the case of instruments with cracks: cleaning products invariably contain oil, which increases the size of the cracks. *(Photo No. 15)*

Rosin residues on the strings can be removed with Acethon or string cleaner.

Photo No. 16

WARNING! VARNISH!
Place a cloth underneath!
(Photo No. 16)

Photo No. 10

Photo No. 11

Photo No. 12

Photo No. 13

Photo No. 14

Photo No. 15

3. Strings

The strings should be replaced from time to time. This is the case if they have a poor response or sound dull or the wire winding is damaged.

Concert coming up: Replace strings early!

Photo No. 17

Changing strings *(Photo No. 17)*

If you have to change all 4 to 16 strings, they should be exchanged individually as otherwise the bridge could move or the sound post could move or fall down.

Should this happen nonetheless, immediately reduce the string tension.

Notches for the strings

When you change strings, the notches in the top nut and bridge should be lubricated with a bit of graphite (soft pencil). *(Photo No. 18)*

The cut of the string should have 1/3 of its diameter in the wood, otherwise the string cannot vibrate freely or whistles. *(Photo No. 19)*

If the old strings at the bridge or nut were damaged, the scores/ notches should be inspected and repaired.

Very often new strings get damaged because they do not slide well in the notches and get caught.

Bridge protection *(Photo No. 20)*

A bridge protection made of parchment should be glued under the a-string, especially with a thin string.

Stringing *(Photo No.21)*

The string should be wrapped regularly, without overlapping itself (unnecessary wear on the string).

If possible, they should run from the peg hole to the head plate so that the conical peg is tightened.

Photo No. 18

Photo No. 19

Photo No. 20

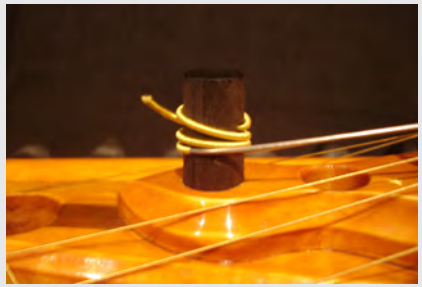


Photo No. 21

Pegs *(Photo No. 22)*

The pegs are fitted conically in the top plate/peg box; in other words, they become thinner toward the tip to prevent the peg from slipping.

Lubricate pegs *(Photo No. 23)*

The surfaces of the pegs must be lubricated occasionally: dry soap reduces friction, chalk increases it. *(Photos No. 24, 25)*

Especially in low humidity conditions (heated rooms in winter), the wooden pegs get a little thinner, they shrink and keep slipping. To compensate for this shrinkage, the pegs must be strongly pressed into the top plate (peg box) when you are tuning the instrument. If lubrication of the pegs does not help, the cone no longer fits and it is recommended you go to the instrument maker to have the cone adjusted.

Photo No. 22

Photo No. 23

Photo No. 24

Photo No. 25

4. The bridge

A quote from Leopold Mozart, 1789, may help:

"The bridge also affects the tone greatly. For instance, if the tone is too shrill or penetrating or, so to speak, piercing and therefore unpleasant, it can be softened by using a low, broad, and rather thick bridge which has been but very slightly cut away underneath.

If the tone is too weak, soft, and muffled – then one should use a thin bridge, not too broad, and as high as circumstances permit, greatly carved away both underneath and in the centre.

Such a bridge must above all be of very fine-grained, well-seasoned wood, with well closed pores. (Photos No. 26, 27)

Further, the bridge has its place on the belly midway between the two openings, one on either side, which have the form of a Latin f ." (Photos No. 28, 29)

Photo No. 26

Photo No. 27

Photo No. 28

Photo No. 29

Exceptional situation *(Photo No. 30)*

After checking the bridge position of the Nyckelharpa, the distances of the tangents to the strings must be inspected.

If the keyboard/neck has shifted slightly to the centre line, the bridge position must be adjusted.

If, with the normal bridge position, the strings clatter, i.e. hit the tangents, the bridge should be moved a few millimetres to bass or treble. *(Photo No. 31)*

If the problem occurs only for one string, however, the string itself can be moved.

Bridge position on profile *(Photo No. 32)*

The flat side of the bridge, which faces the tail piece, is positioned at a right right angle to the base.

Straight back of the bridge *(Photo No. 33)*

Tuning may cause the bridge to warp. *(Photo No. 34)*
If the bridge is standing at an angle, it should be straightened up due to the risk of falling over. In addition, the entire surface of the bridge feet should be in contact with the top so as to optimize the sound.

If the bridge cannot be moved due to the enormous pressure of the strings, it is recommended to tune the strings down (especially the sympathetic strings).

In serious cases use the “hammer” method ....
(Photo No. 35)

Photo No. 30

Photo No. 31

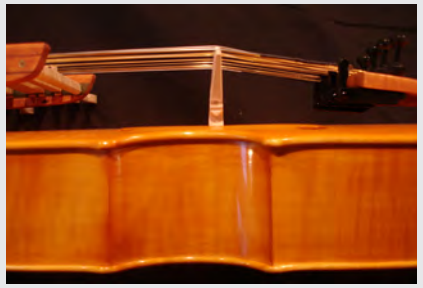


Photo No. 32

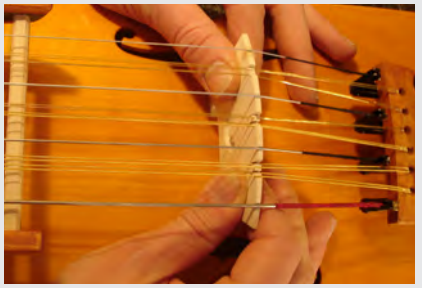


Photo No. 33

Photo No. 34

Photo No. 35

5. The sound post

Quote from Leopold Mozart, 1789:

> *"The sound-post must be neither too long nor too short, and must be placed to the right of and slightly behind the foot of the bridge. It is of no small importance to set the sound-post correctly. One has to slip it to and fro many times with great patience, each time carefully testing the quality of various notes on each string, continuing in this fashion until the best tone possible has been obtained."*

Should the musicians themselves move the sound post?

Risk: cracks, damaged ff-holes ...

Photo No. 36

It may be helpful to mark the position of the sound post with a pencil on the bottom of the instrument. *(Photo No. 36)*

If new construction or major repairs are performed, a new sound post may be required after about six months.

If the sound post falls down, the strings must be tuned down to reduce the pressure on the top!

Position of the sound-post *(Photos No. 37, 38, 39, 40)*

Open glue spots or cracks *(Photo No. 41)*

It should be checked now and then whether the top and bottom are still bonded well with the ribs.

Hazards: WARNING: sometimes the tuning goes down on all strings simultaneously. This is a sign of a loosened connection between top and upper block or, more commonly, between the top and lower block. Top cracks can easily occur in this situation. *(Photo No. 42)*

Photo No. 37

Photo No. 38

Photo No. 39

Photo No. 40

Photo No. 41

Photo No. 42

6. Keys and tangents

The resonant string is too close to the tangent

(Photo No. 43)

A resonant string is so close to the tangent, that it vibrates against it and rattles. This often happens where the string vibrates the most and affects the respective tangents.

Carving *(Photo No. 44)*

You can cut the tangents to make them thinner.
Caution! Remove as little material as possible, as otherwise the tangent will not remain stable!

Tuning *(Photo No. 45)*

To tune the tangents you need a pair of pliers which is upholstered with leather so as not to damage the tangent. Please observe the scale!

The tangent of the 12th key (on the a-string for example) halves the scale. If this is not the case, the bridge should be moved to the right place before tuning.

In most cases, the scale length is 400 mm.

Photo No. 44

Photo No. 43

Photo No. 45

Dismantling a keyboard

With the following method you don't need to take off the strings. You should ensure that all the keys are numbered! Otherwise, it is advisable to arrange the keys in sequence ...

- Unscrew the top bars. *(Photo No. 46)*

Photo No. 46

- Remove the highest keys. *(Photos No. 47, 48, 49)*

Photo No. 47

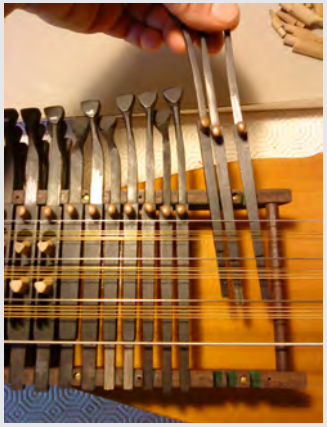


Photo No. 48

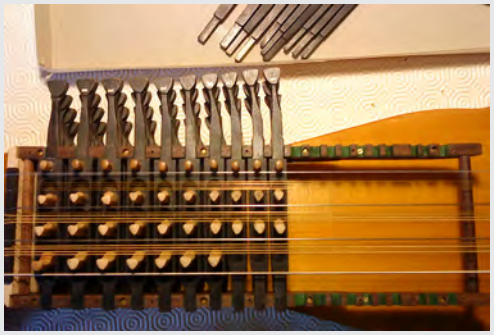


Photo No. 49

- Unscrew all the screws of the second-top bar. *(Photo No. 50)*

Photo No. 50

- Carefully pull out the sidebars. *(Photos No. 51, 52, 53)*

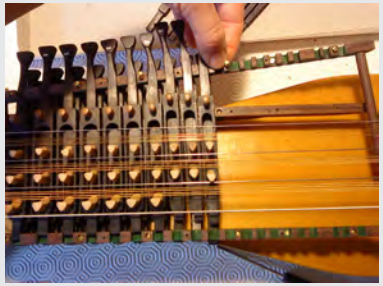


Photo No. 51

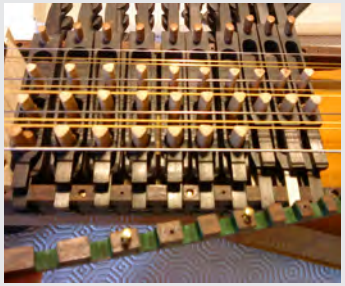


Photo No. 52

Photo No. 53

- The second row. *(Photos No.54, 55)*
- Screw ... *(Photo No. 56)*

Photo No. 54

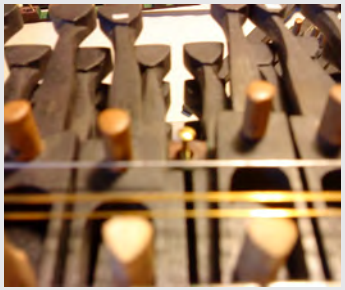


Photo No. 55

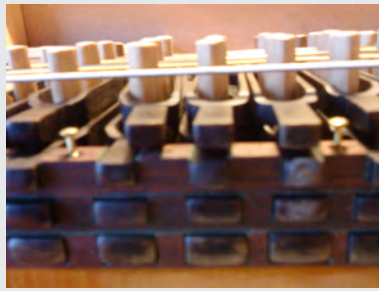


Photo No. 56

- Remove the bars of the second row.
  (Photos No.57, 58, 59, 60)

Photo No. 57

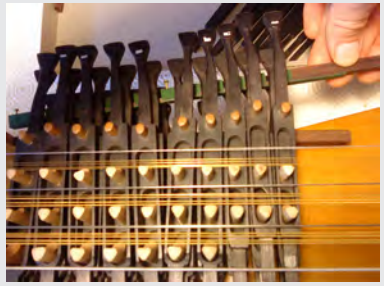


Photo No. 58

Photo No. 59

Photo No. 60

- Now the following keys can be removed in threes. *(Photos No.61, 62, 63)*

Photo No. 61

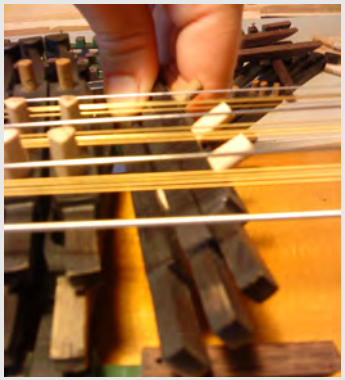


Photo No. 62

Photo No. 63

- The third row: Screw ... *(Photos No. 64, 65, 66, 67, 68)*

Photo No. 64

Photo No. 65

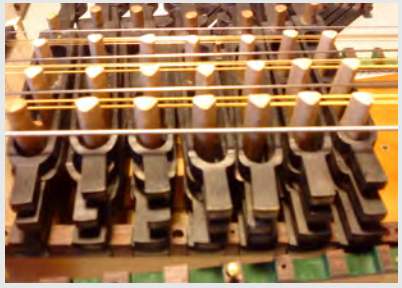


Photo No. 66

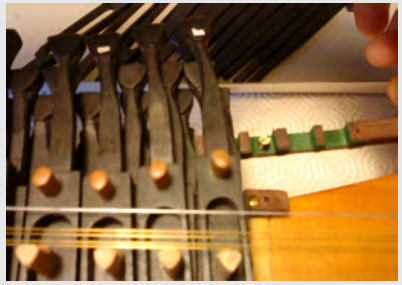


Photo No. 67

Photo No. 68

- Now only the lowest bars remain ... *(Photo No. 69)*

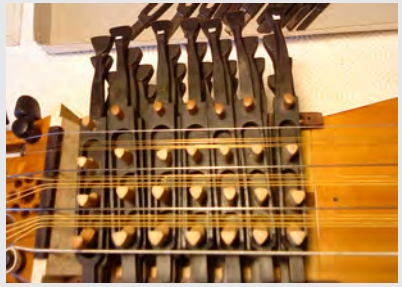


Photo No. 69

Photo No. 70

- ... and the rest of the keys can be removed in groups of four. *(Photos No.70, 71, 72, 73)*

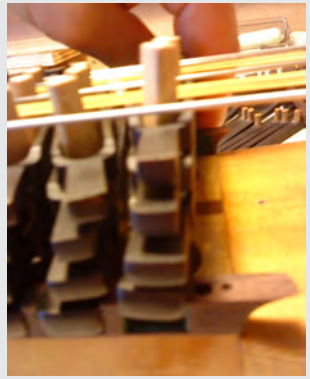


Photo No. 71

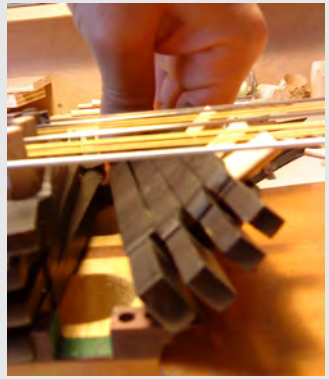


Photo No. 72

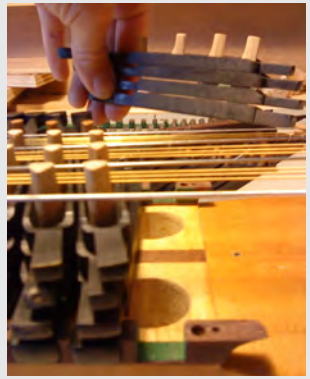


Photo No. 73

How to make new tangents

First, the tangents are cut to length. Then the anchor is formed and the tangent is pressed into the key.
(Photo No. 74, 75, 76, 77, 78)

Photo No. 74

Photo No. 75

Photo No. 76

Photo No. 77

Photo No. 78

Mending keys that don't fall back easily while playing

- Remove material with a file. Warning: file evenly! *(Photo No. 79)*
- Finish with a smooth sandpaper file. You can apply some wax for protection and wipe dry. *(Photo No. 80)*

Photo No. 79

Photo No.80

Assembly of the keyboard

(the strings have been removed) *(Photo No.81, 82, 83)*

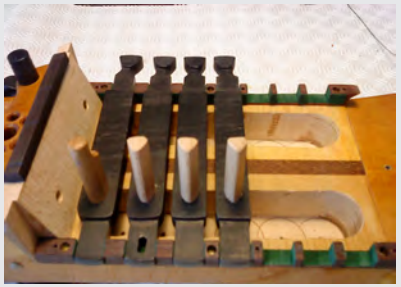


Photo No. 81

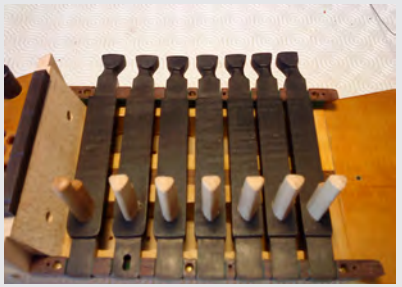


Photo No. 82

Photo No. 83

- When screwing the side rails make sure that no bumps are produced. *(Photo No. 84)*

Photo No. 84

- A key is loose and wobbles as a result
- A quick solution is ...*(Photo No. 85)*

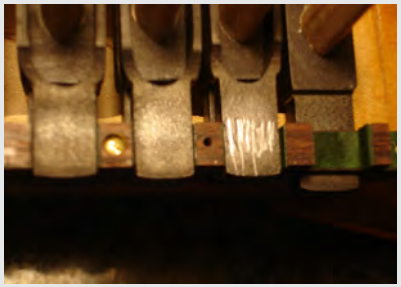


Photo No. 85

- ... thin, self-adhesive felt, which reduces the gap somewhat. *(Photos No. 86, 87)*

Photo No. 86

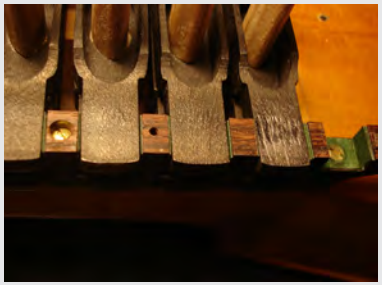
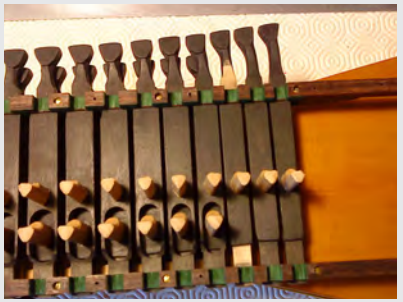


Photo No. 87

- The third row of keys. *(Photo No. 88)*

Photo No. 88



- The second row of keys. *(Photos No. 89, 90)*

Photo No. 89

Photo No. 90

- The first row of keys. *(Photos No. 91, 92)*

Photo No. 91

Photo No. 92

7. The bow

There are many different bows for the nyckelharpa, varying in weight, length and elasticity, which shall not be discussed in detail here.

The choice of bow is very much a matter of personal preference, but it also depends on the instrument and the choice of strings.

The bow stick should be cleaned of rosin using a dry cloth.

Torn hairs should be cut off. Breaking them off could loosen the nodes in the box. *(Photo No. 93)*

If the bow hair is dirty and not yet worn out, you can clean them with methylated spirits. For this purpose, the methylated spirits is applied to a cloth with which you can rub the bow hairs. *(Photo No. 94)*

Shake dry. *(Photo No.95, 96)*

Box and wedge in the bow head
(Photo No.97, 98, 99)

Box and wedge in the bow frog
(Photo No.100, 101, 102)

Photo No. 93

Photo No. 94

Photo No. 95

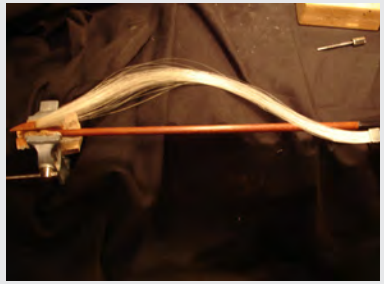


Photo No. 96

Photo No. 97

Photo No. 98

Photo No. 99

Photo No. 100

Photo No. 101

Photo No. 102

Annette Osann (Germany / France)

Photo: Bruno Thiebergien

- born in 1974 in Stuttgart (Germany).

She began her musical education playing cello in Augsburg.

- 1995/1998 Annette studied at the School for Violin Making in Mittenwald
- 1998/99 she completed her apprenticeship in the Schellong Osann workshop in Hamburg, where
- she passed the journeyman's examination
- since 1998 she has concentrated on nyckelharpa making
- 1999/2000 she worked together with J-C. Condi (Remoncourt)
- since 2001 she has developed a personal nyckelharpa model, and during this time she has also
- worked in A. Meyer's workshop (Metz) and in N. Desmarais' workshop (Grenoble).

In 2007 Annette opened her own workshop for

- nyckelharpa making
- making and restoring baroque instruments
- common repairs for string instruments.

Annette performs as a soloist on nyckelharpa and

- since 2005 she plays in Duo Arcangelo with Juliette Thiebergien (baroque cello)
- since 2008 she plays in Arcangelo en trio with Juliette and Perrine Thiebergien (baroque violin and nyckelharpa)
- since 2009 she plays chamber music together with Elise Rollin (organ)

Annette teaches nyckelharpa playing

- at the Akademie Burg Fürsteneck (Germany)
- at the Scuola di Musica popolare di Forlimpopoli (Italy)
- at the Conservatoire interdépartemental des deux vallées (Paris).

She not only teaches playing technique, but also the basics of instrument making and instrument care.

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All photos taken by the author and Christophe Babot.