A Harpsichord from Switzerland
by Will Bruggmann

May I first say how grateful I am to the English Harpsichord Magazine for having drawn attention to the fact that there were a number of instruments with three 8' stops. First of all Dr Kastner drew attention to the early treatise by Jobernardi showing how such instruments were made in Spain and Portugal. Then Dr McGeary pointed out that the 1622 Izzard had in all probability three 8' stops. Since then, Michael Thomas found that the Irish upright by Weber had three 8' stops, not two 8' and a 4' as reported by Raymond Russell. The 1746 Weber has also three 8' stops with pedals although only on two strings. The same specification is found in the Hayward although this is an alteration.

The four bridge arrangement that has been described in the case of Italian Harpsichords can be adapted to give either two or three stops of 8' pitch, as appears to have been original in the instrument in the Fitzwilliam Museum. The later instruments of the Hamburg-Stockholm school also have three 8' stops, but they include the 4' stop as well.

However, as yet no Eastern French/Swiss instrument of this kind has been found.

The instrument described below (Fig. 1) would appear to be of the three 8' variety and to have come from the Franco-German border or Switzerland. It was found in 1949 in the attic of a farmhouse in a pre-alpine region of Switzerland called Toggenburg.

1. Measurements etc.

<table>
<thead>
<tr>
<th>Width</th>
<th>Length</th>
<th>Scaling</th>
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<td>95 cm</td>
<td>215,5 cm</td>
<td>C”?</td>
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Cheek: 65 cm 32 cm

Scantlings: 8-9 mm for BENTSIDE:

7-8 mm for SPINE

2 manuals, 3 sets of strings, 3 rows of jacks.

Present disposition: 2 x 8’: 1 x 4’

Case and stand in walnut: bottom in pine: sides built around bottom: case not enlarged for ravalement.

Rose probably of gilded lead and tin (Fig. 2).

Motif of rose (angel with outspread wings) on backs of keys in parchment (Fig. 3). No name, but one jack carries the letter R. Dogleg jacks. Hand stops on wrestplank, also slot in side of spine to allow for passage of middle register. Wrestplank 1.5 cm wider in the bass than in the treble. Scroll-shaped jack rail mounting block. Triangle-shaped knee struts of pine.
Frank Hubbard included this instrument in a list of German harpsichords (Three Centuries, Table 16, n 9, pages 176-181) after having seen it in the repair-shop in 1956. It is probable that he did not see the whole instrument, as he states that it has no dogleg-jacks, while in fact it has, and as he puts down its range as FF-ff.

Michael Thomas saw the instrument and realized it to have had originally 55 notes, the original bottom note being GG. This is a very common, if not the most common bottom note, in most of the bigger instruments of Italy, France, (either short octave as in the Denis or chromatic as in the larger instruments of Lebreche of Carpentras) or England (1622 short octave G; 1623 chromatic G, and, later, Hitchcocks etc.). The keys, he believed, had wide blocks originally, like the early English Theewes. A later examination of the keys and old pin holes, when the strings were removed confirmed this. The underside of the soundboard could only be seen at this stage through a crack in the bottom, but Michael Thomas was surprised to see two 4’ hitch-pin rails, one new and one old. He suggested that the soundboard should be exposed and that there should be a further examination of this, as the old boudin appeared to go right under the 4’ bridge. In due
course, this was done, and at first it was baffling why the 4' bridge was placed in such an impossible position until I saw that the 4' bridge had 61 similar pins and no extension and was therefore put on after the compass had been extended. There was no sign of another earlier 4' hitch-pin rail on the boudin to take the hitchpins of the 4' stop. It would therefore appear that the 4' had been added right over the original boudin and a new and second boudin put on to take the hitchpins. (Fig. 6)

Fig. 6 The soundboard with the position of the under-bars drawn in. A. New boudin, B. Original boudin under 4' bridge, C. Marks of earlier parallel bar.

However- the 4' was confirmed not to be original when the strings were removed and the old holes from the pins were examined. There were the marks of three hitch pins for each note around the edge of the instrument, all apparently plugged with the same wood and therefore probably at the same time. (Fig. 7). Furthermore, there were the marks of three pins and three strings having pressed down on the bridge clearly visible for 55 notes, but only the marks for two strings for the 6 extreme new notes. This suggests that the instrument was converted to two 8' strings only when the instrument was extended, the third 8' string abandoned and in its place a 4' string put in for the new compass of 61 notes. Michael Thomas thought the instrument of Eastern French or Swiss origin of 1670—1700 period, and Mr. Bedard, seeing the photographs agreed. The similarity between this instrument and the Gamier from Luneville 1747 and an instrument which appears to be Swiss in Barcelona, was noted. I follow with a detailed description of the instrument which led to these conclusions.

The Keyboard. An examination of the keyboards and of the rack shows that the original compass was GG-d3 without GG sharp, the keys being numbered in handwriting with ink 2-55. As No. 1 has been replaced by an accidental, it is safe to assume that it originally had been a natural. The six keys which have been added (three to the base and three to the treble) were simply secured with pins, as they had not been provided for in the original rack. (Fig. 8). The six original jack-guides have been enlarged to receive the added notes. These six keys are of pine, the original 55 being of poplar. The length of the key-levers is roughly 1.5 cm more for the base end of the wrest-plank. The same difference is found in the key-beds. The key-bed of the lower keyboard is 2—rail, the centre rail being

Fig. 7 Hitch pins and plugged holes

Fig. 8 Bust end of the keyboard showing the three added keys
oak, other of pine. That of the upper manual is 3—
rail, two rails being of oak.
2. The 8' nut is 1.5 cm wide, the 8' bridge 1.25 cm
wide. To both a small matching piece has been added
on either side to allow for the extra six notes.
3. The 4' Nut. The same applies to the 4' nut, (which
is 1 cm wide), but not to the 4' bridge which reveals
several peculiarities. It is of walnut while all the other
bridges are of beech. No additions have been made at
its ends, although it carries 61 pins. The 4' hitchpin-
rail consists of a thin strip of wood, 1.3 cm wide in
the treble and 1.75 cm wide in the base. It is 1.5 cm
thick and rounded at the end. (Fig. 9).

As with the Hitchcock of ca 1700 in the V and A, this
is glued to the top of the soundboard, it has not been
enlarged and was meant to carry 61 hitchpins. Stopped-
up holes 1—2 cm to the left show that the hitchpin-rail's
position had previously been a different one, and these
holes also add up to 61. There is therefore a
presumption that the 4' did not exist before the
ravalement.
4. But there are additional arguments against the
authenticity of the 4'.
The first one is that the position of the rose does not
allow for one. A comparison with instruments with
authentic 4' dispositions shows that the rose was
always in the approximate centre of the triangle
formed by the spine, the 4' bridge and the jacks. More
important, the unquestionably authentic main rib on
the underside of the sound-board is made to begin
under the 4' hitchpin-rail where it remains for about
half its length, and then to pass under the 4' bridge at
the height of the rose, to finally cross it before its end.
It is absolutely inconceivable that this could have been
the intention of the original builder, and can only be
explained by the mathematics which the scaling of the
4' forced upon the re-builder.
5. The ribbing is not without interest, as it is not of
the type most frequently found on Northern instru-
ments. (Fig. 10).

Noteworthy is the main bar, a rail 1.5 cm wide 7 mm
thick and 1 m 30 cm long. It is rather unevenly carved
out of pine, in the same manner as the liners (which
are also of pine) and displays no major variations of
thickness or of width. There are distinct traces on the
soundboard of the same glue used to glue on this bar
which indicate that another bar originally ran nearly
parallel with the jacks a few centimeters away from
the rose. These two bars may constitute what had been
the original ribbing. There are also five rather fine
cross bars which pass under the 8' bridge at various
places and two bars of the same workmanship which
run parallel to the main rail although their authenticity
is not beyond question. Certainly not original was one
large modern bar which has now been removed, and a
long strip of wood under the 4' hitchpin-rail which
was meant to further consolidate the hitch-pins.
6. A 3 x 8' disposition?
Excluding the theoretical possibility of a 2—choir
disposition for 3 rows of jacks and 2 keyboards, the
question arises where the third set of strings originally
went in the absence of a 4' bridge. We are at a loss at
finding an answer other than that it went on the 8'
bridge next to the other two sets. Evidence to support
this solution is not lacking; a third hole is found at 55
highly regular intervals next
to each pair of 2 bridge pins for the whole length of the original 8' bridge (Fig. II). A third set of marks of a second parallel bar running approximately in the position where one would expect to find the rose. It may well be then that this is the two parallel bar type of instrument which may according to the English Harpsichord Magazine have begun in Venice and which was later found in England in the Tisseran of 1710. The instrument could well have been related to the Venetian instruments described in the English Harpsichord Magazine, not only in having the soundboard construction of two bars parallel to the bridge, generally thought to be the most sonorous arrangement.

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strings over the 8—foot bridge obviously requires a corresponding set of hitchpins on the 8' hitchpin-rail, and an examination shows that there are in fact exactly 55 sets of three plugged holes each on the 8' hitchpin-rail (Fig. 12). It is difficult to conceive that these holes were left by anything else but hitchpins, but it must be noted that some of them are in very advanced positions on the hitchpin-rail, instead of being placed further back where the tension of the strings is resisted more reliably. If the idea of a 3 x 8' disposition is accepted (and a trial has demonstrated its technical feasibility), the following would apply for scaling and plucking points:

<table>
<thead>
<tr>
<th>Scale</th>
<th>Plucking Point</th>
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<tbody>
<tr>
<td>First 8'</td>
<td>32 cm</td>
</tr>
<tr>
<td>Second 8'</td>
<td>28.5 cm</td>
</tr>
<tr>
<td>Third 8'</td>
<td>32 cm</td>
</tr>
</tbody>
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**Conclusion**

At first sight the soundboard bars appear to be a main parallel bar, the boudin and smaller bars crossing the bridge at right angles. This barring is found in Italy, from the 17th century, in France (Vaudrey and Denis) and in England (Barton). Only the boudin seemed to be old and there were