TWO EARLY FRENCH GRAND PIANOS

JOHN KOSTER

In a previous article, "Foreign Influences in Eighteenth-Century French Piano Making" (Early Keyboard Journal 11 [1993]: 7–38), I argued that the several extant grand pianos made by Pascal Taskin in the late 1780s are probably not representative of the pianos, listed in inventories as clavecins à marteaux, that are known to have been made in the 1760s by Taskin's predecessor, Blanchet. I suggested that the design of the now-lost Blanchet grand pianos was probably derived from the instruments made in Saxony by Gottfried Silbermann and that this style, itself largely derived from the pianos of Bartolomeo Cristofori,¹ was transferred to France through Gottfried's nephew Johann Heinrich Silbermann of Strasbourg. Several pianos made by the younger Silbermann were present in Paris by 1761.

The earliest French grand piano known to be extant (excepting J.H. Silbermann's work, produced in a city under French political control but culturally Germanic) was made in 1781 by Louis Bas. Although Bas seems to have worked at times in Marseilles and Lyons, this instrument, according to an inscription recently discovered in its interior, was made in Villeneuve near Avignon. The piano, now at the Shrine to Music Museum in Vermillion, South Dakota, is similar to Cristofori pianos in the overall pattern of its action and in the use of an inverted wrest plank. However, these and certain other details such as the lack of a check and the use of iron strings in the treble correspond to J.H. Silbermann's work. Thus, the Bas piano provides crucial physical evidence not only that the Cristofori piano-making

tradition was practiced in France but also that this tradition came there through the Silbermanns.

Taskin described in a letter of 1786 the development of a new piano action in which he sought to eliminate as many points of friction as possible in comparison with the action that was used previously. As I undertook to show in “Foreign Influences,” his enumeration of how many points of friction were eliminated is consistent both with the extremely simple action in his extant grand pianos and with the supposition that he previously had used an action of the Cristofori/Silbermann type. Of the four extant Taskin grand pianos, the earliest dated one is of 1787, now at the Musikinstrumenten-Museum of the Staatliches Institut für Musikforschung in Berlin.

The Bas piano of 1781 and the Taskin of 1787 are important documents of the earliest stages of piano making in France. The following descriptions of the two instruments are intended to fill a significant gap in the literature of the early piano. The description of the Bas piano, about which only minimal information has previously been published, is based on repeated examinations made at leisure over many years. Because various information about the Taskin piano has long been available in works by several authors, beginning with Paul de Wit in 1890, my treatment of the instrument—based on a necessarily rather brief examination in March 1993 and therefore far less extensive than that of the Bas piano—is largely focused on aspects of the instrument that seem to have been neglected by previous scholars. The descriptions of the two instruments are followed by a consideration of their historical positions relative to each other and to early French piano making in general. I have kept to a minimum material already discussed in my “Foreign Influences” article, to which the present article should be regarded as a supplement.

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Figure 1. Grand Piano by Louis Bas, Villeneuve lès Avignon, 1781: Plan view. The Shrine to Music Museum, Vermillion, South Dakota; cat. no. 4653, Rawlins Fund, 1989.
GRAND PIANO BY LOUIS BAS, VILLENEUVE LÈS AVIGNON, 1781

INSCRIPTIONS: Painted on the soundboard, as if around a rose:

L•BAS•FECIT•1781•

Figure 2. Louis Bas piano: Inscription in the “rose” area of the soundboard.

Written in ink on a slip of paper glued to the interior surface of the bottom, under the soundboard (read with great difficulty as a mirror image viewed through a narrow crack; words or letters that have not yet been interpreted clearly are given within brackets):

Ludovicus Bas
faciebat
villanova [prope] avenion[em]
22e 9[bre (i.e., Novembre)] anno 1781

Fait
par Louis Bas a villeneuve
[îès] avignon le 22[emel] nov-[embre]
1781
DIMENSIONS: length 2162 mm.; width 935 to 942 mm.; height 255 mm.; height with stand (excluding lid) 932 mm.; height of natural key surfaces above floor 740 mm.

KEYBOARD AND ACTION: The compass is F to g" (63 notes). Key levers are of limewood, 13 to 13.5 mm. thick at the front, 11 to 12 thick at the rear (the undersides of all levers are carved away to reduce the thickness between the fronts and the balance pins); natural tops and fronts covered with ebony, heads 38 mm. long with three scored lines; sharps of pearwood stained black, covered with bone, 73 mm. long, 9.5 mm. high above the natural-key surface at the front; three-octave measure 465 mm. The keys, the distal ends of which rest on two layers of coarse cloth tacked to the back rail of the key frame, are guided by silver-plated brass pins, 1.15 mm. in diameter, protruding from the distal ends of the key levers and moving in a slotted rack made of two layers of wood. The front layer, with the part of the slot that touches the guide pins, is of limewood (confirmed by microscopic examination) with its grain oriented vertically; the back layer is of fir. A small lead weight is inserted into the distal end of each natural key lever. The maker seems intentionally to have set the rear guide pins near the bottom of the levers in order to provide room above them for the weights, which therefore should be considered original. The balance rail is of limewood, with iron pins, 2.25 mm. in diameter. The upward motion of the distal ends of the keys is stopped by three layers of coarse cloth, attached (the top layer glued, the lower layers tacked) to the underside of a batten glued to the intermediate-lever hinge rail. The upper surfaces of some key levers are slightly carved away under this batten in order to adjust the touch depth. The fronts of the keys are stopped by three layers of coarse cloth attached (the lowest layer glued, the upper two tacked) to a batten tacked to the bottom of the instrument (see Figure 3).

The action is of the type invented by Bartolomeo Cristofori, with several significant differences in detail. The pearwood escapement jack, resembling a harpsichord jack tongue widened at the top to form a T, is mounted in a pearwood holder attached to the key lever with a threaded iron wire stem. (Pushing against the back of each holder is the end of a thin iron wire. Because of the relative crudity of the work and the lack of a scratched line on the key levers to indicate where these wires were to be inserted, these diagonal supports are probably a later addition.) The back and bottom surfaces of the groove in each holder are covered by a thin layer of oil-tanned leather which serves as a stop to the backward motion of the jack and as a hinge where the bottom tip of the jack is glued to the leather. The position of the bottom of the jack is stabilized by a small wooden pin protruding a slight distance from the bottom of the slot in the holder between the jack and the spring. The spring is a bristle, inserted into the holder in the manner of a
Figure 3. Louis Bas piano: Elevation of the action.
Figure 4. Louis Bas piano: Detail of escapement jacks and their holders.

Figure 5. Louis Bas piano: Detail of hammers and intermediate levers.
Figure 6. Louis Bas piano: A hammer and an escapement jack
(side and back views).

harpsichord jack spring. The upper tip of the escapement jack is covered
with a layer of thin tanned leather (hair side out) that bears against a small
limewood block glued to the underside of each intermediate lever.

The intermediate levers and hammers are attached to a limewood action
frame, the ends of which are tenoned into the side rails of the key frame. (A
wooden peg through the tenon and mortise at each end can be pushed out to
allow removal of the action frame from the key frame.) The pearwood in-
termediate levers are hinged to the back rail with a thin white (tawed?)
leather. Slots for the leather to be inserted into the levers were formed by a
saw cut. The front ends of the levers rest on a single layer of coarse cloth
tacked to a batten attached to the back of the front rail; some levers rest on
an additional piece of thin adjustment leather lightly glued to the cloth. At
their front, the levers are covered with a single layer of leather (hair side
down) that bears against the hammer butts. The hammers are hinged to the
front rail with a thin white (tawed?) leather; again, the slots for the leather
in the butts were formed by a saw cut. Each hammer shank (including the
integral butt and lower portion of the head) is formed from a piece of pear-
wood 3.5 mm. thick. Between the butt and head, the shank is rounded to a
cylindrical shape, 3.5 mm. in diameter (or very slightly less, especially to-
ward the head end). Glued to the lower portion of the head that is integral
with the shank and butt is a supplementary pearwood head core, the wood
grain of which runs horizontally from side to side. This core, which is an-
gled slightly away from the front, is 4.7 mm. thick (from front to back) at
its base and 4.0 mm. near its rounded top, which is 7.7 mm. above the
shank. Fragments of leather visible on the wooden cores suggest that the
present leathering of the hammer heads is not original. Throughout most of
the compass there are now three layers of leather. In the bass, the lowest
layer, next to the core, is of a woolly oil-tanned leather (peau de buffle?),
about 3.5 mm. thick at FF† (hammer FF is missing) and 2.5 at b; in the
treble, the lowest layer is of a presumably harder tanned leather, about 2.5
thick at c', 1.5 at c'', and 0.7 at b''; above b'', the lowest layer (missing from
one or two hammers) is a thin layer of oil-tanned leather. Above the lowest layer is a middle layer of thin oil-tanned leather with grooves and discoloration, caused by contact with strings, which indicate that this was once the outer layer. Above this is the present outer layer of thin white (tawed?) leather (hair side down). The hammer heads rest on two layers of coarse cloth tacked to a batten over the intermediate lever hinges. When at rest, the hammer shanks are almost exactly horizontal.

The proportions of the action, constant throughout the compass, are: natural key front to the key lever balance point, 191 mm.; balance point to the point on the key lever perpendicularly under the upper tip of the jack, 146 mm.; height of the upper tip of the jack above the key lever, 52 mm.; intermediate lever hinge to point of contact with jack, 57 mm.; length of intermediate lever, 115 mm.; hammer hinge to point of contact between hammer butt and intermediate lever, about 15 to 16 mm.; length of hammer from hinge to center of head, 132 mm. These measurements result in a leverage ratio of about 13:1 between the hammer head and the natural key front. The hammer stroke (distance between the top of the hammer head at rest and the string) varies from 37 mm. in the bass to 41 in the treble (the difference primarily due to the thinner leather on the heads in the treble). The touch depth (key dip) is about 7.5 to 8 mm., perhaps closer to about 7 mm. when the action cloths were newer and less compressed. Because of the leverage ratio, the hammer moves its entire distance upwards as the key is pressed down about 3 mm. That is, the hammer does not move for about 4 mm. of the presumed original 7 mm. touch depth: as the action seems to have been set up, the key is pressed down about 2 mm. before the hammer starts to move; the hammer escapes when the key has been pressed down about 5 mm.; and the key is pressed down 2 mm. further with no effect on the hammer. One advantage of this set-up is that the key need not be released entirely for the note to repeat. This is essentially similar to the set-up of harpsichord actions, in which the plectra rest some distance below the strings and the keys must be depressed a millimeter or two before plucking occurs.

Throughout the compass there were dampers (now missing), held by leather-covered limewood upper and lower guides that closely resemble standard French harpsichord jack guides. A leather pad (hair side up) is glued to each key lever where it pushed against the damper. Each damper, which presumably consisted of a wooden stem resembling a harpsichord jack body topped by a cloth- or leather-covered wedge (like those in Cristofori and Silbermann pianos) was placed between the pair of strings for its note. (The lateral placement of the strings is even, the strings of a unison pair being equally as far apart as the strings of adjacent notes.) Because Bas apparently used the same tool for punching mortises in the leather of the damper guides as he did for making his harpsichord jack guides, his damper stems were
thicker than Cristofori’s and Silbermann’s. They were 3.5 mm. thick by 11.5 mm. wide, measured from tool marks on the front of the balance rail, the wood of which had been used as a surface for punching. (The dimensions can be measured more accurately from these tools marks than from the worn leather mortises of the damper guides.) The upper guide is tacked to the upper belly rail just in front of the soundboard, while the ends of the lower guide, which is free to move up and down, rest on blocks tacked to the spine and cheekpiece. Although the mortises in the leather of the lower guide are the same size as those in the upper guide, a strip of leather (identical to the mortised leather and therefore presumably original) covers the back half of these mortises. This presumably was done because the damper stems were doglegged, with the narrowed part of the stem passing through the lower guide, so that raising the guide raised the dampers. A lead weight at each end of the guide (the bass weight is missing) aids the return of the guide to its resting position. Two iron levers, screwed to blocks attached to the lower belly rail, serve to raise the guide when wires, attached to the distal ends of the levers and passing down through the bottom, are pulled down. The levers and their screws, blocks, and wires appear to be original eighteenth-century work. So does an L-shaped lever (along with the iron fulcrum piece and screws that attach it to the bottom of the instrument) which passes through the bottom and bears against a notch in the balance rail in order to move the action to the left for the una corda effect. The rest of the trapwork for the damper and una corda effects (i.e., wooden levers and their fulcrum blocks screwed to the underside of the bottom, as well as two blocks—one of which is missing—to which the now-missing pedal holder was attached) appears to be relatively recent work. There is no sign of any substantially different earlier trapwork on the instrument or on the stand. Either the present trapwork replaces lost or damaged original pedal trapwork that was attached to the bottom; or, if the stand were a replacement, a previous pedal or knee-lever (genouillère) mechanism could have been attached to an earlier stand. The present stand, however, appears to be quite old. Sheridan German has observed that it strongly resembles the original stands of harpsichords made in Lyons in the late eighteenth century and has concluded that it is unlikely to be a later replacement. Thus, the likelihood is that the Bass piano originally had two pedals (of the type that transmits motion to the instrument by pushing up a rod), that for the una corda placed to the left of that for raising the dampers.

STRINGING AND SCALING: Throughout the compass there are two strings per note (see Table 1). The instrument has evidently never been thoroughly restrung. Most of the strings presumably date from the eighteenth or early nineteenth century, and many could well be original. Although inconsistencies among the hitchpin loops indicate that strings were put on by
### TABLE 1

**Grand Piano, Louis Bas, Villeneuve lès Avignon, 1781**  
**String Lengths and Strike Points**

<table>
<thead>
<tr>
<th>Note</th>
<th>String length in mm. longer</th>
<th>String length in mm. shorter</th>
<th>Strike point in mm.</th>
<th>Strike-point ratio (string length + strike point)</th>
</tr>
</thead>
<tbody>
<tr>
<td>g''</td>
<td>119</td>
<td>117</td>
<td>5</td>
<td>23.8</td>
</tr>
<tr>
<td>f''</td>
<td>128</td>
<td>126</td>
<td>5</td>
<td>25.6</td>
</tr>
<tr>
<td>e''</td>
<td>152</td>
<td>149</td>
<td>5</td>
<td>30.4</td>
</tr>
<tr>
<td>f'</td>
<td>213</td>
<td>208</td>
<td>18</td>
<td>11.8</td>
</tr>
<tr>
<td>e'</td>
<td>278</td>
<td>271</td>
<td>33</td>
<td>8.4</td>
</tr>
<tr>
<td>f</td>
<td>404</td>
<td>393</td>
<td>55</td>
<td>7.3</td>
</tr>
<tr>
<td>c'</td>
<td>538</td>
<td>522</td>
<td>70</td>
<td>7.7</td>
</tr>
<tr>
<td>f</td>
<td>795</td>
<td>777</td>
<td>93</td>
<td>8.5</td>
</tr>
<tr>
<td>c</td>
<td>997</td>
<td>977</td>
<td>110</td>
<td>9.1</td>
</tr>
<tr>
<td>F</td>
<td>1276</td>
<td>1257</td>
<td>131</td>
<td>9.7</td>
</tr>
<tr>
<td>C</td>
<td>1480</td>
<td>1461</td>
<td>147</td>
<td>10.1</td>
</tr>
<tr>
<td>FF</td>
<td>1698</td>
<td>1694</td>
<td>169</td>
<td>10.0</td>
</tr>
</tbody>
</table>

### TABLE 2

**Grand Piano by Louis Bas, Villeneuve lès Avignon, 1781**  
**Stringing Scheme, based on historical strings preserved in the instrument**

<table>
<thead>
<tr>
<th>Notes</th>
<th>Diameter in mm.</th>
<th>Material</th>
<th>Presumed Gauge$^3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>g'' to g'''</td>
<td>.36</td>
<td>Iron</td>
<td>5</td>
</tr>
<tr>
<td>c''? to g''</td>
<td>.40</td>
<td>Iron</td>
<td>4</td>
</tr>
<tr>
<td>d' to c''</td>
<td>.44</td>
<td>Iron</td>
<td>3</td>
</tr>
<tr>
<td>e to c''</td>
<td>.48</td>
<td>Iron</td>
<td>2</td>
</tr>
<tr>
<td>[d and d'']</td>
<td>[.54]</td>
<td>[Iron]</td>
<td>1</td>
</tr>
<tr>
<td>c and c''</td>
<td>.60</td>
<td>Iron</td>
<td>0</td>
</tr>
<tr>
<td>G to B</td>
<td>.56</td>
<td>Yellow Brass</td>
<td>1</td>
</tr>
<tr>
<td>D to G</td>
<td>[.60]</td>
<td>[Yellow Brass]</td>
<td>0</td>
</tr>
<tr>
<td>D</td>
<td>.71</td>
<td>Yellow Brass</td>
<td>00</td>
</tr>
<tr>
<td>C? and C''</td>
<td>.80</td>
<td>Yellow Brass</td>
<td>000</td>
</tr>
<tr>
<td>GG to BB</td>
<td>.77</td>
<td>Red Brass</td>
<td>000</td>
</tr>
<tr>
<td>FF to GG</td>
<td>.86</td>
<td>Red Brass</td>
<td>0000</td>
</tr>
</tbody>
</table>

$^3$The measured diameters have been assigned the nearest gauge number according to the interpretation of the system used in France in Grant O'Brien, “Some Principles of Eighteenth Century Harpsichord Stringing and their Application,” *The Organ Yearbook* 12 (1981): 166.
several different persons, the diameters are consistent enough to suggest that broken strings were usually replaced with ones of the correct material and diameter. Thus, the stringing scheme, quite possibly original, was approximately as shown in Table 2.

CONSTRUCTION: The spine, 20 mm. thick, is of fir (Abies alba, confirmed by microscopic examination); the tail, 15.5 mm. thick and 255 mm. long, apparently of fir; the bent side, 15.5 to 16 mm. thick, apparently of fir; and the cheekpiece, 17.5 mm. thick and 621 long, of poplar (Populus sp., confirmed by microscopic examination). These components, which are 237 to 240 mm. high, are joined together with miters reinforced by nails or trenails. The joints at the tail are also reinforced with corner blocks in the interior. The cheekpiece is nearly doubled in thickness, to 31.5 mm., by an inner cheek of poplar (confirmed by microscopic examination), and the front ends of the cheekpiece and spine are breadboarded. The angle of the tail with the spine is 58°, and the exterior width of the instrument, measured from the spine to the bent-side/tail joint, is 215 mm. The bottom, 15.5 mm. thick, of fir (confirmed by microscopic examination), is attached to the undersides of the walls. Large nails reinforce the glue joint of the case and bottom. The wood grain of the bottom is parallel to the spine, except at the front, where the edge is reinforced by a tongue-and-grooved fir board, 20.5 mm. thick by 196 wide, its lower surface flush with that of the bottom (see Figure 7).

The wrest plank, inverted in the Cristofori style (i.e., placed above the strings), is of walnut, 234 mm. wide, its front set 179 mm. behind the front of the case. Its ends are housed in the spine and interior cheekpiece, each end being reinforced by three dowels through the outside of the case walls. The wrest pins of iron, 5.6 mm. in diameter as they enter the upper surface of the wrest plank, are staggered into natural and accidental lines. They protrude through the bottom of the wrest plank and have slots to hold the ends of the strings. The nut, on the underside of the wrest plank, is of beech with the typical “triangular” cross section, throughout the compass 11 mm. wide at the base, 8 mm. high, and 4.5 mm. wide on the surface into which are driven the nut pins of silvered brass, approximately 1.1 mm. in diameter.

The upper belly rail, of fir 20.5 mm. thick by 70 mm. high and with ends housed in the spine and cheekpiece, is set perpendicular to the spine, with its front surface 452 mm. behind the front of the case. There is a 40-mm. gap between the upper belly rail and the lower belly rail, which is of poplar (confirmed by microscopic examination) 31 mm. thick by 100 mm. high, set 512 mm. behind the case front and apparently dovetailed into the spine and cheekpiece. The spine liner is of fir, 15.5 mm. thick by 39 mm. high, and the other liners are of similar dimensions and material (although the tail liner appears possibly to be of poplar). Small nails driven into the liners from the interior reinforce their attachment to the case walls. Between the
Figure 7. Louis Bas piano: View of the front, with nameboard removed, showing inverted wrest plank.

spine and the bent side there are three bottom braces of poplar (*Populus* sp., confirmed by microscopic examination) placed at an angle of about 65° to the spine. The middle brace, which is accessible for measurement, is 33.5 mm. thick by 65 mm. high in its central portion. Towards its ends it becomes higher to form knees to the case walls, that at the spine stopping just under the liner, that at the bent side having a supplementary block so that the knee also bears against the liner. The brace is apparently dovetailed to the spine, while the joint with the bent side is reinforced by corner blocks. The other two braces are of similar dimensions and construction. Large nails driven up through the bottom reinforce its attachment to all of the braces. Behind each brace and butted to it is a substantial fir knee that meets the bent side at a more acute angle than do the braces. Two additional knees are present: one to the treble portion of the bent side, with its lower end apparently butted to the lower belly rail; and one to the tail. The knees have supplementary blocks to bear against the liners and small reinforcing nails through the bottom. The hitchpin rail (a molded batten glued over the edge of the soundboard at the tail and bent side in the manner of a harpsichord 8'
Figure 8. Louis Bas piano: Plan; the interior framing is shown in broken lines.
hitchpin rail) is approximately the same height as the bridge. The hitchpins are of iron, 1.5 mm. in diameter.

The soundboard, approximately 3 mm. thick, is of quarter-sawn spruce (Picea abies, confirmed by microscopic examination) and is set 92 mm. below the top edge of the case walls and 143 mm. above the bottom. The bridge is of beech, bent to its curve, except in the extreme bass, where a scarfed-on section is sawed to the curve. It is “triangular” in cross section, slightly tapered from bass to treble, from 17 mm. to 13 mm. wide at the base and from 14 mm. to 12 mm. high, with an upper surface 4.5 mm. in width. The bridge is back-pinned throughout the compass. Bridge pins and back pins are of silvered brass, 1.1 mm. in diameter, except for the lowest ten notes, where they are of iron, 1.15 mm. in diameter. Under the first three pins, the bottom of the bridge is cut away to free the soundboard. Under the soundboard there are a cutoff bar of fir or spruce, 29.5 mm. high, 15.5 mm. wide at its base, tapered to a width of 8 mm.; and three smaller ribs between the cutoff bar and the spine liner, placed perpendicular to the spine (see Figure 8).

DECORATION: The original decoration of the soundboard, painted in gouache, is in remarkably fine condition. It consists of delicate dark blue (nearly black) borders along the outer edges and the bridge; flowers, insects, and a bird; and a blue circle, 80 mm. in diameter, in the position of a rose, surrounded by a white border with the maker’s inscription in blue, and a garland (see Figure 2).

Before the instrument came to the Museum, a rather tawdry modern painted decoration in pseudo-eighteenth-century style was removed from the case and lid. A sample of this painting remains on the lockboard. The removal revealed the present green surface, under which are original surfaces (or grounds?) of grey on the exterior and vermilion on the interior. The upper edges of the case are molded and gilt in the typical manner of eighteenth-century French harpsichords. The keyboard end blocks are black with gilt moldings; the nameboard is removable; and there is a damper cover somewhat resembling a harpsichord jack rail.

The stand, in a provincial Louis-XV style, is painted green with molded and gilt borders. The large gilt molding now seen at the top edge of the stand replaces a molding showing stylized laurel leaves carved in low relief. The latter was considered not to be original and removed before the instrument came to the Museum. A sample of this molding was saved and is in storage at the Museum. Brass or bronze mounts are attached to the stand at the heads and feet of the legs. These are of uncertain age.

CONDITION: The instrument has survived as a remarkably well-preserved document, primarily because there has been no thorough attempt to restore
it to playing condition. Only a few minor repairs, such as rehinging of several hammers and replacement of a few bristles with wire springs, appear to have been done in this century. Several hammers and jacks are missing. The action cloth, which is in quite good condition, and leather, much of which is in a fragile state, can be presumed to be original, with the exception of the hammer coverings. There are several cracks in the soundboard and bottom, such as are invariably present in old keyboard instruments. Several small strips of wood have been glued along the spine liner to reinforce a crack in the soundboard. (Access for this repair, done long before the instrument came to the Museum, was gained by cutting a small hole in the bottom. The cut-out wood was retained to close the hole.) One reinforcing screw through the bridge into the soundboard is a relatively recent repair, as presumably are several screws (evidence of the heads of which is visible under the exterior paint) inserted through the tail and bent side into the hitchpin rail. The batten at the back of the sharp keys, next to the nameboard, is a reconstruction of the missing original.

Boalch lists a Louis Bas harpsichord of 1781, "converted into a piano," that was offered for sale in New York in 1949. The Bas piano of 1781 now at the Shrine to Music Museum is almost certainly the same instrument; it is equally obvious that Boalch's unnamed informant was mistaken in his or her belief that the instrument was originally a harpsichord. A superficial glance at this clavecin à marteaux might suggest it to be so similar to a clavecin à sautereaux that it could possibly have begun life as a harpsichord; but it is inconceivable that all signs of such a former state (e.g., evidence of a former wrest plank in the normal position; scars from lowering the entire soundboard by several centimeters; plugged holes for former bridge pins with the spacing of harpsichord strings; filled-in mortises for a jack rail) could have been suppressed so thoroughly as to have escaped detection during any close examination. It is unfortunate that the unfounded speculation about the Bas piano having originally been a harpsichord has been renewed irresponsibly in a recent study that purports to be an authoritative reference work about early pianos.

PROVENANCE: According to the dealer who in 1977 sold the instrument to Hugh Gough, Inc., of New York, its former owner was Bruce King, a singer connected with the Music Department of the University of Houston, Texas,

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who had purchased it in New York in 1949. In 1989 the instrument was purchased from Gough by The Shrine to Music Museum, Vermillion, South Dakota, by means of the Rawlins Fund. It is now catalogue no. 4653 in the Museum’s collections.

GRAND PIANO BY PASCAL TASKIN, PARIS, 1787

Figure 9. Grand piano by Pascal Taskin, Paris, 1787. Musikinstrumenten-Museum, Staatliches Institut für Musikforschung, Berlin; cat. no. 343.

INSCRIPTIONS: Painted on the soundboard around the rose (see Figure 10):

PASCAL ♦ TASKIN
~1787~

According to Konstantin Restle, the lowest key bears the date 1787; in the interior is Taskin’s printed label with the handwritten date 1787, the final

I thank John A. Rice for confirming Mr. King’s existence.
digit later altered to 9; a further inscription indicates that the instrument was sold by Taskin’s stepson, Armand François Nicolas Blanchet, in 1795.7

Figure 10. Taskin piano: The rose, surrounded by Taskin’s inscription.

DIMENSIONS: length 1870 mm. (measured from the front of the spine to the edge formed by the tail and the broad canted surface between the spine and the tail); width 958 mm.

KEYBOARD AND ACTION: The compass is EE to f'' (62 notes); naturals covered with ebony, with three scored lines; fronts with semicircular arcades of a lighter wood; sharps of black-stained wood covered with bone; three-octave measure 475 mm.

7Information about the interior inscriptions is from Restle, “Der Hammerflügel von Pascal Taskin.”
Figure 11. Taskin piano: Diagram of the action, not to scale (drawn after the illustration in Harding, *The Piano-Forte*, p. 75, with modifications based on examination of the instrument).
Figure 12. Taskin piano: Detail of hammers, dampers, and tuning mechanism.

The action is a *Stossmechanik* without escapement. The hammer shanks, which are flat rectangular in section, are hinged with parchment at the top of the belly rail; the wooden damper heads, their undersides faced with textile, are attached to the hammer shanks with wire stems. Thus, the hammers at rest hang from their dampers resting on the strings. The hammer heads are wooden wedges with rounded arrisses covered by several layers of leather of uncertain age. From the underside of the hammer shanks hang stickers, hinged with parchment or leather to the shanks near their distal ends. According to Rosamund Harding’s cross-sectional drawing of the action (which she based on a model made by the Berlin collection’s restorer), the stickers are pushed up by an intermediate lever which is itself pushed up by a small block on the key lever; the leverage ratio between the hammer head and the natural key front is approximately 6:1.⁸

A batten under the hammer shanks can be raised by a *genouillère* (knee pommel), thereby lifting all the dampers. A second *genouillère* controlled a moderator (or possibly a buff stop) that is now absent.

⁸Harding, *The Piano-Forte*, 75.
STRINGING AND SCALING: Throughout the compass there are two strings per note. Although the moldings at the edges of the soundboard were absent when I examined the instrument, and the soundboard has been re-edged (thus removing traces of hitchpin holes), it is almost certain that, as with the 8' strings of French harpsichords, the strings were attached to individual hitchpins driven into moldings serving as hitchpin rails along the tail and spine. (The layout of the soundboard precludes the presence of a wide supplementary plate with an additional set of pins near its front edge to delimit precisely the resonant afterlength of each string between the bridge and the hitchpin. Such a plate is found in a Taskin grand piano of 1788.) Each pair of strings was intended to be made from a single piece of wire with a loop at each end to be attached to the pair of hitchpins at the bent side or tail. At the front of the instrument, the wire passed through a J-shaped hook made of thick wire, one for each note. The stem of this hook is threaded and passes through a block comprising the upper front part of the wrest plank. The front of this block is faced with a metal plate, against which bears a rectangular nut screwed onto the protruding stem of the hook. Tightening or loosening this nut would adjust equally the tension of both portions of the wire, arranged so as to form the pair of strings for one note. Because of this tuning mechanism, the speaking lengths of each pair of strings were made to be equal by careful positioning of the bridge pins.

### TABLE 3
Grand Piano, Pascal Taskin, Paris, 1787
String Lengths and Strike Points

<table>
<thead>
<tr>
<th>Note</th>
<th>String length in mm.</th>
<th>Strike point in mm.</th>
<th>Strike point ratio (string length + strike point)</th>
</tr>
</thead>
<tbody>
<tr>
<td>f''</td>
<td>128</td>
<td>7</td>
<td>18.3</td>
</tr>
<tr>
<td>c'''</td>
<td>164</td>
<td>10</td>
<td>16.4</td>
</tr>
<tr>
<td>c''</td>
<td>310</td>
<td>20</td>
<td>15.5</td>
</tr>
<tr>
<td>c'</td>
<td>566</td>
<td>35</td>
<td>16.2</td>
</tr>
<tr>
<td>c</td>
<td>972</td>
<td>53</td>
<td>18.3</td>
</tr>
<tr>
<td>C</td>
<td>1318</td>
<td>74</td>
<td>17.8</td>
</tr>
<tr>
<td>EE</td>
<td>1432</td>
<td>89</td>
<td>16.1</td>
</tr>
</tbody>
</table>

There is a dumb course of strings between a$ and b over a strut between the 
wrest plank and belly rail.

Table 4 lists the gauge numbers stamped on the wrest plank:

<table>
<thead>
<tr>
<th>Notes</th>
<th>Gauge</th>
<th>Presumed material</th>
<th>Presumed diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>a$ to f&quot;</td>
<td>4</td>
<td>Iron</td>
<td>.38 mm.</td>
</tr>
<tr>
<td>a$ to a&quot;</td>
<td>3</td>
<td>Iron</td>
<td>.43</td>
</tr>
<tr>
<td>e' to a'</td>
<td>2</td>
<td>Iron</td>
<td>.48</td>
</tr>
<tr>
<td>g$ to d&quot;</td>
<td>1</td>
<td>Iron</td>
<td>.54</td>
</tr>
<tr>
<td>d$ to g</td>
<td>0</td>
<td>Iron</td>
<td>.60</td>
</tr>
<tr>
<td>c$ to d</td>
<td>0</td>
<td>Iron</td>
<td>.68</td>
</tr>
<tr>
<td>A$ to c</td>
<td>0</td>
<td>Yellow brass</td>
<td>.60</td>
</tr>
<tr>
<td>F$ to A</td>
<td>0</td>
<td>Yellow brass</td>
<td>.68</td>
</tr>
<tr>
<td>[D?] to F</td>
<td>000</td>
<td>Yellow brass</td>
<td>.78</td>
</tr>
<tr>
<td>AA$ to [C$?]</td>
<td>000</td>
<td>Red brass</td>
<td>.78</td>
</tr>
<tr>
<td>EE to AA</td>
<td>5/0</td>
<td>Red brass</td>
<td>1.00</td>
</tr>
</tbody>
</table>

There is no stamp for gauge 0000.
A mark between C$ and D probably indicates the division between red and yellow brass.

CONSTRUCTION: The case is constructed in a manner quite similar to that of Taskin’s harpsichords.\textsuperscript{11} The walls are of poplar of normal thickness, dovetailed at the corners. The spine and cheek have Taskin’s usual liners, rounded at the front, while the liners at the spine and tail are full-depth planks (29 mm. and 23.5 mm. thick, respectively) reinforcing the entire interior surfaces of the spine and tail between the soundboard and the bottom. The bottom, the main portion of which had been removed when I examined the instrument, thus affording an excellent view of the interior, is about 13.5 mm. thick. There are three softwood bottom braces between the bent side and spine, placed perpendicular to the spine. As with Taskin’s harpsichord braces, their upper edges are rounded and the height of their central portions is reduced in gentle downwards curves from their ends. There are four softwood upper-level struts, rounded in cross-section, two between

\textsuperscript{10}These are the diameters according to O’Brien’s interpretation of the gauge numbers: see note 3 above.

the bent side and belly rail, the third between the bent side and the spine/belly-rail corner, and the fourth between the bent side and spine.

Figure 13. Taskin piano: Detail of the bridge.

The soundboard is of thin quarter-sawn fir. The bridge is essentially rectangular in section, its upper surface cut away so as to form, for each pair of strings, a short triangular-section ridge, perpendicular to the spine, into which the pins and back pins are driven. There is a curved softwood cutoff bar, rounded in cross section, that strongly resembles the 4' hitchpin rail in Taskin’s harpsichords. Between this cutoff bar and the spine are several softwood ribs, placed perpendicular to the spine. Several ribs between the cutoff bar and the bent side appear likely to be later additions.

DECORATION: The exterior is elegantly veneered with mahogany panels surrounded by brass banding edged with double-line stringing and surrounded by outer bands of rosewood. The instrument rests on a Louis-XVI-style stand. The painted decorations of the case interior and soundboard have been attributed to the same artist (tentatively identified by Sheridan Germann as Monsieur Doublet)\textsuperscript{12} who decorated harpsichords for Taskin in this period.

The rose, a simple plate with four heart-shaped holes, while not the maker’s usual cast gilt-metal harp-playing angel, is similar to that in a Taskin harpsichord of 1786.\textsuperscript{13}

PROVENANCE: According to Paul de Wit, from whom the Berlin Museum purchased the instrument in 1890, the instrument had been sold by the Maastricht piano dealer Leyser in 1877.\textsuperscript{14} The instrument is the Museum’s catalogue no. 343.

THE HISTORICAL POSITION OF THESE INSTRUMENTS

Both the Louis Bas piano of 1781 and the Taskin of 1787 could justifiably be called clavecins à marteaux, that is, harpsichords with hammers. The design, choice of materials, and construction of their cases and soundboards are firmly within the French harpsichord-making tradition. Even some features that might at first be regarded as specifically relating to piano design have precedents in French harpsichord making. In 1732, Louis-Charles Bellot invented a new type of harpsichord bridge designed, like Taskin’s piano bridge, for equalizing the lengths of the unison string pairs.\textsuperscript{15} The genouillères of the Taskin piano are of the same type found on French harpsichords of the period. The doubled thicknesses of the Bas piano’s cheekpiece and of the Taskin piano’s spine (i.e., the full-depth liner) are found in Taskin’s ravalements of Flemish harpsichords.\textsuperscript{16} Although the placement of the strut between the wrest plank and the belly rail of the Taskin piano is different from that of harpsichords—in which the struts are in the form of gap spacers set below the upper jack guides—the principle is similar, especially in conjunction with upper-level struts between the belly rail and the bent side, a construction that had long been used in the Blanchet/Taskin workshop. These close resemblances between French harpsichords and the two pianos are characteristic of a general phenomenon in

\textsuperscript{13}This instrument, at the Victoria and Albert Museum, London, is shown in Raymond Russell, The Harpsichord and Clavichord (London: Faber & Faber, 1959), pl. 50.

\textsuperscript{14}See Restle, “Der Hammerflügel von Pascal Taskin.”


\textsuperscript{16}See, for example, a Couchet harpsichord of 1680, rebuilt by Taskin in 1781, described in my Keyboard Musical Instruments in the Museum of Fine Arts, Boston (Boston: Museum of Fine Arts, 1994), no. 7.
early piano making: Silbermann pianos and English grand pianos, for example, in their overall design and construction resemble, respectively, Saxon and English harpsichords.

It is nevertheless quite obvious that the Bas and Taskin pianos were not designed merely as conventional French harpsichords with the minimal changes necessary to enable the fitting of hammers to strike harpsichord strings. That is, there are some features that were introduced to increase the efficacy of the hammer action. Most obvious among these are the inverted wrest plank of the Bas; the shortness of the treble scalings of both instruments in comparison with French harpsichords (for example, the longer 8' c" string of a harpsichord made by Taskin in 1769 is 357 mm. long\(^\text{17}\)); the much thicker stringing (at c", for example, gauge 8 wire was typically used in harpsichords\(^\text{18}\)) resulting in string tensions that are two or three times higher; the closer strike points in comparison with the plucking points of French harpsichords (the front 8' c" plucking point of the 1769 Taskin, for example, is 72 mm.); and the damper-raising mechanisms.

All of these aspects, as well as the Cristofori-type action and iron stringing in the treble, are found already in the pianos made by Gottfried Silbermann in the late 1740s. The impact made by Silbermann pianos in France about 1760 is demonstrated by Jean-Benjamin de Laborde, who wrote in 1780 that “the harpsichord Piano-Forte was invented about twenty years ago in Freiberg, Saxony, by Mr. Silbermann.”\(^\text{19}\) It is, of course, now well known that Gottfried Silbermann died in 1753 and that he did not invent the piano. De Laborde may, however, easily be forgiven for having echoed the belief, current in Germany, that the elder Silbermann was the inventor and for having taken, for the time of the invention, the time when Johann Heinrich Silbermann’s pianos were introduced to Paris.

In “Foreign Influences” I suggested that the actions of early J.H. Silbermann pianos and of the earliest French-made instruments inspired by them were likely to have been in the form of the Cristofori action used by Gottfried Silbermann, in which the hammers revolve around a wire axle and their

\(^\text{17}\)This measurement of the 1769 Taskin harpsichord at the Russell Collection in Edinburgh and the plucking-point measurement given below are from a data sheet by Grant O’Brien.

\(^\text{18}\)See, for example, the instrument cited in note 16 above and a “Ruckers” built or rebuilt by Taskin in 1774 (at the Brussels Museum of Musical Instruments) cited by O’Brien in “Some Principles of . . . Stringing,” 161.

\(^\text{19}\)Essai sur la Musique (Paris, 1780), vol. 1, 349. This sentence and other material from de Laborde’s work was incorporated into the stringed-keyboard-instrument sections of Denis Diderot and Jean le Rond d’Alembert, eds., Encyclopédie méthodique, arts et métiers mécaniques: Art du faiseur d’instruments de musique et Lutherie (Paris, 1785; facs. reprint, Geneva: Minkoff, 1972), 8 ff.
heads rest on pseudo-checks. In the extant J.H. Silbermann pianos of the 1770s and in the Bas of 1781 the hammers are hinged with leather, presumably to suppress rattling, and their heads rest on a rail, perhaps to eliminate the sensation of the impact of the returning hammer upon the player's finger. The detailed history of these innovations, however, remains obscure. Although it seems most likely that Bas adopted them directly or indirectly from J.H. Silbermann (who, it might be argued, made these changes at the behest of his French customers), it is possible that each maker developed them independently or, perhaps, adopted them from a third maker. Similarly, Bas's use of an escapement jack resembling a harpsichord-jack tongue and his mounting it on top of the key lever rather than using the much heavier jack held in a mortise through the lever (as done by Cristofori and by both Gottfried and J.H. Silbermann) would be seen as an innovation of a maker most accustomed to harpsichords, were it not for the possible existence of a J.H. Silbermann square piano with such a jack.

Both J.H. Silbermann's grand pianos and the square pianos made in London by Johannes Zumpe and his immediate followers, which comprised the second chief influence on early French piano making, have damper-raising mechanisms. These, as well as the una corda effect in Silbermann pianos and, in most instances, the moderator or buff stop present in many early German pianos (which were also known in France) were controlled by hand stops. Taskin's use of genouillères to control the timbre-altering effects in his extant pianos of the 1780s may be too late to be conclusively indicative of earlier French practice of the 1760s and 1770s; however, Bas's use of pedals (or possibly genouillères) may perhaps be regarded as early and provincial enough to suggest, together with the appearance of genouillères applied to Parisian harpsichords in the 1750s and 1760s, that French makers and players embraced the concept of convenient control over these devices more eagerly than some of their foreign colleagues. Thus, we could imagine Claude Balbaste playing his unmeasured Prélude of 1777 with the dampers raised throughout the many arpeggiated passages but lowered for the passages with rapid scalar figuration. Such a performance would have been impossible, or at least much more difficult, on a Silbermann piano or on

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21 As I noted in "Foreign Influences," 22–23, the square piano, said to have been made by J.H. Silbermann, upon which Harding indirectly based the action drawing in The Piano-Forte, 35, is no longer traceable.

most English squares of the period, in which the musical flow would be interrupted while the player removes one or both hands from the keyboard in order to move hand stops.

The Louis Bas piano of 1781 may plausibly be regarded as broadly indicative of the Silbermann-inspired clavecins à marteaux made prior to Taskin's innovations of the late 1780s. In addition to the differences already noted between the pianos of Gottfried Silbermann and Bas, also noteworthy are the latter's strike points, which are much closer to the nut near the top of the compass, approximately one-twentieth to one-thirtieth of the string lengths. As shown by comparison with examples in Table 5, Bas's close treble strike points would seem to be without parallel in the work of foreign makers of the period, even those, viz., Silbermann and Zumpe, who were very influential in France.

| TABLE 5 |
|---|---|---|---|---|
| Strike-point Ratios (string length + strike point) of Various Pianos |
| Top | d'' - 10.2 | f'' - 5.5 | f'' - 10.4 | — |
| c''' | 10.3 | 7.2 | 8.0 | — |
| c'' | 9.4 | 12.5 | 8.7 | 23 |
| c' | 10.2 | 15.4 | 10.1 | 15 |
| c | 10.9 | 16.3 | 10.6 | 12 |
| C | 11.7 | 17.5 | 10.5 | 11 |
| Bottom | FF - 12.1 | GG - 18.0 | FF - 9.3 | FF - 10 |

Germanisches Nationalmuseum, Nuremberg; based on measurements by S. Pollens

Museum of Fine Arts, Boston

Private Collection, England; based on data from Michael Latcham

Brussels Museum of Musical Instruments

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23“Gottfried Silbermann's Pianos,” 120.

24Only the hammer head for d (note 27) was in place when I measured the instrument. The strike-point ratios in Table 5 are reconstructions based on the assumption that the hammer heads were in a straight row. Because, however, the varying thickness of the leather coverings could, if their fronts were aligned, result in a curved center line and because such minor variations would be proportionally greater in the treble, a reconstruction of the ratios above c'' has not been attempted. The minimum ratio possible for for c'' would appear to be about 14, although the actual ratio is likely to have been much higher.
(As I wrote in "Foreign Influences," instruments by J.S. Stein and by F.J. Späth are also likely to have been known in Paris. Further, an obituary of Sébastien Erard, written in 1831, stated that before Erard began to make pianos only ones imported from Augsburg, Regensburg, and London were known in Paris. Although this is incorrect, it might contain a grain of truthful recollection that instruments from those German cities were not utterly uncommon in pre-Revolutionary France.)

In general, the closer a string is struck or plucked to its end, the brighter the tone becomes. The close treble strike points in the Bas piano may have been intended to increase the brilliance of the tone in a part of the compass where it tends to be weak in early grand pianos. Further, the leathering of the hammer heads with a harder core layer in the upper half of the compass would also help to increase the brilliance of the treble. Although the hammer-head leathers do not appear to be the maker’s original coverings, they nevertheless appear to stem from a very early period in the instrument’s history. Thus, they might well be indicative of late-eighteenth-century French practice.

Pianos of the Cristofori/Silbermann type are decidedly mellow in tone. The Bas piano, with its presumably more brilliant treble, might be regarded as indicative of the initial stages of a process further developed by Taskin. When Taskin presented his newly improved grand piano to the Royal Academy of Sciences in 1788, one of the innovations claimed, in addition to the screw tuning mechanism and action with the damper attached to the hammer, was the determination of strike points for optimal tone quality. In Taskin’s piano of 1787, which incorporates most of the improvements announced in the following year, the strike points are quite close not only in the treble but throughout the entire compass, where they are rather consistently about one-seventeenth of the string lengths. It seems plausible that Taskin’s intention was to make a piano with some of the loudness and brilliance of the harpsichord, in contrast both to mellow-toned Silbermann-style grand pianos and to brilliant but meager-toned square pianos. The effectiveness of close strike-point distances throughout the lower several octaves of a piano’s compass would have been familiar to Taskin from English square pianos, such as the Zumpe cited in Table 5. Taskin is known to have dealt in English pianos, and his own extant squares are in this style.

25“Memoir of Sebastian Erard” (said to have been translated from La Revue Musicale), The Harmonicon (London: November 1831): 256.

26See Closson, “Pascal Taskin,” 264; and Cohen, Music in the French Royal Academy of Sciences, 58.

27See “Foreign Influences,” 26. An English-style square piano made by Taskin in 1791 is shown in Malou Haine, Nicolas Meeûs, et al., Instruments de musique...
The treble strike points of English square pianos are not especially close, but their small soundboards inherently result in a brilliant treble tone. The combined effect of the soundboard's resonance, favoring the treble, and the varying strike points—close in the lower octaves, relatively more distant in the treble—results in a tone that throughout the compass is more brilliant, more harpsichord-like than that of most grand pianos of the period. If Taskin had adopted varying strike points for his grand piano, its treble would have been dull in comparison with the rest of the compass. To maintain an evenness of tone, his grand-piano treble strike points also had to be close, as in the Bas piano. Thus, Taskin's newly designed grand piano would seem to have incorporated what were regarded as the best and musically most useful qualities of harpsichords, of earlier clavecins à marteaux, and of English-style square pianos.

That the square piano was a major source of the technical innovations applied by Taskin in his extant grand pianos may be correlated with a contemporary change in terminology. While grand pianos had previously been called clavecins à marteaux, in the period during which Taskin's surviving examples were made the usual term began to be forté-piano en forme de clavecin (or en façon de clavecin).\(^{28}\) That is, the term forté-piano without further qualification would usually have been taken to mean one of the commonplace English-style square pianos: the grand piano was no longer seen as a harpsichord with hammers but as a square piano modified into the shape of a harpsichord. How this is almost literally true can be seen in Taskin's piano of 1787 with regard not only to the strike points but also to several other aspects of its design. The bass and tenor strings no longer are of the harpsichord-like lengths of Silbermann and Bas pianos but are more drastically foreshortened, such that the lowest string is only marginally longer than the lowest string of a typical English square. (Only the more resonant soundboard of the grand piano allowed Taskin to use plain wire rather than the square piano's covered bass strings.) Taskin's flat, short hammer shanks with the head cores glued to their upper surfaces are clearly similar to those of English squares. Other details that might well have derived from English squares are the veneering of the case exterior; the lack of an escapement; the suspension of the action stickers from the hammer

\(^{28}\text{Both forms are used, for example, in an inventory of the workshop of Jacques Germain in 1789: see Pierre J. Hardouin, "Harpsichord Making in Paris: Part I, Eighteenth Century," translated and annotated by Frank Hubbard, Galpin Society Journal 10 (1957): 23. Taskin was a collaborator in the compilation of this inventory.~}
shanks, reminiscent (though not in detail of attachment) of the suspension
of Zumpe’s damper stickers from the damper shanks; and the intermediate
lever. The last is raised by a block on the key lever almost directly below
the sticker and thus does not serve as a significant accelerator like the ana-
logous lever in the Cristofori/Silbermann/Bas action; rather, it seems to
function like the underhammers in certain English square piano actions de-
vised in the 1780s.\textsuperscript{29} Thus, while in some aspects—for example, the case
and soundboard structure; the treble scaling; the stringing; the high plac-
ement of the upper surface of the wrest plank, visually similar to inverted
wrest planks such as that made by Bas; and the interior decoration—the
Taskin piano of 1787 might well reflect the earlier lost pianos of the
Blanchet/Taskin workshop, the instrument overall should nevertheless be
regarded as representative of a later stage in the development of the piano in
France.

Further development was interrupted by the Revolution. Although after
Pascal Taskin’s death in 1793 descendants of the Blanchet/Taskin dynasty
continued to make fine instruments well into the nineteenth century, they
were no longer among the leading firms. French grand-piano making seems
to have made a completely fresh start upon Sébastien Erard’s return from
London to Paris in 1796, when he is said to have made his first grand piano,
in the English style.\textsuperscript{30} Robert S. Winter has pointed out, however, that at
least one early Erard grand, although resembling contemporary English in-
struments both superficially and in many technical details, differs radically
in that its strike points are much closer throughout much of the compass,
radically so in the extreme treble.\textsuperscript{31} That this instrument, dated 1803 and
formerly owned by Beethoven, is not an anomaly is shown by the close
strike points of other early Erard grand pianos, such as that cited in Table 5.
Winter speculated that Erard’s close treble strike points were derived from
his experience as a harp maker, i.e., that treble harp strings are plucked quite

\textsuperscript{29}That is, first, the action called “Zumpe’s second action” by Harding, \textit{The
Piano-Forte}, 55 (it is doubtful that Zumpe himself ever used this action: see the
discussion of this in my Boston catalogue, no. 17; in any case, this action
seems to have been very popular in France, where it was used by Erard and others:
see Harding, 77); and second, the standard English square piano “double action”
stemming from John Geib’s invention patented in 1786 (see Harding, 56–57).

\textsuperscript{30}See \textit{Memoir of Sebastian Erard}, 257.

\textsuperscript{31}Robert S. Winter, “Striking it Rich: the Significance of Striking Points in
close to their ends. Examination of Erard harps of the period, however, suggests that it would be quite unnatural to pluck the treble strings anywhere so extremely closely as Erard's piano strings are struck. In the light of the Bas and Taskin pianos, Erard's close strike points should perhaps be seen as the continuation of a trend established by earlier eighteenth-century French piano makers. Thus, despite the foreign influences that were fundamental to several stages in the development of French piano making, the roots of a distinct French piano sound, said to have been evident even towards the end of the nineteenth century, might be older and more closely related to the harpsichord-making tradition than has previously been recognized.

32 For example, one of about 1800 at the Shrine to Music Museum, cat. no. 4011.


34 I would like to thank Patty Treichler for preparing the tables; Sheridan Germann for her examination of the Bas piano's stand; and Konstantin Restle of the Musikinstrumenten-Museum in Berlin for his help during my examination of the Taskin piano and for confirming several details afterwards.