

# Harpsichord & fortepiano

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# PICK UP YOUR FINGERS PRICK UP YOUR EARS

by Gary Blaise

*The history of the clavichord is the history of keyboard pedagogy itself. The very concept of 'practice' was likely non-existent before the clavichord because, as we shall see, such activities were prohibitively inconvenient upon the instrument of the earliest keyboardists, the organ.*

*Even when other keyboards became available such as the harpsichord, piano, and electric keyboards, the clavichord's unique qualities ensured its ongoing role as the perfect practice instrument. Forgotten for a while, the instrument is once again becoming recognised for its tutorial efficiency, its rigid practicality, and the fascinating new light it casts upon early keyboard literature.*

## *In The Beginning . . .*

Not much is known of the organist's plight in the earliest centuries after Constantinople's tributary gift of a hydraulis, an early type of organ, to Pepin the Short in 757 AD. We can imagine that Pepin's instrument may have been used at court to elevate his famed stature. Perhaps Pepin was the organist ("Ignore that man behind the curtain"). Eventually, the hydraulis seems to have worked its way inside the church where it began its long transformation into the organ with which we are familiar today. Although we are now about as removed from the early organ scene as Dolly the clone sheep is from Tyrannosaurus Rex, it is interesting, even if only for amusement, to speculate briefly as to how organists of antiquity prepared for everything from Sunday services to public spectacles involving the instrument.

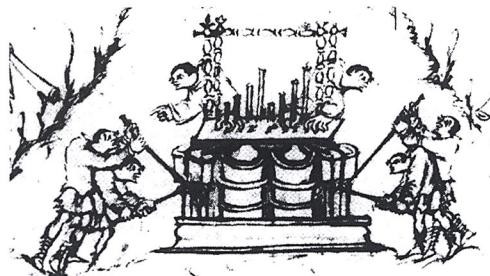


Fig.1: Detail from *The Utrecht Psalter*, 10th century.

*The hydraulis is played by "Two bretheren of harmonious spirit" while bellows are pumped by "teams of stong men, dripping with much sweat" - (the 10th century poet, Wulstan).*

One is tempted to think that such events could have been led by gifted Benedictines who were naturally able to interact with the instrument in licks of spontaneous expression without any practice at all. At one time this sort of behavior, whether musical, magical, or mystical, was admired; or even venerated, as in the case of St. Francis and St. Theresa. While today we call such gifts 'talent', and

the tightly controlled expression of it 'performance practice', there have been a few notable escapees from the system, providing us with modern examples of spontaneous interaction between artists and their medium such as Miles Davis + horn or Vincent Van Gogh + paint. If, on the other hand, these early organs were operated by a more common or garden variety sort of organist, there may have been an even greater need for practice than today. The early organ and its precarious wind system certainly existed much closer to the edge of what was technologically possible, let alone practical, compared to instruments of later centuries. Although their 'repertoire' may have been simpler, and their 'performance practice' more useful for the operation of locomotive levers than for the negotiation of four-voiced fugues, you can be sure that the efforts of players and pumpers alike required plenty of *simpatico*, let alone practice, but upon what? Certainly not the instrument itself.<sup>1</sup> Such instruments were no doubt horrifyingly expensive to maintain and, in any case, far too precious to be worn out for the sake of practice. They were also loud. Without the possibility of individual stop selection, it seems somewhat anticlimactic to rehearse on an instrument which could be heard all over town. Interestingly, the fact that stone churches were inconveniently cold and dark during the hours in which practice might conveniently take place does not seem to have posed a problem, as the playing of medieval organs seems to have been very much an aerobic activity for players and pumpers alike. Besides, there was no music to read.

It is possible, however, that these instruments could easily have been practised silently at any time of day to gain 'keyboard' familiarity without wearing out the instrument in any significant way or disturbing others. The use of keyed metallophones, small, quiet carillons, also seem well within the capabilities of the medievals for the purpose of organ practice. Upon this point, however, the fossil record is mute, and it seems far more likely that proficiency on the earliest organs would have been learned in much the same way that the bards learned their repertoire, through a sort of on-the-job training or apprentice

system. It is easy to imagine early organ students learning in this way from the master players and pumper. Perhaps a student started out pumping, working his way from the bellowing basement to the beckoning bench. In the absence of pages to turn, the novice might assist the organist, at first pulling a lever here and shoving one there at critical moments, learning the repertoire and its performance practice, eventually becoming an organist.

#### *Thirteenth Century . . .*

A lovely picture of a positive, a small but stationary organ appears in the Rutland Psalter, c1270. This instrument has a sort of keyboard with big button-like keys which replaced the huge hand-levers of earlier instruments. The player seems to be contorted in the picture just to show us that he is playing the instrument with the fingers of both hands, and that such a finger technique was in use by this time. A similar picture appears in the Antiphonary of Beaupre, c1290.<sup>2</sup> Small positives may have offered a limited practice experience: they were probably quieter, could be more conveniently located, and required far less maintenance than the big organs. They would have had the additional advantage of requiring no more than one pumper as suggested, although two centuries later, by Meckener's well-known engraving, *The Organist and His Wife*, c1500.<sup>3</sup> Though no representations exist to my knowledge, the wind supply for a small positive could easily have been furnished by the organist himself via a simple foot-pumped system, a device well within the technological development of the age. A system such as this consists of a reservoir bellows filled by the alternating action of two foot-pumped feeder bellows beneath it. This, indeed, would have created a very tempting practice situation, despite the continuing prohibitive cost of such an instrument for most persons.

The portative may have provided another option for practice. This is a small, arm-held organ with tiny, typewriter-like button keys which are played with one hand while the other hand pumps. As such, however, it seems that any skills gleaned through practice on the portative would be completely inapplicable to the keyboard of the larger organs.

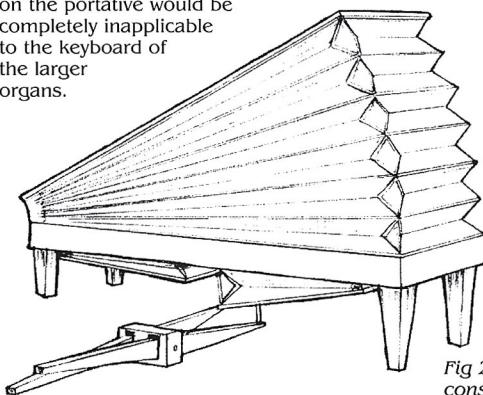


Fig 2 : The pedals of this foot-pumped bellows, as constructed by the author, slide under the organ and are easily operated by the feet of the player.

#### *Fourteenth Century . . .*

Small bits of keyboard music like the Robertsbridge Codex and the Faenza Manuscript have survived from the end of the 14th century and give us an idea of what people were playing at that time. The only reason to write such things down, the only reason for libraries, is so that we don't have to store loads of information which might not presently be required in our cerebral cortices. Just as the written word alleviated the mind of the bard, written-out keyboard music would likewise have freed early organists to think about other things like, well, whatever organists think about. When it was required to perform a piece of music, the piece in question was conveniently selected from a file of papers, scanned into the cortex via the eyeballs, and played. Well, perhaps not that simple. Their biochemical microprocessors, like that of our own, would have required a lengthy loading process which no doubt came to be known as 'practice'. Although the earliest 'sheet music' may well have been used by geniuses who required little or no practice, a growing abundance of keyboard music would have steadily been making its acquaintance with an ever larger group of organists - one with an ever-declining number of musical geniuses per capita. This new body of written-out keyboard music would have been pointless had there been nothing on which to practice. Faenza, in fact, may have been written down specifically for the purpose of study since the organ mass which it contains was otherwise a completely improvised form.

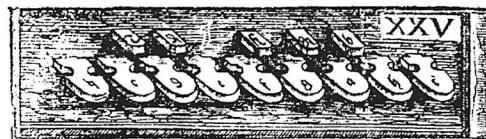


Fig 3: 1361 keyboard at Halberstadt illustrated by Praetorius in 1618.

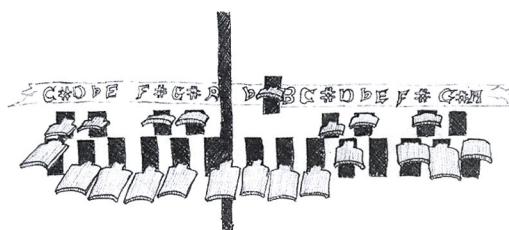


Fig 4 : keyboard of the existing Norlanda positive of c.1380,



Fig.5 : Faenza MS c1400,

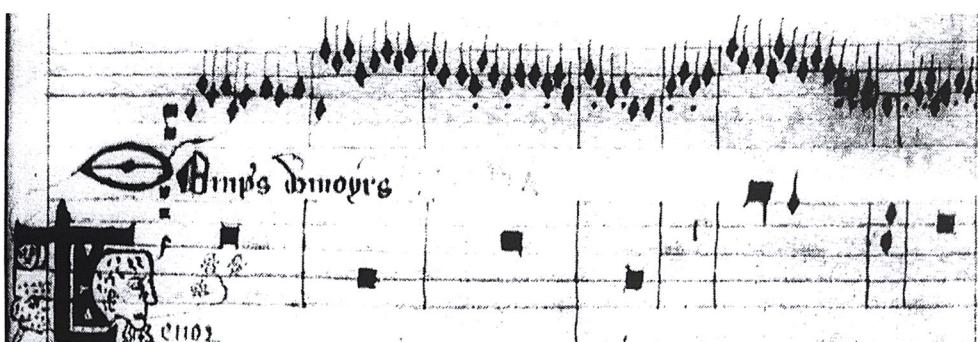


Fig.6 : Groningen Fragment c.1400

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### Early Stringed Keyboards . . .

As if in response to this need, an explosion of new stringed keyboard instruments appears to have occurred at the end of the 14th century; they seem to have sounded by every means possible, including touching (keyed monochord or clavichord-like instrument), plucking (keyed lute, psaltery or harpsichord-like instrument), hammering (keyed dulcimer or piano-like instrument), and bowing (keyed viol or geigenwerk-like instrument). The earliest of these appears to be the 'chekker' which is mentioned as early as 1360. Unfortunately, surviving references to it do not describe its action and no representations of it are known at this time. It seems to me, however, that the chekker may simply have been a keyed hammer dulcimer without dampers, a sort of proto-piano.

The 'clavicymbalum', a sort of damperless proto-harpsichord with metal plectra, is mentioned in 1397 and just such an instrument has survived from c1480. The instrument, now known as a clavicytherium, currently resides in London's Donaldson Collection (Fig.7). A sculpture of what appears to be the same type of instrument has also survived from c1490.<sup>4</sup> As these instruments bear a striking resemblance to the medieval positive, it seems likely that the instrument referred to by John I of Aragon in 1388 could, in fact, have been the new and still nameless clavicymbalum : 'an instrument resembling the organ which sounds by means of strings'.<sup>5</sup> As John was otherwise a well-informed collector of music, instruments, and musicians, it seems he would have used the instrument's proper name

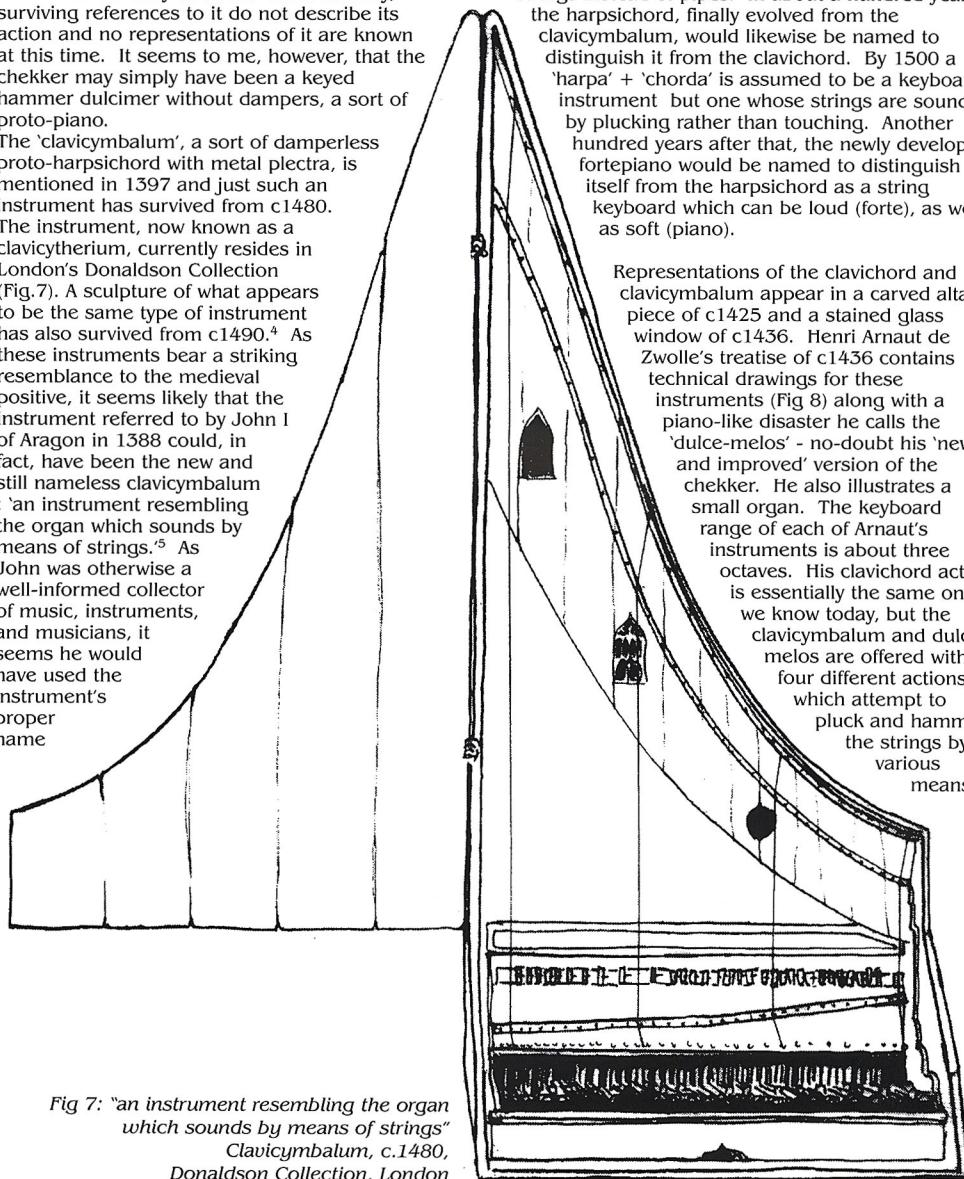


Fig 7: "an instrument resembling the organ which sounds by means of strings"  
Clavicymbalum, c.1480,  
Donaldson Collection, London

had it been around long enough to have one. The earliest known reference to the clavichord comes along in 1404 and can be found in Eberhardt Von Cersne's 'Minne Regal'. Here, it is listed along with the chekker and the clavicymbalum in support of the idea that each instrument had a different sort of action.

Interestingly, the clavichord's name, derived from Latin, serves to distinguish it from the only other well-developed keyboard of the time, the organ. 'Claves' + 'chorda', or keys + strings, can be taken to mean a keyboard which sounds by means of strings instead of pipes. In about a hundred years, the harpsichord, finally evolved from the clavicymbalum, would likewise be named to distinguish it from the clavichord. By 1500 a 'arpa' + 'chorda' is assumed to be a keyboard instrument but one whose strings are sounded by plucking rather than touching. Another hundred years after that, the newly developed fortepiano would be named to distinguish itself from the harpsichord as a string keyboard which can be loud (forte), as well as soft (piano).

Representations of the clavichord and clavicymbalum appear in a carved altar piece of c1425 and a stained glass window of c1436. Henri Arnaut de Zwolle's treatise of c1436 contains technical drawings for these instruments (Fig 8) along with a piano-like disaster he calls the 'dulce-melos' - no-doubt his 'new and improved' version of the chekker. He also illustrates a small organ. The keyboard range of each of Arnaut's instruments is about three octaves. His clavichord action is essentially the same one we know today, but the clavicymbalum and dulce-melos are offered with four different actions which attempt to pluck and hammer the strings by various means.

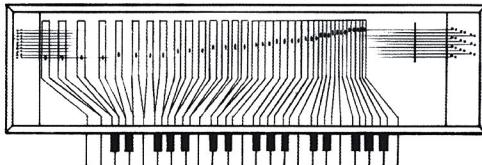


Fig 8: Fifteenth-century clavichord by Henri Arnaut de Zwolle, c1440

Each of these damperless actions appears rather crude, suggesting that each design was accompanied by compromise of a musical or practical nature. This is completely understandable, however, considering the greater complexity of the harpsichord's action, not to mention the piano's.

From even the most superficial perusal of these late medieval keyboards, it is completely clear that no meaningful practice could be gleaned from any but the clavichord. It is also interesting to note that only the clavichord provided a damping system - an excellent, foolproof one, which would have been essential for the meaningful performance of the plurilinear keyboard music which was emerging towards the end of the 14th century.

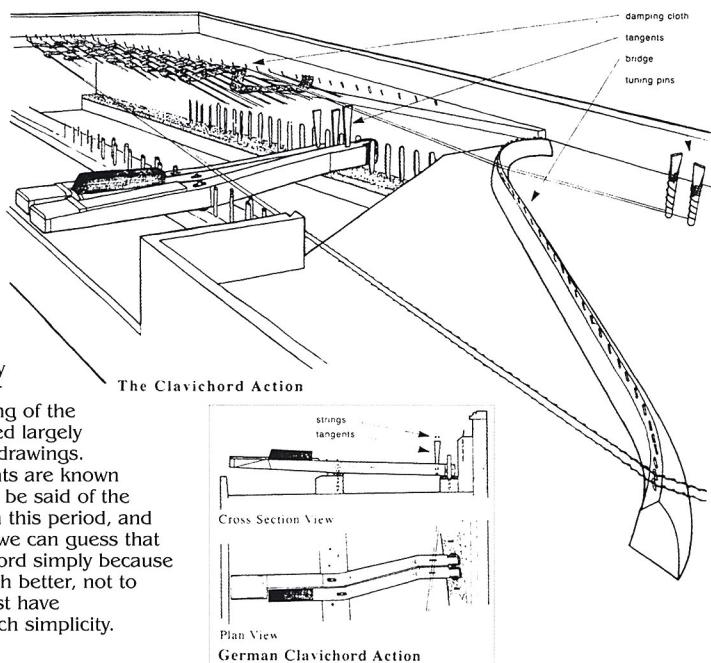
One last important keyboard representation from this period must be mentioned - the beautifully painted positive which appears in Van Eyck's famous altar piece of 1432. For our story, the important feature common to each of these mid-15th century instruments is that they all appear to have the same proto-modern keyboard: no more button or lever type keyboards. This is the sort of keyboard upon which one could easily perform the pieces in the Robertsbridge or Faenza manuscripts.

A virtual photograph of a clavichord has survived from the end of the 15th century in an incredible *trompe l'oeil* intarsia by Baccio Pontelli, c1476, in the palace of the Duke of Urbino. By comparison to the mid-15th century representations, Pontelli's four-octave keyboard appears quite modern. Another modern keyboard can be seen in the beautifully painted positive of about the same year by Hugo van der Goes, 'Portrait of Sir Edward Bonkil'. Our understanding of the 15th-century clavichord is informed largely by Pontelli's intarsia and Arnaut's drawings. Modern copies of these instruments are known to work well. As the same cannot be said of the harpsichord-like instruments from this period, and nothing is known of the chekker, we can guess that organists practised on the clavichord simply because it appears to have worked so much better, not to mention the lower cost which must have accompanied an instrument of such simplicity.

And what *is* a clavichord, anyway? . . .

The clavier, or clavichord,' wrote Daniel Turk in 1789, 'is so well known that I will not detain my readers with an unnecessary description of it.<sup>6</sup> You, however, will not be as lucky. As is well-known, clavichords have only one moving part per note, the keylever. At the far end of the keylever is a thin blade of brass, called the 'tangent' because it rises up and 'touches' the string when the key is depressed. This makes the key feel much better.<sup>7</sup> The string, set into motion by this action, sounds because one end is in contact with the soundboard via the bridge. The instrument is designed so that the tangent touches the string at exactly the point which establishes its requisite length, between tangent and hitchpin, for the note represented by the keylever. The note continues sounding as long as the tangent remains in contact with the string, which is to say, as long as the key remains depressed. The quality of sound depends largely upon the quality of touch, that is, how the string was touched by the tangent. The other end of the string, between tangent and hitchpin, is also set into motion by the tangent but kept silent by means of a ribbon of sound-dampening cloth, the 'listing' cloth, which is woven between the strings at that end. Upon release of the keylever, the tangent drops away from the string and the listing cloth silences the entire string instantly. The whole system is admirably simple and astonishingly inexpensive. (Fig 9)

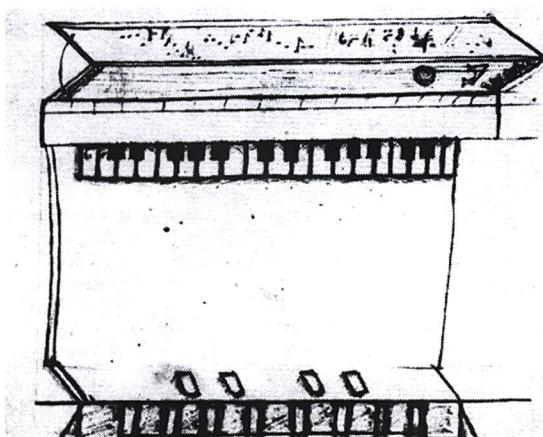
Fig 9: Clavichord action



Until the 18th century clavichords were 'fretted', which means that groups of adjacent tangents touch the same string in different places, thereby defining the specific string lengths required for the various notes represented by their keylevers. A good way to think about fretting is to simply recall how a guitar string is fretted in several places, thus permitting the sounding of different notes from the same string. Although it is not possible to simultaneously play notes which are fretted to the same string, fretted clavichords are usually able to accommodate intervals which appear in literature up to the period for which they are designed. Fifteenth- and sixteenth-century clavichords, therefore, are often fretted in note groups of threes and fours, or 'quadruple-fretted'. Seventeenth-century clavichords are fretted in groups of twos and threes (triple-fretted) and eighteenth-century instruments are fretted in twos (double-fretted). 'Unfretted' clavichords - those equipped with a separate string for each note - are generally associated with the mid-18th and early 19th centuries.

*Back at the ranch . . .*

During the 15th century, pedals had become an established department of many organs and, sure enough, the clavichord sprouted a set of pedals in response. Just such an instrument is described by Paulus Paulirinus in 1460 who tells us that it 'affords a useful introduction to the study of the organ and the like such that anybody well-versed in playing this instrument acquires the technique of the other'. Lest he has given the wrong impression, he goes on to assure us that the clavichord 'is, moreover, a genuine musical instrument'. The English composer and organist at Lincoln Cathedral, William Horwood, was specifically directed in 1477 to instruct suitable choristers in the playing of the organ and the clavichord. From about this same time, a curious technical drawing has survived which clearly intends to show a pedal clavichord of some sort and perhaps one which worked by means of pedal pull-downs, simple cords connecting the keys of the instrument's lowest octave to a pedal board (Fig 10).



Personally, I agree with Adlung who, in 1768, tells us this is a mechanically compromised arrangement for the clavichord, but apparently the concept was considered viable enough in 1511 to deserve an entry in the first printed encyclopedia of musical instruments by Sebastian Virdung. Virdung recommends that the clavichord be learned first in the study of the organ and the other harpsichord-like instruments which appear in his encyclopedia.

The 15th-century emergence of the clavichord as the first highly evolved keyboard instrument for organ practice also coincides nicely with a period during which the post of organist had become a generally compensated position. Previously, talented monks may have been allowed to perform as part of their duties or worship, and, as such, went unpaid although they certainly must have enjoyed their charge. Even Sister Wendy gets out to enjoy a little art now and then. In the secular world, surviving correspondence from the court at Aragon shows that organists were compensated by early in the 14th century.<sup>8</sup> Lay church musicians, presumably including organists, appear to have been customarily compensated by the time of Josquin, who was working at Milan Cathedral in 1459, and Johannes Ockeghem, working at Notre Dame in 1463. Though not organists per se, these vocal composers would have found the clavichord a wonderful compositional tool. To my knowledge, William Horwood is the earliest compensated lay church musician who, in 1477, was working specifically as an organist; and it was certainly compensation which, a century later, lured Giovanni de Macque from Flanders to work as a church organist in Rome between 1580 and 1614. Compensation, accompanied by competition for fewer positions than applicants, would have motivated organists to maintain their techniques, in turn driving the development of practical practice instruments. In the continuing absence of other well-developed keyboards, it would be no surprise to find that the clavichord would have been the only applicant for its job of teaching those little fingers to play.

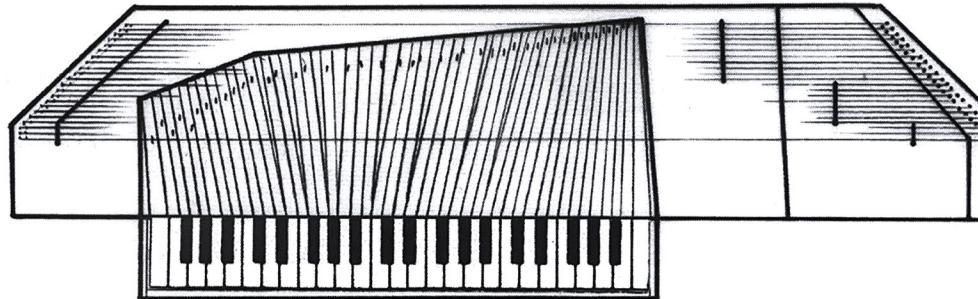
Sixteenth Century . .

The mechanically more complex harpsichord appears to have caught up with the clavichord early in the 16th century, judging by the sophistication of the earliest surviving harpsichords commencing 1521. All of these instruments are Italian; a few Northern examples have survived from later in the century by Flemish makers. The earliest surviving clavichords are also Italian. Although references to them begin as early as 1507 and continue until 1618,<sup>9</sup> there are only four extant Renaissance instruments, all of which can be dated between c1540 and c1580. While they bear some resemblance to the 15th-century, late medieval instruments, with their projecting keyboards and light construction, the keyboard and soundboard design of the Renaissance clavichord is more sophisticated. The Renaissance models are further distinguished

Fig 10: Pedal Clavichord, c.1480

from the earlier instruments by their quadruple fretting and an increase in their keyboard range to 45 notes, C/E - c'''.

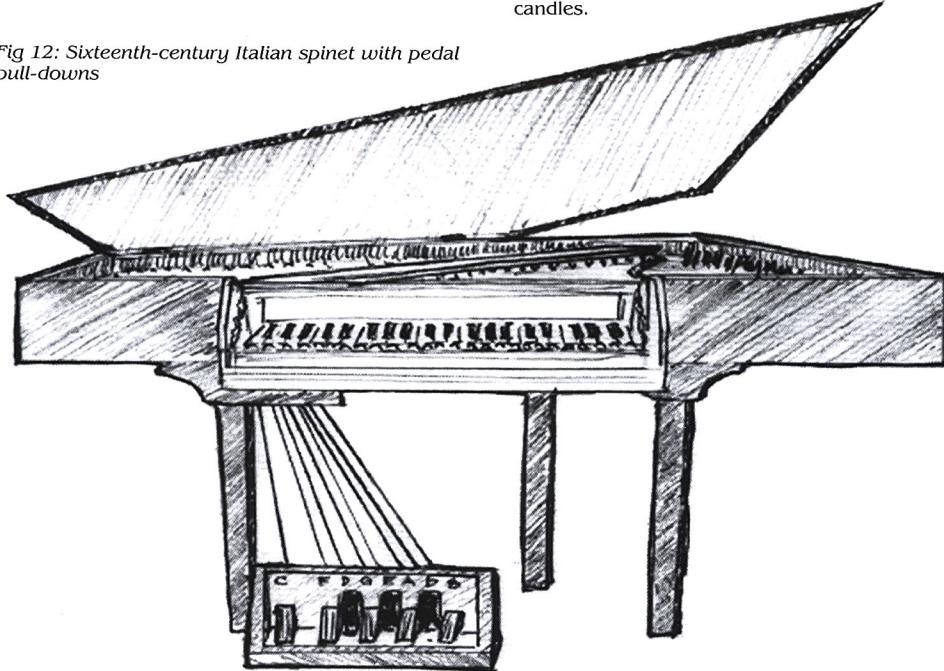
Fig 11 Sixteenth-century clavichord by Domenicus, 1543



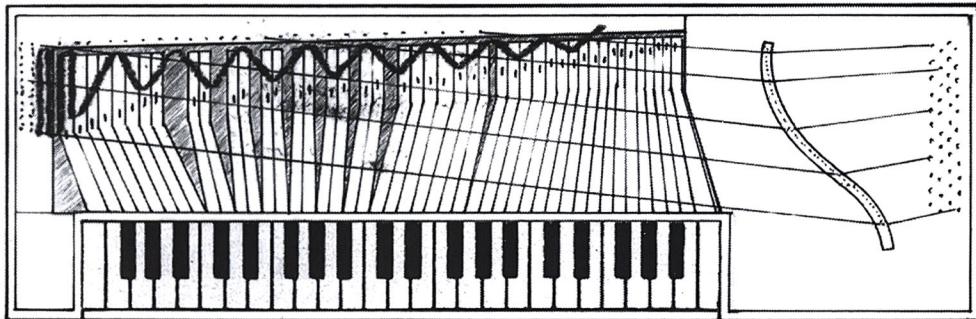
Michael Praetorius illustrates these Renaissance clavichords as late as 1618 and recommends the instrument as 'the basis of all keyboard playing'. He also reminds us of one of the clavichord's nicest features, that it stays in tune 'for months and years' (which is almost true) and that 'it never needs requilling'<sup>10</sup> (which is completely true . . . and totally irrelevant). In any case, it is the Italian harpsichord which appears to have been far more popular in the 16th century, based upon the greater number of them which have survived quite a few of these show the remains of pedal pull-downs for organists (Fig. 12).

Despite the possible selection of quiet 'practice stops' permitted by organs of this period, the fixed church organ would have been more inconvenient than ever for such purposes. Not only would such practice require the help of pumpers, a lose-lose situation proving boring-for-the-pumper<sup>11</sup> yet costly-for-the-organist, but candles would have been necessary to read all that new music during those nocturnal hours in which the organ was most likely available for practice. I imagine the use of public buildings by one or two persons at night would have been prohibited for fear of fire, which could be started by unattended candles.

Fig 12: Sixteenth-century Italian spinet with pedal pull-downs



*The Seventeenth Century . . .*

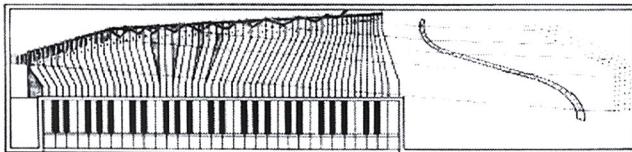


*Fig 13: Typical 17th-century German triple-fretted clavichord*

The clavichord continued to flourish in other parts of Europe, with the exception of the Low Countries and France, where it became replaced by an interest in regional styles of harpsichord building during the 17th and 18th centuries. During this period, a third type of clavichord became popular which had actually made its appearance as early as 1587.<sup>12</sup> Of this type, now known as the German clavichord, there are many references and surviving examples, beginning from the first part of the 17th century, mostly German, and later Swedish, as well as Portuguese and Spanish to a lesser extent. These instruments are totally different from the late medieval and Renaissance clavichords of the 15th and 16th centuries. In addition to the expected

changes to fretting, the keylevers of the German clavichord are of more equal length from bass to treble, yielding a more even touch. This important development required a structurally compromised sort of diagonal stringing which, in turn, required a much heavier case construction, resulting in a more veiled tone quality. The German clavichord is easily distinguished from earlier types of clavichords by its completely rectangular case, an enclosed keyboard and S-shaped bridge. These are the clavichords which have become most familiar to us in this century. The earliest of this type was popular throughout the 17th century. It has the same four-octave range as the Renaissance clavichord but is usually triple- or double-fretted.

*The Eighteenth Century . . .*



*Fig 14: Eighteenth century double-fretted clavichord by C.G. Hubert*

About 1690, this instrument was replaced by an exclusively double-fretted model which remained popular until the end of the 18th century. The new instruments are larger in size and range, always of four chromatic octaves or more, C - c'' to AA - f'', and include the excellent instruments of C.G. Hubert from the 1780s which have become justly celebrated in recent years (Fig 14). Although unfretted instruments were mysteriously recommended by Johannes Speth as early as 1693 for his pieces which do not require them, these largest of clavichords are more commonly associated with the last half of the 18th century and the first half of the 19th. The last reference, of which I am aware, to these instruments

can be found in a Swedish watercolour of 1856.<sup>13</sup> A typical unfretted clavichord keyboard range is five octaves, FF - f'', the range of many contemporaneous harpsichords and fortepianos.

*Historical endorsements . . .*

The clavichord continued to be recommended for the study of other keyboards, including the organ, by such notables as Werckmeister, Blankenburg 1739, J.S. Bach (via Forkel<sup>14</sup> via his sons, C.P.E. and W.F. in 1802), Handel (via his friend, Granville via Engle in 1874<sup>15</sup>), C.P.E. Bach 1759<sup>16</sup>, Lohlein 1765, Burney 1773<sup>17</sup>, and Turk 1789 to name a few. Most of these can be summed up by C.P.E.'s remark in his essay

on keyboard playing: 'Those who concentrate on the harpsichord grow accustomed to playing in only one colour, and the varied touch which the competent clavichordist brings to the harpsichord remains a mystery to them. This may sound strange, since one would think that all performers could express only one kind of sound on the harpsichord. To test its truth, ask two people, one a good clavichordist, and the other a harpsichordist, to play on the latter's instrument the same piece containing varied embellishments, and then decide whether both people have produced the same effect.' Forkel tells us that J.S. 'preferred the clavichord to the harpsichord' and that 'both for practice and intimate use he regarded the clavichord as the best instrument for study and preferred to express on it his finest feelings.' Although this statement comes to us as third-hand information, there seems no reason to doubt its truth if you have ever heard Bach's music played on the clavichord. I love Charles Burney's recounting of the student recital he attended in Vienna which was begun by a little girl who played ' . . . upon a small but not good piano-forte. The neatness of the child's execution did not so much surprise me, though uncommon, as her expression. All the 'pianos' and 'fortes' were so judiciously attended to; and there was such shading-off of such passages, and such force given to others, as nothing but the best teaching, of greatest natural feeling and sensibility could produce. I inquired of Signor Giorgio, an Italian who attended her, upon what instrument she practised at home, and was answered, "upon the clavichord".

#### *Why the clavichord? . . .*

To understand why the clavichord enjoyed such pedagogical acclaim, it is only necessary to realise how unforgiving the instrument is. It is relatively inaccessible and more difficult to play than other keyboards. With just one moving part per note, the mechanically simple clavichord puts your fingers directly in contact with the strings via the keylevers all the time the note is sounding. In this way the clavichord requires deliberate concentration and follow-through of touch for the entire duration of the note. The harpsichord, piano, and organ are mechanically much more complex than the clavichord: they are 'automatic' by comparison in the sense that, once a note is played, tonal continuity is entirely handed over to the instrument. The clavichord also offers a range of volume as well as expressive pitch distortion, or vibrato, effected through deliberate changes in finger pressure, not unlike the violin. This latter feature, called *'bebung'*, is peculiar only to the clavichord and due entirely to its utter simplicity (Figs 15 & 16).

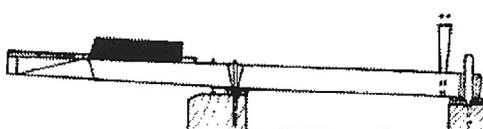


Fig 15: The clavichord action

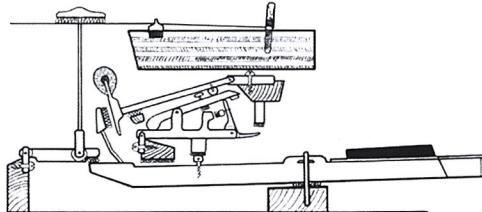


Fig 16: The piano action

The level of a player's artistry is determined in a way by how well he can express himself within the limitations of his instrument, or, in the case of the harpsichord and organ, how well he articulates. The piano is just as automatic as the harpsichord and organ but with one less limitation: articulation is still vitally important but choices about volume must be made as well. When limitations are removed, the parameters of expression are increased and the job of the artist is greater. It is not just that the clavichord has, in addition to the piano's volume dynamic, the *'bebung'* feature for which the player must make yet further decisions; it is that, in addition to everything else, the fingers are in virtual contact with the strings, affecting how they continue sounding . . . or not. Quite simply, the clavichord is, as you might expect, relatively difficult to control. Unforgiving. If a particular musical parameter is not being attended, it is easily noticeable. It is for this simple and completely unmysterious reason that the clavichord has been recognised as a particularly wonderful practice instrument. In short, bringing a clavichord-learned piece to the organ is like going from standard shift to automatic transmission.

In the last century, pieces for piano, harpsichord and organ have essentially been learned through intimate familiarisation with how they feel and play on the instrument for which their performance was intended: 'practice-through-familiarisation'. In the process we do not develop control over parameters which are controlled by the design features of the instrument. And who needs to anyway? Harpsichord playing, for example, requires no particular control over volume or tone quality as these things are predetermined by the design of the instrument. Besides, we eventually play these pieces musically enough and even go on to win important competitions with techniques which have been developed only up to the level of the instrument in question and no further. The clavichord, however, offers a sort of 'practice-through-over qualification'. Just as weight-training overqualifies the runner such that he may compete with less effort, the clavichord similarly overqualifies the pianist, harpsichordist, and organist. This, of course, could explain why W.F. could start on the *Trio Sonatas* when he was thirteen years old: he would have begun listening to the effect of himself playing the *Inventions* on something as treacherous as the clavichord at age nine. As Ralph Kirkpatrick wrote of the clavichord, 'Nothing has ever done more to sharpen my ear, not even the experience of choral singing, than my unremitting listening to what I was producing.'<sup>18</sup> The clavichord is so very quiet that one must listen intently.

Another advantage is, of course, that no one will hear you practising in the next room. It won't wake the baby.

#### *Later developments . . .*

Pedals continued to be applied to the clavichord specifically for the purpose of organ practice, and references to these instruments, some more meritorious than others, by notable organists and organologists, continue well into the 19th century. My favourite reference to what is perhaps a pedal clavichord is the addendum at the end of J.S.Bach's death inventory which states that Johann Christian was given 'three claviers with a pedal' by his father as a gift before his death.<sup>19</sup> At that time there was some flexibility associated with the word 'clavier', which could be used generically to denote any keyboard, as in 'The Well Tempered Clavier'. However, it could also be used to mean 'clavichord' in particular, as when the lexicographer, E.L. Gerber, describes his father's pedal clavichord as 'two claviers and pedal', or when J.S.Halle uses the terms 'Flügeln' and 'Klaviern' in 1764 to specifically mean harpsichords and clavichords respectively<sup>20</sup> or as in Daniel Turk's comment of 1789,<sup>21</sup> mentioned earlier. As Bach's inventory does not describe the harpsichords, *lautenwerke*,<sup>22</sup> or the small spinet in any ambiguous terms, why would it suddenly use the generic meaning of 'clavier' to describe a specific keyboard? It seems very possible that J.C.'s newly inherited instruments included a pedal clavichord. J.C. was just 15 and still completing his musical education when his father died. Whether this instrument was truly given or scammed from the estate to avoid taxes, what better 'gift' with which to go out into the world alone and continue his studies at the home of his brother in Berlin than a set of pedal clavichords?<sup>22a</sup>

Players of the huge body of fine harpsichord literature which had accumulated by the mid-18th century could also have benefited from a practice instrument as effective as the clavichord, and it is certainly for this reason that the clavichord's organ range of four octaves grew to match that of the 18th century harpsichord. Even in plucky France, a culture not distinguished by its love for the clavichord, instrument inventories of 38 organists between 1617 and 1789 show that eight owned a clavichord, presumably for practice, and that some owned two and even three.<sup>23</sup> As early as 1713 the clavichord was recognised as an instrument in its own right by proponents of the 'empfindsamer Stil', and most notably C.P.E. Bach, whose compositions exploit the clavichord's special expressive qualities and devices. The virtual extinction of the harpsichord commences with the French revolution of 1789. The French harpsichord, it seems, was guilty by association with a nobility which was perceived to be responsible for the ills of the common man. In the Paris area, many instruments were rounded up after the murder of their owners and sent off for storage at what is now the music conservatory. Having run low on fuel one particularly cold winter, the instruments were burned to keep classrooms warm. The tiny few which remain form the sole basis of our understanding of French

harpsichord building. In England, and especially Germany, a growing enchantment with the well-deserved merits of the piano contributed further towards the demise of the harpsichord. It would not re-emerge for 150 years. Interestingly, were it not for the clavichord's well-established association with the organ, which in turn had become firmly bolted to the liturgy, it, too, may have gone to the cultural guillotine like the harpsichord. Instead, it continued to thrive well into the 19th century and the last surviving instrument that I know of, in an uninterrupted building tradition from 1404, is a big Swedish instrument by Adam Bergstedt dated 1832.

#### *Nineteenth century . . .*

The clavichord was particularly well suited as a practice instrument for the early piano literature simply because its action and volume dynamic relate more closely to the piano than to the organ or harpsichord. However, beyond Haydn, Mozart, and Beethoven, all of whom owned clavichords, the capability of the instrument to render the musical intentions of later 19th century piano repertoire seems to diminish inversely with a need for the sustain pedal. *Mazurkas*, yes. *Mephisto Waltz*, no. Although the range of the clavichord had grown to six octaves by the first part of the 19th century, the piano soon overtook even this range. The clavichord's final death knell was sounded by the special economic miracle of the piano: that it lends itself very well to mass production, a feature not at all shared by the harpsichord or clavichord. I imagine that a small factory-made piano would have cost about the same or less than a hand-made clavichord. Besides, you could play all that new Romantic stuff on the piano, and . . . you could hear it without even listening!

By 1840, reed organs had become a popular domestic practice instrument for organists despite the fact that their deep action and indistinct sound could offer little in the way of practice for all but the most basic hymnody. Even the popularity of these permanently tuned instruments began to decline, however, around 1920, as mass production techniques were ever more successfully applied to the piano. Some reed organ companies actually became piano manufacturers, such as Story & Clark and Mason & Hamlin. Kimball had sold over 400,000 reed organs when it stopped production in 1922.

#### *Twentieth century . . .*

Increasing demand lowered the cost of grand pianos which could now be found in a larger number of homes. Now pianists could conveniently practice upon not just a spinet piano but upon something very close to the actual instrument of performance. Organists had been convenience when electric motors were first applied to the breathing of organs in the 1880s,<sup>24</sup> or about the same time, gas lighting was applied to the illumination of churches and large halls where the instruments were located. Electric lighting, and perhaps some concept of central heating, occurred after 1913, greatly facilitating organ practice. While these developments facilitated practice on the performance instrument itself, it

seems somehow sad that the overall experience of the organ, at least in recital, had been diminished by the elimination of the human element in wind production. Further experiential degradation-accompanied-by-convenience began in the 1930s when the first electric organs employed tone generators in permanently tuned instruments which were affordable and could easily be located in places of amusement, and, unfortunately, churches. A model introduced by Laurens Hammond in 1935 sold 3000 units by 1937. The electric organ offered organists year-round practice at home on 'an instrument resembling an organ that sounds by means of electricity'.<sup>25</sup>

By 1960, other keyboardists, too, were offered electric instruments upon which they could practice more conveniently and less expensively, away from actual instruments of performance. (We appear to have come full circle when electric instruments, in the 20th century, have attempted to do what the clavichord did in the 15th century - offer keyboardists a more convenient and less expensive way of practising at home). Certainly, the electric keyboard's freedom from tuning is a real convenience, but is it worth more than the greater control one gains from the clavichord? Is it a useless thing to have to learn to listen and tune your instrument? And what about character and tone quality? If 'you are what you eat', does your tonal aesthetic 'become what you hear'?

#### *The early music movement . . .*

A resurgence of interest in early music began at the turn of the 20th century propelled largely by the enthusiasm of Arnold Dolmetsch. Dolmetsch, who possessed a great appreciation for the clavichord, worked for the Chickering Piano Company between 1905 and 1910 during which time they produced a remarkably well-informed clavichord and virginal designed by him. In 1918 Dolmetsch established his own workshop at Haslemere, England, the site of the first early music festival in 1925. Although Pleyel, Neupert, and other companies continued to manufacture early keyboards, the Chickering experiment helped to confirm that early keyboard making would be most successful as the traditionally based cottage industry it always had been. Hubbard and Dowd opened just such a workshop between 1949 and 1958. What followed was a great elevation of the craft of harpsichord making and an explosion of useful keyboard organology. Only about 1982, after everyone had their glorious French double, could other early keyboards be considered as well, including the clavichord.

One problem which has plagued the clavichord in this century is the notion that instruments which do not conform to the economics of recital-giving are somehow invalid. This is unfortunate because recital-giving was never the clavichord's agenda, and quietness is one of its most attractive features. In fact, the instrument's hypnotic effect can only be experienced by a small group and never a harpsichord-sized audience of 100 let alone a piano-sized audience of 1000. Consider the quality of

experience enjoyed by C.P.E. Bach's dinner guest, Charles Burney, in 1772 :

'The instant I entered his house, he conducted me upstairs, into a large and elegant music room, furnished with pictures, drawings, and prints of more than one hundred and fifty eminent musicians; among whom there were many Englishmen, and original portraits, in oil, of his father and grandfather. After I had looked at these, Mr. Bach was so obliging as to sit down to his Silberman clavichord, and favorite instrument, upon which he played three or four of his choicest and most difficult compositions, with the delicacy, precision, and spirit for which he is so justly celebrated among his countrymen. In the pathetic and slow movements, whenever he had a long note to express, he absolutely contrived to produce, from his instrument, a cry of sorrow and complaint, such as can only be affected upon the clavichord, and perhaps by himself. After dinner, which was elegantly served, and cheerfully eaten, I prevailed upon him to sit down again at the clavichord, and he played, with little intermission, till near eleven o'clock at night. During this time he grew so animated and possessed, that he not only played, but looked like one inspired. His eyes were fixed, his under lip fell, and drops of effervescence distilled from his countenance. He said, if he were to be set to work frequently, in this manner, he should grow young again.'<sup>26</sup>

As far as the clavichord's resurgence, there are some encouraging signs. Among these are the Japanese Clavichord Society, which boasts about 100 members, and a few keyboard teachers who require clavichord study of their keyboard students. In my own experience, I have found that those who like the clavichord at all, like it very much and appreciate it in a fanatical way for practice. After David Yearsley and Annette Richards won every prize for solo and duet organ playing at the 1994 Bruges competition, David exclaimed, "I owe it all to the clavichord." The clavichord had been David's primary practice instrument for many years. In addition, he and Annette had been practising on a pedal clavichord in the previous year. Finally, however, the most convincing reason to consider the clavichord can be furnished through the immediate elevation of your own keyboard technique.

#### *Which Clavichord Should I Consider ? . . .*

In the four hundred years between 1404 and 1832 there have been five main types of clavichords, both fretted and unfretted, each particularly useful for music of a specific period. Of these, it is perhaps the double-fretted instrument of the 18th century which is the most versatile. The later unfretted instruments are not as clear as they could be for polyphonic music. Their five-octave range and fret-free design may be essential, however, if you're a post-18th century specialist with a six foot wing span . . . you're gonna need it to simultaneously reach the keys and tuning pins of those last few notes in the bass. This, and the fact that your typical five-octave instrument has 120 strings to tune, probably explains why I have yet to go into anyone's house

and find one of these instruments in tune. Instruments earlier than double-fretted are lovely, the heavy fretting quickly teaching one to lift up one's fingers. However, unless you're a Renaissance specialist, the keyboard range and fretting system are far too limiting for Bach: fortunately, the best examples of the double-fretted instrument are just perfect for it. Some models have enough keys and are tonally expansive enough to accommodate later literature as well. They are not too large, with some small historical models appearing to have been designed specifically for travel. Best of all they're fretted, so you get to lift up your fingers and be precise. A typical double-fretted instrument of modest range, 51 notes C - d'', will have only 35 string pairs to tune. These instruments are currently available from many builders in a range of price and there are even kits available.

*A version of this article first appeared in the Newsletter of the American Organ Academy.*

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My thanks to all persons mentioned in this article for their contributions and very specially to James Wallmann and Lilian Pruett for their suggestions

#### End Notes

1 gasp!

2 Marshall a) photos, v.II

3 The composition for this engraving appears to have been inspired by Manier's painting, 'Madonna and Child', c.1491. See Libin p.6.

4 Bowles, p.16, #31

5 Ripin pp.16, 17

6 Turk p.12

7 Just kidding. Trying to keep you awake.

8 Marshall (b) p.549

9 Brauchli pp.83, 83

10 Jeans p. 2, from Praetorius, *Syntagma Musicum*, v.II, p. 61

11 It all reminds me of Mattheson's story, however romanticized, of Froberger who was robbed then beset by pirates near England during a channel crossing, c1650. He shows up exhausted and penniless in London where he lands a job pumping the organ at Westminster. Some time later, pumping for a royal presentation, he becomes bored and neglects the bellows and the organ stops. The organist has a royal fit, beats him, and stomps off. Froberger, sensing an opportunity, pumps up the bellows, runs over to the keyboard while the wind lasts, and improvises, whereupon his unique style is recognized by one of the royal guests, a former student, who then rescues him from his predicament.

12 Brauchli pp.83, 86

13 Helenius-Oberg, cover illustration

14 Forkel p.59

15 Russell p.26

16 C.P.E. Bach pp.36,37

17 Burney p.278, v.I

18 Kirkpatrick p.296

19 Spitta, 'Specificato' article #8, pp.358, 359

20 Hubbard, p. 271

21 Turk, p. 12

22 a gut-stringed harpsichord

22a In a letter to a friend, Bach's cousin, J.G. Walther tells us that his son was also sent away to study with a pedal clavichord (Beckmann and shuulz, p.192). Not surprisingly, J.C. Kittle, one of Bach's favourite pupils, considered practice on the pedal clavichord to be of great importance and allowed his students to practise on his own which he had at home. Forkel's student, Fredeccio Grieppenkerl tells us that 'All organ students had such instruments at home on which to practise hands and feet' (Jeans p.9).

23 Hubbard pp.313 - 319

24 Elvin, p. 79

25 sic, Ripin, pp. 16,17

26 Burney, pp. 268 - 270, v. I

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