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## Le pianoforte en France 1780-1820

Michael Latham

*In the shadow of the enlightenment;  
stringed keyboard instruments  
in Diderot's Encyclopédie and its derivatives*

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1. Louis-Michel VAN LOO (1707–1771), *Portrait of Denis Diderot*, 1767, Paris, musée du Louvre.

# *In the shadow of the enlightenment; stringed keyboard instruments in Diderot's Encyclopédie and its derivatives*

Michael Latcham

*Le but d'une encyclopédie est de rassembler les connaissances éparses sur la surface de la terre, d'en exposer le système général aux hommes avec qui nous vivons et de le transmettre aux hommes qui viendront après nous, afin [...] que nos neveux, devenant plus instruits, deviennent en même temps plus vertueux et plus heureux, et que nous ne mourrions pas sans avoir bien mérité du genre humain.*

Denis Diderot, as cited on the wall in the Bibliothèque nationale de France

The *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, par une société de gens de lettres, published between 1751 and 1772, the *Supplément* to the *Encyclopédie* published between 1776 and 1777, and the later versions of the *Encyclopédie* all contain entries for stringed keyboard instruments. This essay reviews these entries with the intention of discovering indications of the presence of stringed keyboard instruments in France, of discovering French attitudes to them, and of illustrating in detail some aspects of the history of the *Encyclopédie*.<sup>1</sup> Following the dates of publication of the various articles rather than speculating on when they were first written, the period covered

starts with the publication of volume III of the original *Encyclopédie* in 1753 and ends in 1818, the date of publication of the second volume on *Musique* of the *Encyclopédie méthodique*, the last version of the *Encyclopédie*. In about the first forty years of that period, the piano gradually gained an important position in Parisian musical life while the harpsichord gradually disappeared, staying on only as a continuo instrument at the opera and for such works as oratorios. To provide a background for the entries in the various encyclopaedic works, some aspects of that change are first described.

## *The historical background*

Pianos were certainly known in France by 1759. The *Affiches, annonces et avis divers* of 20 September 1759 included the following:

*Un clavecin d'une nouvelle invention appelé piano et forte, d'une harmonie ronde et moelleuse imitant la harpe, le luth dans les basses, la flute traversière dans les dessus et le timbre des cloches, haussant et baissant d'un demi ton quand on le veut. Lorsqu'on donne tout*

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1. If quotes appear in italics in this article (as in the quote from de BRICQUEVILLE in note 2), the original text was printed not in italics. Conversely, where items in quotes are given here not in italics, the original was printed in italics. The use of capital letters and small capitals in quotes in this article are as in the original. Titles of the articles in the encyclopaedias, however, although given here in inverted commas, are given with the use of both capital letters (large and small) and italics as in the original.

*le son, il est plus fort et plus flatteur que dans un clavecin ordinaire. Toutes ces variations se font sur-le-champs, sans qu'on s'en aperçoive sur un seul clavier à rav{alement}. Cet instrument est très facile à toucher et à entretenir. Il n'y a pas de plumes comme dans les autres clavecins. On s'adressera quai des Orfèvres, au duc de Bourgogne.<sup>2</sup>*

The shape of this instrument is not clear, but the comparison with other harpsichords suggests that it had the appearance of an ordinary *clavecin*, that is, one with plectra. Other reports of pianos, very likely in the shape of the *clavecin*, come from a Paris newspaper of 1761 in which four *clavecins à piano et forte* made by Johann Heinrich Silbermann (1727–1799) of Strasbourg are mentioned.<sup>3</sup>

2. Quoted in Eugène de BRICQUEVILLE, *Les ventes d'instruments de musique au XVIII<sup>e</sup> siècle*, Paris, Fischbacher, 1908, p. 11. Florence Gétreau kindly pointed out this valuable source. Other announcements in the *Affiches, annonces et avis divers* quoted by Bricqueville include: “Un excellent clavecin à marteaux faisant les piano et les forte” (8 July 1765, quoted on p. 13); “Clavecin à marteaux (piano forte), sup.” (8 August 1770, quoted on p. 14); “Joli clavecin de forme unique, en hauteur et en forme d'armoire avec corniche au-dessus ; grand tiroir au dessous du clavier et pied de biche” (25 October 1775, quoted on p. 13). For other early reports of French pianos, including one, made in 1759 by Weltman, combined with a harpsichord, as well as a *clavecin à marteaux* by Blanchet, see John KOSTER, “Foreign influences in 18th-century French piano making”, *Early Keyboard Journal*, XI (1993), p. 7–38. For Andries(?) Weltman (or Veltman) and Jean Marius and early plans for making pianos, see Albert COHEN, *Music in the French Royal Academy of Sciences. A study in the evolution of musical thought*, Princeton, University Press, 1981, p. 56 and p. 50–51 respectively. For Marius, see too Albert COHEN, “Jean Marius’ *Clavecin brisé* and *Clavecin à maillets* revisited: the “Dossier Marius” at the Paris Academy of Sciences”, *Journal of the American Musical Instrument Society*, XIII, 1987, p. 23–38. For a more detailed study of the work of both Marius and Weltman, see Giovanni Paolo di STEFANO, “The *clavecins à maillet* of Marius and Veltman; new observations on some of the first pianos in France”, forthcoming.

3. See J. KOSTER, “Foreign influences”, *op. cit.*, here p. 13. See also Philippe FRITSCH, *Les ateliers alsacien et saxon de la dynastie des Silbermann: étude des “claviers” et du répertoire musical, leur influence réciproque*, Tours, Université François-Rabelais, PhD thesis, 1994, 2 vols. J. H. Silbermann as a piano maker is also mentioned in *L'Avant-Coureur* of 6 April 1761 (p. 219), quoted in Adélaïde de PLACE, *Le piano-forte à Paris entre 1760 et 1822*, Paris, Aux Amateurs de Livres, 1986, p. 14. See too in this volume Jean-Claude BATAULT, “Les facteurs de pianoforte des provinces de France, 1760–1820”, p. 47–73.

A little later, in 1768, Pascal-Joseph Taskin the Elder (1723–1793) invented harpsichords with a means other than hammers for giving dynamic nuance. Gilbert Trouflaut (1736–1820) described how the soft leather plectra of Taskin’s *peau de buffle* stop produced “[...] *des sons veloutés & délicieux; on enfle ces sons à volonté, en appuyant plus ou moins fort sur le clavier* [...]”.<sup>4</sup> Taskin’s *peau de buffle* went together with his *genouillères*.<sup>5</sup> Pressing in one of these knee pommels made a decrescendo; the quill plectra were gradually withdrawn from under the strings, first those for the 4-foot strings, then those for the lower-manual 8-foot strings, and finally those for the other set of 8-foot strings, leaving only the expressive *peau de buffle*. Releasing the knee pommel reversed the process to give a crescendo.

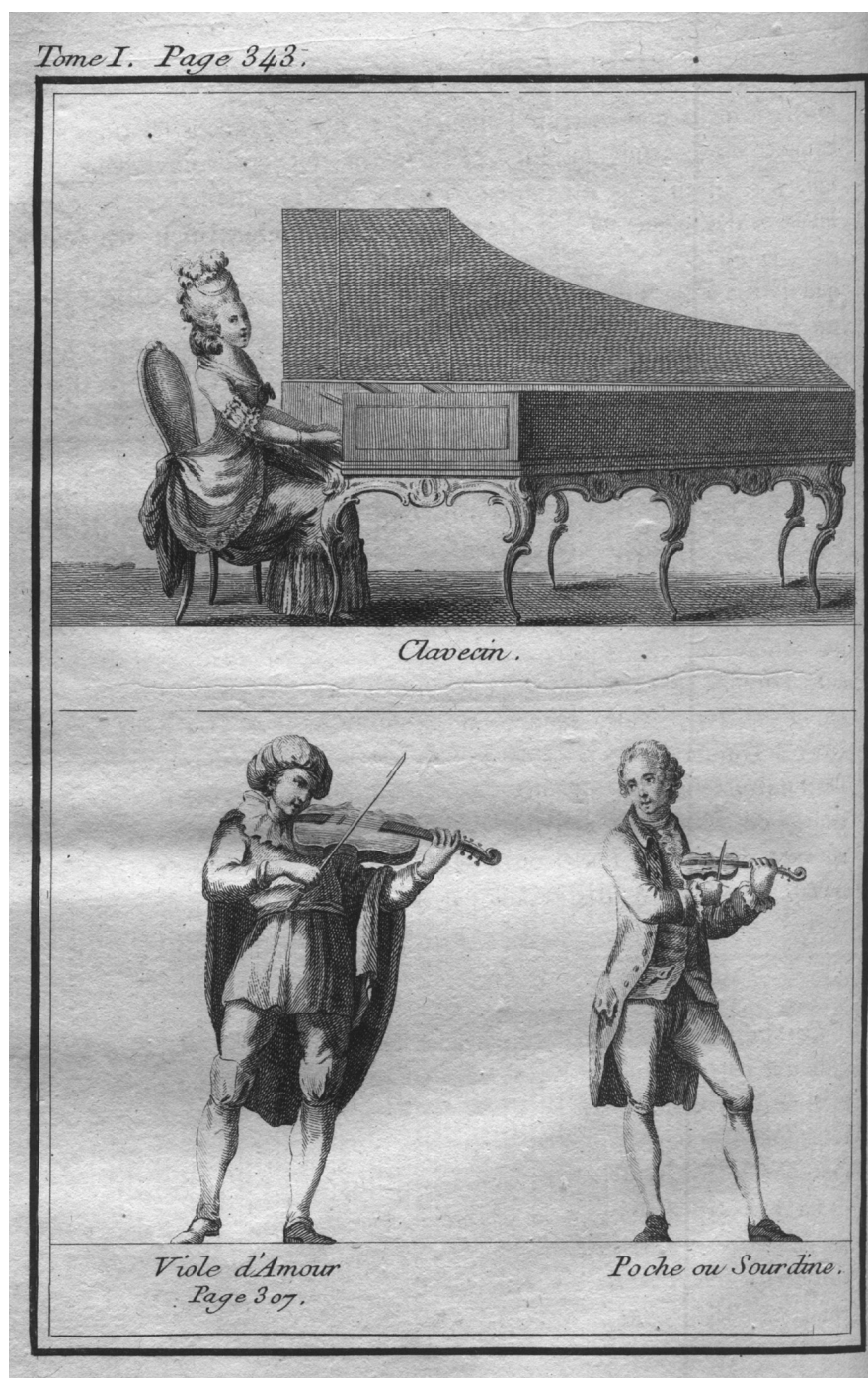
In his report on Taskin’s work Trouflaut also remarked: “*J’ose ajouter, avec confiance, que le Clavecin à buffles est très supérieur aux Piano-Forte*” so he seems to have preferred the harpsichord to the piano.<sup>6</sup> He was probably not comparing Taskin’s harpsichords with such *clavecins à piano et forte* as those made by J. H. Silbermann however, but with the English-style square pianos that began to become fashionable in Paris not long after Johannes Zumpe (1726–1783) started making them in London in the 1760s. In Paris in the early 1770s, these *forte pianos* or *piano fortes*, as they were known in both capitals, were not

4. [Gilbert] TROUFLAUT, “Lettre aux auteurs de ce journal, sur les clavecins en peau de buffle, inventés par Mr. Pascal”, *Journal de musique, par une société d’amateurs*, V, 1773, p. 10–19, here p. 10. Jean-Benjamin de LA BORDE, in his *Essai sur la Musique ancienne et moderne*, 4 vols., Paris, E. Onfroy, 1780, vol. III, p. 383, gives a short biography of Claude Balbastre (1724–1799). La Borde’s text includes the following: “*On lui doit la perfection donnée à l’instrument appelé Forté-piano, qu’il a imaginé de faire organiser, ainsi que l’idée d’ajouter un jeu de buffle au clavecin; ce que MM. Cliquot, Facteur d’orgues du Roi, & Pascal, Facteur de clavecin ont exécuté avec la plus grande perfection.*”

5. Although not the first to incorporate knee pommels in French harpsichords (see G. P. di STEFANO, “The *clavecins à maillet* of Marius and Veltman”, *op. cit.*, mentioning Veltman’s use of knee pommels in 1759), Taskin may have been the first in France to use a device for making a decrescendo while playing. However, Joseph-Antoine Berger invented a *clavecin organisé* in 1765 with two knee levers to control dynamics. See: A. COHEN, *Music in the French Royal Academy of Sciences*, *op. cit.*, p. 55.

6. [G.] TROUFLAUT, “Lettre aux auteurs de ce journal”, *op. cit.*, p. 19.





2. Anonymous, *Clavecin / Viole d'Amour* and *Poche ou Sourdine*, engraving, in Jean Benjamin de LA BORDE, *Essai sur la Musique ancienne et moderne*, 4 volumes, Paris, 1780, E. Onfroy, vol. I, facing page 343, The Hague, Gemeentemuseum. The single-manual *clavecin* could possibly be a *clavecin à piano et forte*. Compare with the instrument shown in figure 4. The two-part dress and the lace trimmings above and below the elbows show that the *claveciniste* would have been up to date in 1780. The *frac* of the *pochette* player shows the same while the dress of the player of the *viole d'Amour* is somewhat theatrical and difficult to place.

only imported from London but also made locally in imitation of the English instruments.

Voltaire (1694–1778) was another of those who preferred the harpsichord with plectra to the new *forte piano*. His damning remark in a letter of 8 December 1774 to the Marquise Mme de Deffand that the piano, surely meaning the square piano, was nothing but “*un instrument de chaudronnier*” is well known.<sup>7</sup>

The reactionary group also included Jean-Benjamin de La Borde (1734–1794). His four-volume *Essai sur la musique* of 1780, effectively an encyclopaedia of music, musicians and musical instruments, hardly mentions square pianos even though they were so fashionable by the time he wrote.<sup>8</sup> Nevertheless, his *Essai* contains entries for a variety of stringed keyboard instruments as well as a number of plates to accompany them. The latter were probably specially engraved for the *Essai* as it was being written. The plates, and with them the entries, may thus be considered to be up to date (even if not entirely representative) as far as stringed keyboard instruments in Paris were concerned. The plates, some of them more informative than the entries, show a “*Clavecin Vertical*” (facing p. 323), a single-manual “*Clavecin*” (facing p. 343, see fig. 2), a “*Forte Piano*” and an “*Epinette*” (facing p. 346, see fig. 3). From its looks (especially the legs) the “*Forte Piano*” shown, a square piano, is probably French rather than English.

The entries start with the heading “*CLAVECIN*”, followed directly by the remark that a description of the normal harpsichord is not necessary, stating that: “*Cet instrument est trop connu pour que nous entrions ici dans les détails qui le concernent.*”<sup>9</sup> This is immediately followed by two pages devoted to the

theory of perfect tuning and the associated necessity of having keyboards with more than twelve keys to the octave, probably following Mersenne’s ideas expressed in his *Harmonie universelle*.<sup>10</sup> La Borde advocates 21 keys to the octave. Next comes a short entry “*Clavecin vertical*” in which La Borde described the vertical harpsichord as no different from the normal harpsichord except that it took up less space and was thus suited to small apartments.<sup>11</sup> Next on the same page is the entry “*Epinette*”, an instrument described by La Borde as having a smaller range than the harpsichord, only one keyboard, and two strings for each note: “*Chaque son n’est par conséquent composé que du son de deux cordes, au-lieu que dans le grand Clavecin, il est composé de deux cordes à l’unisson, & d’une à l’octave supérieure.*” Despite this claim for double stringing, practically all existing spinets are single-strung throughout. The entry continues with the fact that some spinets are contained in rectangular boxes and are thus fit for taking on voyages. Probably by this La Borde meant the

7. “*Cela est bien assez bon pour un piano-forte qui est un instrument de chaudronnier en comparaison du clavecin*”, Letter of 8 December 1774, *Correspondance générale in Oeuvres complètes*, Paris, Furne, 1838, vol. XIII, p. 466, quoted in Daniele PISTONE, *Le piano dans la littérature française. Des origines jusqu’en 1900*, Paris, Honoré Champion, 1975, p. 18.

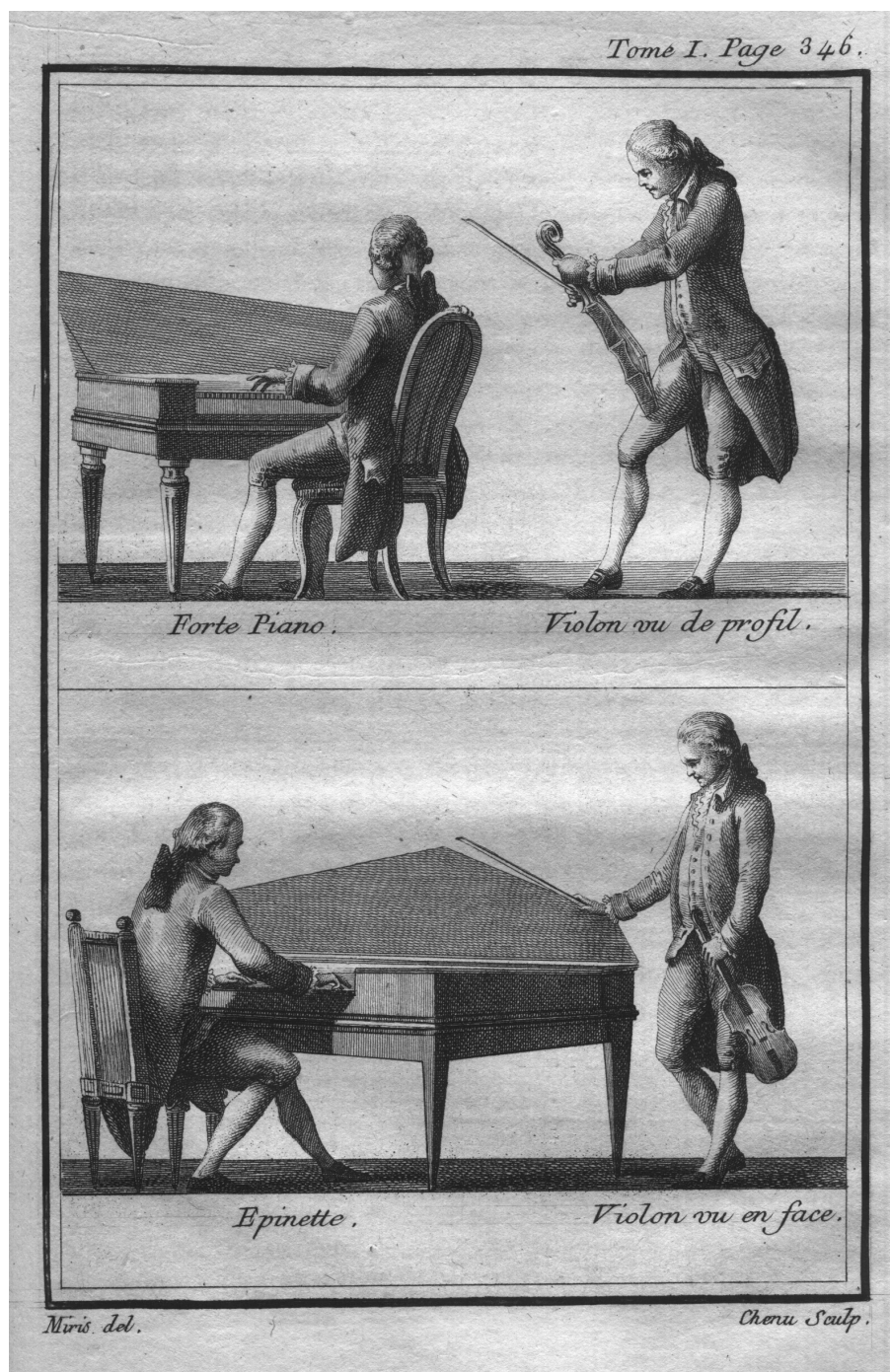
8. J.-B. de LA BORDE, *Essai, op. cit.* See note 4. The set consulted for this study, formerly in the library of the Gemeentemuseum, The Hague, is now in the Royal Library in The Hague.

9. J.-B. de LA BORDE, *Essai, op. cit.*, vol. I, p. 343. La Borde’s entry titles each end in a full stop. These are not reproduced here.

10. See Marin MERSENNE, *Harmonie universelle contenant la théorie et la pratique de la musique*, Paris, Sébastien Cramoisy, 1636; Reprint in 3 vols., Paris, CNRS, 1965, with an introduction by François Lesure, vol. III, p. 117–120, “*Proposition V. Expliquer trois sortes de Claviers ordinaires de l’Epinette, qui font les Consonances, & les autres intervalles dans leur plus grande justesse.*”; and p. 349–353, “*Proposition XXII. Expliquer la science du Clavier des Orgues, & combine il doit avoir de marches pour comprendre la perfection du genre Diatonique, Chromatique & Enharmonique.*”; and p. 353–358, “*Proposition XXIII. Déterminer s’il est expédient de changer les Claviers ordinaires des Orgues, & en quoy consiste l’usage du Clavier parfait: où l’on voit l’explication du Clavier de vingt-sept & de trente-deux marches.*”. La Borde’s idea of a keyboard, that is of one with 21 keys to the octave (*Essai, op. cit.*, vol. I, p. 344), followed a simplified version of Mersenne’s ideas. At the beginning of chapter XVI of the *Essai (op. cit.)*, vol. I, p. 290), entitled “*Instrumens à Cordes, modernes*”, La Borde has an entry for an instrument he himself could not have known or understood and of which the report he must have received must have been inadequate for his purposes. Under the heading “*Archicembalo*” he wrote: “*Instrument inventé par Don Nicolas Vicentini de Vicence, par le moyen duquel il se flatte de donner un traité parfait de Musique. Cet instrument n’eut point de succès en 1557.*” Nicola Vicentini (1511–1575 or 1576) built his *Archicembalo* in 1555. Each octave comprised 36 notes, more than La Borde’s 21. See Donald H. BOALCH, *Makers of the harpsichord and clavichord 1440–1840*, Oxford, Clarendon, 1974, p. 185. La Borde may not have understood this instrument to be a harpsichord, let alone one with more than twelve keys to the octave.

11. J.-B. de LA BORDE, *Essai, op. cit.*, vol. I, p. 346.





3. Pierre CHENU (1730–?), after Silvestre David MIRYS (1742–1810), *Forte Piano. Violon vu de profil / Epinette. Violon vu en face*, engraving, in J.-B. de LA BORDE, *Essai...*, vol. I, facing page 346, The Hague, Gemeentemuseum. The cut of the coat (*frac*) of the violinist, together with its large folded-down collar, show that he took part in the fashion for things English.

*clavecin brisé* of Jean Marius (d. 1720), which when folded for transport would fit in a rectangular box.<sup>12</sup>

Next, following on without a new heading, four-and-a-half pages are devoted to quoting Trouflaut's report of Taskin's inventions for the harpsichord.<sup>13</sup> In this section, La Borde dealt with the piano in a summary footnote, added to Trouflaut's text: "*Le Clavecin Piano-Forte a été inventé, il y a environ vingt-ans à Freyberg en Saxe, par M. Silbermann. De la Saxe, l'invention a pénétré à Londres, d'où nous viennent presque tous ceux qui se vendent à Paris.*"<sup>14</sup> This scanty and somewhat confused note must refer to the uncle of Johann Heinrich, Gottfried Silbermann (1683–1753), who worked in Saxony, and to the German immigrants to London, including Zumpe, who made square pianos, starting in the 1760s. That there is no further mention of square pianos is strange considering that one is shown in the engraving facing page 346 (fig. 3).

Again without a new heading, La Borde's text moves on to mention some quite different pianos reported in Catania, Sicily. There, a Neapolitan priest had invented various special *Clavecins*:

*A Catane , en Sicile , un Prêtre Napolitain a inventé plusieurs Clavecins singuliers. Dans l'un, les sauteraux viennent marteller la corde avec tant de vivacité , qu'ils lui font rendre un son aussi fort, aussi brillant que le pincement de la plume, sans en avoir le glapissement, & laissent au Musicien la facilité du Forté-Piano , par le plus ou moins de force à battre sur la touche. Ce Clavecin est susceptible de plusieurs jeux ; il y en a particulièrement un de Harpe, qui est parfait. Il a encore l'avantage en fatiguant moins la corde , de ne lui faire presque jamais perdre son accord.*<sup>15</sup>

12. See note 2 for references to Marius. The inventory of Farinelli's musical instruments, drawn up in 1783, includes two such *clavecins brisés* with their rectangular transport cases. See Michael LATCHAM, "The twelve *clavicordios* owned by Maria Bárbara of Spain and the seven *cembali* owned by Carlo Broschi, known as Farinelli: facts and speculation", in: Luisa MORALES (ed.), *Five centuries of Spanish keyboard music*, proceedings of the FIMTE conferences 2002–2004, Almería, Leal, 2007, p. 255–281, here p. 276–277.

13. J.-B. de LA BORDE, *Essai, op. cit.*, vol. I, p. 346–350.

14. *Ibid.*, footnote on p. 349.

15. *Ibid.*, p. 351.

In 1778, La Borde had decided to help Jean-Claude Richard de Saint-Non (1727–1791) with his project for an illustrated work on the two Sicilies. This was to result in the famous five-volume *Voyage pittoresque* published between 1781 and 1786.<sup>16</sup> For the project, La Borde and Saint-Non asked a number of French artists living in Naples at the time to go to Sicily to gather information about the island, partly by making paintings. One of these artists, the painter, writer and diplomat Dominique Vivant, Baron de Denon (1747–1825), was later to become famous as "Napoleon's eye", painting and reporting on the Egyptian campaigns (1798–1801). At Catania, Denon visited the "Prêtre Napolitain", the famous organ builder Donato del Piano (active in Sicily between 1720 and 1785). Denon wrote a description of Del Piano's instruments in his diary in 1778 and also duly reported back to La Borde and Saint-Non. Presumably on the basis of Denon's report, La Borde published his own version of Denon's description in the *Essai* under the heading "*Clavecins singuliers*", quoted above, neither acknowledging Denon nor mentioning Del Piano by name. La Borde refers simply to "*un Prêtre Napolitain*".

From La Borde's point of view, Del Piano's *clavecins singuliers*, one of which had hammers and a number of different stops, were probably interesting as curiosities, far away in Sicily, and hardly relevant to the situation in Paris. Perhaps this was also the reason that La Borde made no connection between Del Piano's piano and the instruments invented in "*Freyberg en Saxe, par M. Silbermann*" in the *Essai*. La Borde does not seem to have considered the piano as anything other than the new invention from England, the square piano, an instrument he only mentioned in a footnote.

This section on stringed keyboard instruments in La Borde's *Essai* ends with a description of the *clavecin oculaire* under the heading "*Sur le Clavecin du Pere Castel*". This special harpsichord, invented by Louis Bertrand Castel (1688–1757) in 1725, had little coloured jacks that made no sound. Twelve

16. Jean Claude Richard de SAINT-NON, *Voyage pittoresque ou description des royaumes de Naples et de Sicile*, 5 vols., Paris, Clousier, 1781–1786. Denon's description of the *clavecins singuliers* of Del Piano was published no less than six times by four different writers (including Denon) within ten years.



different colours were allotted to the twelve jacks played by the twelve different keys of the keyboard, the same distribution for each octave. When the musician played this optical (rather than musical) instrument, the harmonious interplay of the colours was supposed to appeal to the eye in an analogous way to that in which the interplay of the sounds produced by the strings of the normal *clavecin* appealed to the ear. La Borde's entry embroiders on this contraption for no less than five pages (*Essai*, p. 351–356), first explaining the theory of Castel's allotment of colours to the twelve keys of the keyboard and then extending the number of subtle shades to fit a keyboard with 21 keys, the one La Borde had proposed in his section on keyboards and tuning under the heading “CLAVECIN”.

La Borde thus made no reference to the wing-shaped piano and mentioned the square piano only in a footnote.<sup>17</sup> His mention of the spinet does not seem to be based on observation and his description of the *clavecin* is limited to a short entry on the vertical version, to Taskin's improvements to the instrument and to some *clavecin singuliers* in Sicily. But even if La Borde appears to have had little time for the piano, his repeat of Trouflaut's praise of Taskin's work nonetheless shows that he was up to date with respect to the harpsichord.

Despite the negative attitude of such as Trouflaut, Voltaire and La Borde, the new square pianos were a great success in Paris, as is clear from the list, drawn up by Antonio Bartolomeo Bruni (1757–1821), of instruments confiscated from the *condamnés et émigrés* during the *Terreur*.<sup>18</sup> Of the total

number of instruments, 71 were certainly pianos, outnumbering the 62 *clavecins*, almost all of which were harpsichords with plectra. The latter included eleven by members of the Ruckers family (either undated or of the 17th century), three (1724, 1725 and 1755) by “Antoine Vatter” (Vater, 1698–after 1759), and four (two of 1763 and two not dated) by Henri Hemsch (1701–1769). Five had been enlarged (between 1771 and 1778) by Taskin and two (1770 and 1774) were Taskin's own work.<sup>19</sup> Others included one (1749, see A. BRUNI, entry LI) by “Blanchet”, probably François-Etienne Blanchet the Younger (*circa* 1730–1766).

Of the instruments mentioned as a *clavecin* on the list, one made in 1769 by “Jean-Henri Silberman” (entry XXII in BRUNI) is most likely to have been one of Silbermann's *Hammerflügel*. A few of the other *clavecins* could also have been grand pianos. These include one by “L{ouis} Dulcken” (entry CXVI in BRUNI) and another, a “*Clavecin tout neuf*” of 1789, by “Johannes Broadwood” (entry XXII in BRUNI). In 1789, although John Broadwood was still making harpsichords (the last one was sent out in 1793), his firm had already produced more than two hundred grand pianos. On Bruni's list, two anonymous *clavecins*, each described as a “*clavecin en bois de noyer, fait à Ratisbonne*” (entries CXX & CXXI in BRUNI),

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transférés au Conservatoire, établi aux Menus, ainsi que ceux qui ont été delivres ailleurs par ordre du Comité d'instruction publique et du ministère (1795)”, *Nouveau Musiciana*, Paris, Garnier Frères, p. 145–169. The two sources are compared in Florence GÉTREAU, *Aux origines du musée de la Musique. Les collections instrumentales du Conservatoire de Paris. 1793–1993*, Paris, Klincksieck/Réunion des Musées nationaux, 1996, p. 33 and Tableau II, p. 45–48. Maria Van Epenhuysen Rose generously gave the present author the complete list as published in M. van Epenhuysen Rose, ‘*L'art de bien chanter*’, *French pianos and their music before 1820*, Ph D. New York University, 2006, p. 428.

19. Bruni's entries for these makers are as follows: Ruckers: V; XII; XV; XVIII; XIX; XXXIV; XXXVII; XLII; LVIII; XCIV; CV (“*mauvais de Ruckers*”); Vater: XXV; XXXIV; XLIII; Hemsch: LXXIII; XCIX; C; CIII; enlarged by Taskin: VI; VI {sic}; XXI; XXXIV; XXXVII; Taskin: XXI, XXXIV. Most of these entries are given in J. F. GALLAY, but some only in J.-B. WERKERLIN (see previous note). Both one of the harpsichords by Taskin and one of those enlarged by him were owned by La Borde (see A. BRUNI, XXI). He, one time *Gouverneur du Louvre*, the Royal Palace, was sought out in Rouen where he had taken refuge with his family, taken to Paris and guillotined on 22 July 1792.

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17. In vol. III of the *Essai*, La Borde did however mention the combination of “*l'instrument appelé Forté-piano*” with an organ as an idea of Balbastre. See note 4.

18. See [Antonio] BRUNI, *Commission temporaire des Arts. Section de Musique. Etat general des Inventaires d'Instrumens de musique mis en réserve pour La Nation par la Commission temporaire des Arts, Depuis Son Etablissement Par Bruni*, a manuscript inventory preserved in the Archives nationales (F<sup>17</sup>1034, 2) in Paris and published with notes and appendices by J. F. GALLAY as *Un inventaire sous la terreur. Etat des instruments de musique, relevé chez les émigrés et condamnés*, Paris, Georges Chamérot, 1890; Reprint: Geneva, Minkoff, 1984. Florence Gétreau kindly pointed out a more complete list of the confiscated instruments (including 25 not listed in J. F. GALLAY), now in the Département de la Musique, Bibliothèque nationale de France. It was published in 1890 by Jean-Baptiste WÉCKERLIN as “*Etat des instruments de musique enlevés du dépôt national, rue Bergère, pour être*

were probably of the type of piano known today as *Tangentenflügel*, made by Franz Jakob Spath (1714–1786) and (or) his son-in-law Christoph Friedrich Schmahl (1739–1814) in Regensburg (*Ratisbonne*). This suggestion is strengthened by the mention of two others grand pianos, one described as a “*grand piano de Ratisbonne, 1781*” (entry XCV in BRUNI) and the other as a “*grandpiano en forme de clavecin, en bois de noyer, fait à Ratisbonne par Spath Schmahl*” (entry CXXII in BRUNI). One grand piano is mentioned as “*Un forte-piano en forme de clavecin de Taskin*” with no date (entry CXX in BRUNI). Finally, of the 25 anonymous *clavecins* on the list, two might have been *clavecins à piano et forte* if only because both are described as made of plain walnut; the majority of the surviving *Tangentenflügel* by Spath & Schmahl (or by Schmahl alone) as well as both the surviving *Tangentenflügel* by H. Silbermann have quite simple but elegant walnut cases while French harpsichords, including many on the list, were usually painted and were often decorated with gold bands.<sup>20</sup>

These ten instruments on Bruni’s list, seven of them “*clavecins*” that could have been harpsichord-shaped pianos and three of them unequivocally described as harpsichord-shaped pianos, form a small minority against the other 55 “*clavecins*” (all assumed to be instruments with plectra), five spinets, and the remaining 68 pianos, all probably square pianos.

Based on the above interpretation, it may be concluded from the list that although there were 33 houses that owned one or more pianos and no harpsichords or spinets, there were 31 other houses that owned one or more harpsichords but no pianos. Nevertheless, most of the dated harpsichords are earlier than the dated pianos and none of the seventeen houses with both harpsichords and pianos appears to have acquired a harpsichord after purchasing a piano, assuming the harpsichords were all acquired when new. Except for one, those houses that certainly or probably owned grand pianos had no other keyboard instrument. The one exceptional house (entry XCV in BRUNI) had one of the grand pianos from Regensburg and two square pianos by Zumpe.

20. One exceptional *Tangentenflügel* by Schmahl of 1794 and now in the Germanisches Nationalmuseum (inv. no. MINE 98) is veneered and cross-banded in cherry.

Of the 68 square pianos, 34 were made in London, 22 were made in Paris, one may have been a German import (“*Hoffman*”, undated, entry I in BRUNI) and the remaining eleven were anonymous. Of the 34 London pianos, nineteen were by Zumpe or his successor Schoene and the rest were by other German immigrants to London. Of the 22 Parisian pianos, thirteen were by Sébastien Erard (1753–1831) or by the *Erard frères* and six were by makers who were probably German immigrants to Paris. Six instruments (including two each by Zumpe and Erard) combined a square piano and an organ.<sup>21</sup>

The dated square pianos on the list were made between 1769 and 1791. Except for one of 1771 by Balthazard Péronard (entry LX in BRUNI), and one of 1780 by Joannes Zimmerman (entry XLII in BRUNI), both of whom worked in Paris, all twelve of the dated *forte-pianos* made between 1769 to 1782 were English. Of those made between 1783 and 1791, sixteen were English and eighteen were French. Apparently, until about 1782, the Parisians preferred imports from London rather than the equivalents made in Paris.

A similar general impression regarding the balance between harpsichords and pianos in Paris is given by inventories of the Taskin and Goermans workshops, both active in the French capital towards the end of the 18<sup>th</sup> century. The 1777 inventory of Taskin’s workshop includes eleven harpsichords, one spinet, five pianos (most likely square pianos), and one foreign *forte-piano*.<sup>22</sup> The 1789 inventory of the workshop of Jacques Germain Goermans (*circa* 1740–1789) includes six anonymous square pianos, one English square piano, ten square pianos by Goermans, one English grand piano, two harpsichord-shaped pianos by Goermans, and twelve harpsichords, including some by Goermans. The 1793 inventory of Taskin’s workshop lists 35 harpsichords, five spinets, 23 pianos (probably all square pianos) and five pianos in the shape of a harpsichord.

21. For La Borde’s unlikely claim that it was Balbastre who first had the idea to combine the piano and the organ, see note 4.

22. For these inventories see Frank HUBBARD, *Three centuries of harpsichord making*, Cambridge, Mass., Harvard University Press, 1965, p. 294–312.

Bruni's list and the inventories of the Goermans and Taskin workshops thus indicate that between about 1770 and 1790 the new square piano became popular in Paris alongside the harpsichord. Although there were also harpsichord-shaped instruments with hammers, these were rare. Some of these large hammered *clavecins* were of an older type, the *clavecins à piano et forte* or *Hammerflügel* by Silbermann, while others, perhaps those by Goermans and Taskin, may have been considered in some quarters to be of a newer type, *pianofortes en forme de clavecin*.

The oldest surviving Parisian *pianofortes en forme de clavecin* were made by Taskin (fig. 4).<sup>23</sup> The simple type of hammer action in these grand pianos is like the type known as Zumpe's first action; neither Taskin's grand pianos nor the square pianos of Zumpe have either an escapement mechanism or an intermediate lever, two characteristic features of the hammer actions in the pianos of the Cristofori-Silbermann tradition.<sup>24</sup> Taskin was aware of instruments of that tradition, however; he wrote in a letter of 1786 that he had enormously reduced the complexity of the action of the "*forté piano en forme de clavecin*", most likely referring to a *Hammerflügel* by J. H. Silbermann that he might well have seen in Paris at the time.<sup>25</sup> It seems unlikely that Taskin methodically simplified Silbermann's action however; from the similarities between Taskin's piano action and Zumpe's first action it is much more likely that in designing his own action Taskin drew directly on examples of Zumpe's action, the type of action employed in practically all of the square pianos then popular in Paris.

The source that inspired Sébastien Erard to make harpsichord-shaped pianos was certainly different from the source that inspired Taskin; Erard's *pianofortes en forme de clavecin*, with cases of mahogany and keyboards with ivory naturals and solid ebony sharps, are clearly modelled on English grand pianos.<sup>26</sup> Although there are significant differences in inner construction and soundboard design, the similarities between the actions of the grand pianos by Erard and those by the leading English maker Broadwood are particularly striking, both in essential principles and in many details.

To sum up: while Taskin was probably inspired by English square pianos in Paris to make his "*forté piano en forme de clavecin*", Erard was inspired by English grand pianos in London to make his "*pianofortes en forme de clavecin*". Erard was however also inspired by the English square pianos, not to make his grand pianos but to make his own square pianos. These he started to make in the 1770s, long before his first "*pianofortes en forme de clavecin*" saw the light of day in the 1790s.

Despite the difficulty of establishing a firm historical link between Cristofori's action and English grand action (as it came to be called), the similarities between them seem to be more than coincidental; their escapement mechanisms are alike and they have similar intermediate levers.<sup>27</sup> Erard, in copying the English grand action, may thus have been indirectly inspired by Cristofori's action. By contrast, Taskin, when designing his grand piano action, was apparently not influenced by Cristofori's action, even though he knew of it, but was probably inspired by Zumpe's first action.<sup>28</sup>

23. Yale University Collection of Musical Instruments, cat. no. 4992.60, possibly *circa* 1780; Musikinstrumenten-Museum, Staatliches Institut für Musikforschung, Berlin, cat. no. 343, dated 1787; musée de la Musique, on loan from the Musée du Louvre, inv. no. OA 10298, dated 1788; Versailles, Musée national des châteaux de Versailles et de Trianon, inv. no. T 508C, dated 1790.

24. This tradition started with the invention of a hammer action for the piano early in the 18<sup>th</sup> century by Bartolomeo Cristofori (1655–1731) working at the Medici court in Florence. For the tradition, see Stewart POLLENS, *The early pianoforte*, Cambridge, Cambridge University Press, 1995, p. 157–184.

25. See J. KOSTER, "Foreign influences", *op. cit.*, p. 18–19.

26. Beethoven's instrument is in the Oberösterreichisches Landesmuseum, Linz, inv. no. 61. The earliest *piano en forme de clavecin* by Erard (Musée de la Musique, Paris, inv. no. E 990.11.1), dated 1791, has little to do with the English tradition or with Erard's other grand pianos.

27. For more on the possible connection between Cristofori's pianos and those made in England, see the discussion of Father Wood's instrument in Michael LATCHAM, "Pianos and harpsichords for Their Majesties", *Early Music* XXXVII/3, August 2008, p. 359–396, here p. 360–361.

28. The idea that Zumpe's action was a simplification of Cristofori's action is purely speculative. Nonetheless, the ideas that the first English square pianos probably derived from a German tradition, that they formed the inspiration for English



4. Pascal TASKIN, *Clavecin à piano et forte*, possibly of about 1780, redecorated in the 19<sup>th</sup> century in Louis XV style, New Haven, Yale University Collection. Compare this instrument with the one shown in fig. 2.

Erard's pianos, both square and grand, do however differ from those made in London on account of their stops. With regard to the wing-shaped instruments, the early English grand pianos had only two stops operated by pedals, one to disengage the dampers, the other for the keyboard shift to *due corde* or *una corda*; the *pianos en forme de clavecin* by Erard not only had the sustaining device and the keyboard shift but also a buff stop, a moderator and later a bassoon stop, all operated using pedals except for the bassoon, usually engaged using a knee lever.<sup>29</sup> The English square pianos usually had only a buff stop and a sustaining device although sometimes they also had a lid swell. Erard's early square pianos were similar to the English models (with the

notable difference of the round legs), including the range of stops available, while his later ones, those of about 1800 and onwards, usually had the same selection of stops (excepting the keyboard shift) as his grand pianos. Except for the sustaining device on square and grand pianos and the keyboard shift on the grand pianos, these various stops, used then as additional expressive devices, are largely ignored today so that this important difference between the French and the English pianos often remains unacknowledged.

The records of the Parisian branch of the Erard firm show that they only made sixteen grand pianos before 1797, all in 1794 and 1795.<sup>30</sup> In June 1797,

and French grand pianos, and that the latter were developed as the basis of today's grand piano give food for thought.

29. The keyboard shift on the French *pianos en forme de clavecin* did not in fact enable an *una corda*, only the *due corde*. Nonetheless, the keyboard shift is usually called the *una corda*.

30. Alain Roudier provided the details of the series made in 1794 and 1795 and the number of instruments made before 1797. Of those made in or after 1797, no. 1 was entered in the books on 11 February 1798 and no. 2 on 24 June 1797. From then on the numbers are chronological. Nos. 6 and 7 were both entered on the 1 March 1798. No. 8 was the last made





5. ERARD FRÈRES, *Piano en forme de clavecin*, 1808, ordered by Louis Bonaparte, the brother of Napoléon, when the King of The Netherlands, Amsterdam, Rijksmuseum, on loan.

the firm started to number a new series of grand pianos that was to include one sent to Haydn in 1800 and one sent to Beethoven in 1803.<sup>31</sup> The dates of the entries in the Erard books for these two pianos show that the firm made *pianofortes en forme de clavecin* at an average rate of about eight a year between 1797 and 1800 and of about 38 a year between 1800 and 1803. The Broadwood firm made about two hundred grand pianos a year between 1797 and 1800 and three hundred a year between 1800 and 1803. The productions of both firms decreased in the next period. In 1808 the Erard Frères sent grand piano number 234 to the brother of Napoléon, Louis

Bonaparte, King of The Netherlands, indicating that the firm made only about four *pianofortes en forme de clavecin* a year between 1803 and 1808 (fig. 5).<sup>32</sup> In the same period, the production of the Broadwood firm decreased to about two hundred grand pianos a year.

Up to at least 1820, the Erard and Broadwood firms both made many more square pianos than grand pianos. By 1803 the Erard firm had made more than five thousand square pianos against a total of about a hundred and fifty grand pianos; by the same year, 1803, the Broadwood firm had produced more than seven thousand square pianos against a total of more than two thousand five hundred grand pianos. In 1820 the Broadwood firm

in 1798. The entries in the Erard books for the instruments sent to Haydn and Beethoven are dated 2 November 1800 and 5 August 1803 respectively. See: Maria van EPENHUYSEN ROSE, "Beethoven and his 'French Piano': proof of purchase", *Musique-Images-Instruments*, 7, 2005, p. 111–122.

31. Haydn's piano (now lost) bore Erard's number 28, Beethoven's bears Erard's number 133.

32. Now in the Rijksmuseum, Amsterdam, on loan from the Koninklijk Huisarchief, The Hague. The instrument bears the number 234.

produced grand piano number 8341 and the Erard firm produced grand piano number 447.<sup>33</sup>

Both the Erard and Broadwood firms produced a variety of square and grand pianos, varying in decoration, in range, and in the case of the French firm, in the number of stops. It is clear from their varied appearances that the square pianos were not always less expensive domestic models. Some of them were as richly decorated as the most luxurious grand pianos, those with gilded mounts and *verre églomisé* around the keywell (fig. 5). The square pianos, elegantly proportioned on four symmetrically positioned legs would surely have appealed to the tastes of those who might have found the grand piano preposterously bulbous in their salons. Although expense would surely not have been the main consideration in many cases, the following text on the advent of the square piano, written by Charles Burney (1726–1814) for Rees's *Encyclopaedia*, expresses the enthusiasm for the square piano:

{...} Zumpé, a German, who had long worked under Shudi, constructed small piano-fortes of the shape and size of the virginal, of which the tone was very sweet, and the touch, with a little use, equal to any degree of rapidity. These, from their low price, and the convenience of their form, as well as power of expression, suddenly grew into such favour, that there was scarcely a house in the kingdom where a keyed-instrument had ever had admission, but was supplied with one

of Zumpé's piano-fortes, for which there was nearly as great a call in France as in England. In short, he could not make them fast enough to gratify the craving of the public. Pohlman, whose instruments were very inferior in tone, fabricated an almost infinite number for such as Zumpé was unable to supply.<sup>34</sup>

Bruni's list (mentioning nineteen square pianos in Paris by Zumpe or his successor and four by Pohlman), the inventories of the Taskin and Goermans workshops, and the production figures of the Erard and Broadwood firms show that the initial takeover of the piano in Paris, as in London, was a takeover by the square piano. For Paris it might be said that as the normal *clavecin* died out, the older *clavecin à piano et forte* died with it, only to be resurrected as the newer *pianoforte en forme de clavecin*, inspired by the fashion for the square piano. Although the scope of this generalisation is too broad to exactly match every historical detail, it nonetheless gives a better picture of what happened than the misguided idea that the grand piano of the late 18<sup>th</sup> century was created by inserting a hammer action into the harpsichord and that the square piano then followed in its wake as a lesser, domestic instrument. In late 18<sup>th</sup>-century Paris, a small reactionary group expressed dislike for the new square piano while a much larger group showed appreciation for the qualities of the new, hammered instrument, the *forte piano* or square piano. Only a very small minority owned either the older hammered harpsichords or the newer grand pianos. Those who disliked the new square pianos and preferred the *clavecin* may have thought of the *clavecin à piano et forte* not as a piano but as an expressive harpsichord akin to Taskin's *clavecin* with the *peau de buffle*.

Finally in this survey, it should be noted that none of the sources discussed so far make any mention of the clavichord, presumably indicating that this instrument, well known in Germany, had become virtually unknown in Paris by the second

33. In 1820 the Broadwood firm produced square piano number 25690. The numbers of Broadwood and Erard pianos were kindly supplied by David Hunt. A grand piano, bearing Erard's number 447, that belonged to Gaspare Spontini is now conserved in the Museo di Maiolati Spontini. On the numbering of Erard *pianofortes en forme de clavecin* Jean-Claude BATAULT (personal communication, 28 October 2009) kindly provided the following information: in 1797 the firm began to number their grand pianos starting with no. 1. In 1808, with the invention of the *mécanisme à étrier*, the stirrup action, the firm continued to number instruments with the traditional English action following the system started in 1797 but started afresh for the grand pianos with the stirrup action, again at no. 1. In 1816 the number of stirrup action instruments was added to the number of English action instruments, thus reverting to a single system. The number of the Spontini instrument, that has the *mécanisme à étrier*, thus represents the total number of *pianofortes en forme de clavecin* made by the firm from 1796 to 1820.

34. Charles BURNLEY, "HARPSICHORD", in ABRAHAM REES (ed.), *The cyclopaedia; or universal directory of arts, sciences, and literature*, London, 1819, vol. XIIX, no pagination. Burney wrote his entry from memory, probably in about 1805. The author is grateful to Katrina and Richard Burnett for providing a photocopy of the complete entry from the *Cyclopaedia*.

half of the 18<sup>th</sup> century. Earlier, the clavichord had enjoyed considerable respect, certainly at the time of Mersenne's publication of his description and illustration of the "*Manichordion*", his name for the clavichord, in his *Harmonie universelle* of 1636.<sup>35</sup>

### *The Encyclopédie, the Supplément and later editions – expectations*

Clearly, La Borde's *Essai* presents a one-sided point of view of the state of affairs with regard to keyboard instruments in Paris. He might be forgiven for not mentioning the *clavecins à piano et forte* by J. H. Silbermann, either because of their rarity or perhaps because he did not recognize them as pianos but as special harpsichords; his mention of other such special harpsichords with hammers, the instruments of Del Piano in faraway Sicily, suggests the former rather than the latter. But La Borde practically ignored the square pianos from England, already so popular in Paris by the time his *Essai* was written in 1780, allotting them only a paltry footnote.

If like Trouflaut and Voltaire La Borde was biased against the new square pianos, the *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers, par une société de gens de lettres*, commonly referred to in English as the Encyclopaedia of Diderot and d'Alembert, together with its *Supplément* (in which Diderot had no part), as well as the later versions of the *Encyclopédie* (in which Diderot also had no part), might be expected to give a fairer picture.<sup>36</sup>

35. See M. MERSENNE, "Proposition IV. Expliquer la figure, la matière, & les parties du Manichordion", in *Harmonie universelle*, *op. cit.*, p. 114–116.

36. *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers, par une société de gens de lettres*. The first seven volumes (A – GY) of text were published in Paris between 1751 and 1757 by a consortium comprising Briasson, David, Le Breton and Durand and the subsequent ten volumes (H – Z) were published ostensibly in "Neufchâtel" (Neuchâtel, Switzerland) by "Samuel Faulche" (Samuel Fauche) but in reality in Paris chez Le Breton, all in 1765. The plates were published (all officially in Paris avec approbation et privilège du Roy) as if they had nothing to do with the *Encyclopédie* and were given the title *Recueil de planches sur les sciences, les arts libéraux et les arts mécaniques, avec leur explication*. The first volume of these was published by the same quartet that published the first seven volumes of text. That quartet gradually dwindled however;

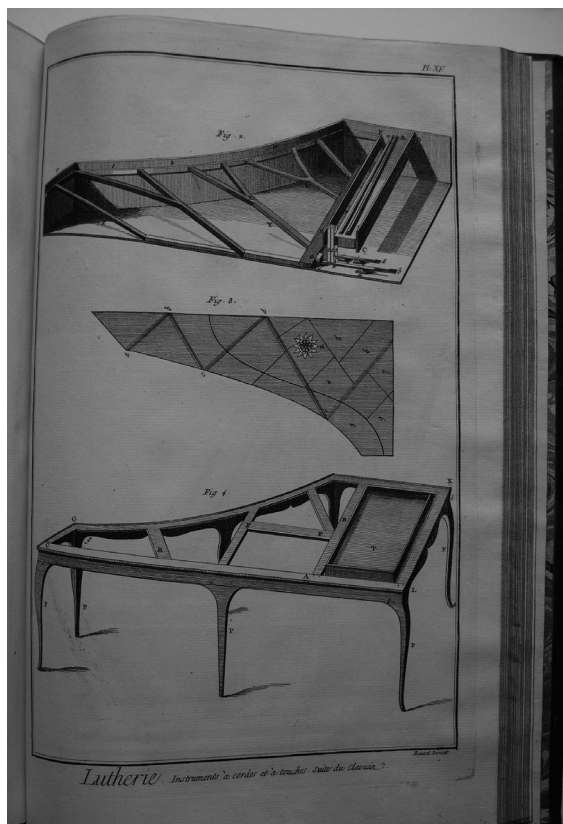
These colossal endeavours did not express the view of a single man, as did La Borde's *Essai*, but were huge compendiums of all that was known, vast collections of articles written by many experts. Not only that, the publication of the original *Encyclopédie* and of the later versions to which it gave rise span the period 1753 to 1818, so that in their development they would be expected to reflect the emergence of the piano and its changing presence in Paris during that period.<sup>37</sup> Sadly, it will be shown in the course of this essay that with the exception of the first edition (1751–1772) and perhaps of the second volume on music of the *Encyclopédie méthodique* (1818), these encyclopaedic works present a picture of stringed keyboard instruments in Paris that is neither clear nor objective. The main reason for this seem to lie in the relationship between the publishers and the editors.<sup>38</sup>

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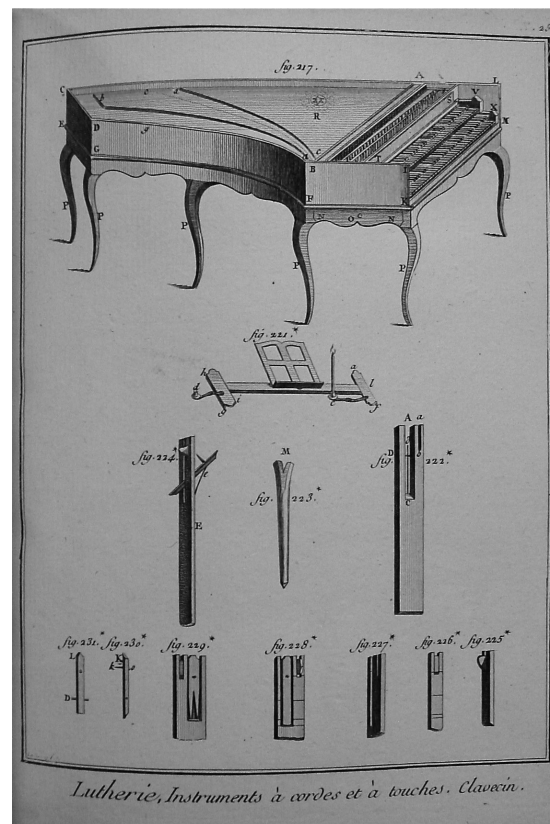
Briasson published the last four volumes alone. The two sets of the *Encyclopédie*, the *Supplément* and the *Tables* consulted for this study are kept in the Royal Library in The Hague and in the Schlossmuseum, once the Residenzschloss, in Weimar. These two sets clearly come from at least two different printings, the one in The Hague comprising a mixture of more than one print runs, the one in Weimar probably comprising a single, later printing. The word *Société* differs in the number of accents it has from one title page to the next within each set and between the two sets. Another difference lies in the presence or absence of the accent on the word *mathématique*. This varies between the two sets differently from the way in which the accents on *Société* vary, indicating that there were at least three separate type-settings of the *Encyclopédie*, although perhaps not in its entirety. Furthermore, a comparison of the article on the *clavecin* in volume III in the sets in The Hague and Weimar reveals differences in the distribution of words from line to line, also indicating a resetting. Similarly, a comparison of the volumes of *planches* also shows that they must all have been re-engraved, or perhaps retouched, for the print run to which the Weimar set belongs. The differences are subtle but clear in every plate of musical instruments. Not only do the methods of shading differ but also the appearance of the letters used as references in the figures. Given that the number of subscribers rose from two thousand to four thousand when the long process of publication was already underway, none of this is surprising.

37. The full bibliographical references to the other works will be given as the essay proceeds.

38. At this point it may be usefully pointed out that there is a peculiar confusion in French and English with regard to the persons involved in the production of books. "*Publié*" means "edited"; "*chez*" may be translated as "published by"; a bookseller or publishing house is a "*librairie*"; and a library is a "*bibliothèque*".

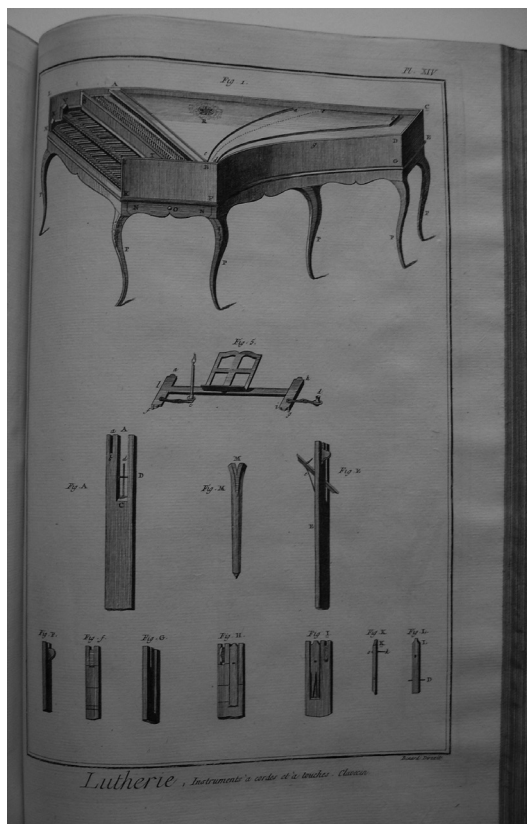


6. Anonymous, *Lutherie. Instruments à cordes et à touches. Suite de Clavecin*, engraving, in *Recueil de planches sur les sciences, les arts libéraux et les arts mécaniques, avec leur explication*, vol. V, Paris, Briasson, David, Le Breton, 1767, *Lutherie*, 2<sup>nd</sup> series, plate XV, Weimar, Schlossmuseum (formerly Residenzschloss). In “Fig. 2” (at the top) the letters “r, s, t, u” are visible above the tail and bent side liners.

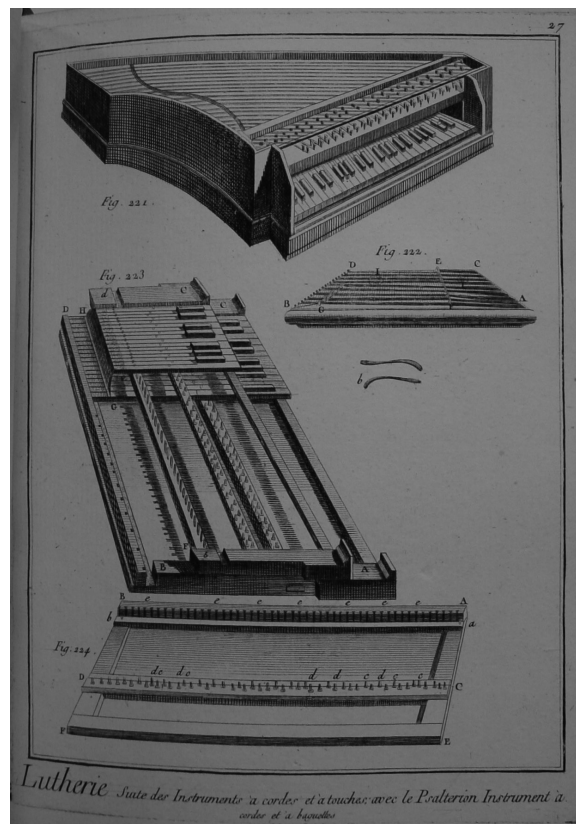


7. Anonymous, *Lutherie, Instruments à cordes et à touches. Clavecin*, engraving, in *Encyclopédie, ou dictionnaire universel raisonné des connaissances humaines. Mis en ordre par M. de Felice. Planches*, vol. VII, Yverdon, Felice, 1778, *Lutherie*, plate 25, The Hague, The Royal Library. The harpsichord is shown back to front. All the plates in Felice's encyclopaedia are mirrored.





8. Anonymous, *Lutherie, Instruments à cordes et à touches. Clavecin*, engraving in *Recueil de planches sur les sciences*, op. cit., *Lutherie*, 2<sup>nd</sup> series, plate XIV, Weimar, Schlossmuseum (formerly Residenzschloss). This plate, from the original folio edition, is twice the size of the plate shown in fig. 7 above. The harpsichord is shown here with the bentside on the correct side.



9. Anonymous, *Lutherie Suite des Instruments à cordes et à touches avec le Psalterion Instrument à cordes et à baguettes*, engraving, in *Encyclopédie, ou dictionnaire universel raisonné des connaissances humaines*. Mis en ordre par M. de Felice. *Planches*, vol. VII, Yverdon, 1778, *Lutherie*, plate 27, The Hague, The Royal Library. The spinet is shown with the bentside on the wrong side and the keyboards have curious ranges because they are also mirrored. Compare fig. 10 below.

The editors of the original *Encyclopédie*, Denis Diderot (1713–1784) and Jean le Rond d'Alembert (1717–1783), determined not only the form of the original *Encyclopédie* but also much of the content. Diderot, who remained the leader of the project throughout its history, that is from the 1740s when plans were underway until 1772 when the last volume of the engravings was delivered to some four thousand subscribers, was bent on presenting an objective encyclopaedia based on observation and rational thought. If he sometimes failed in this aim, it was not through a lack of the best of intentions or of determination. By contrast, except for the editors of the two volumes on music of the *Encyclopédie méthodique*, published respectively in 1791 and 1818, the editors of the later versions were minor figures, working at the behest of the publishers, probably with little sense of responsibility for their work. The later publishers may have declared that they took responsibility for the contents of their editions, but even if they proclaimed the same aims as Diderot in the advertisements for their projects, they appear to have been mainly occupied with the production of versions of the *Encyclopédie* that would maximise profits. With this in mind they steered their obedient editors to subtract enough material to make their versions sufficiently inexpensive and add enough to maintain an appearance of sufficient novelty, thus making their work attractive to potential subscribers on two counts. Up to and including the first volumes of the *Encyclopédie méthodique*, these later editions all used the original edition of the *Encyclopédie* as their starting point. Inevitably, some of the articles included from the first edition had become out of date, especially in such a fast-developing field as that of stringed keyboard instruments. At the same time, a number of the new articles that were included were not only muddled in themselves but were at odds with other articles, old and new, that appeared in the same edition.

The chief editor of the 1776–1777 *Supplément* to the first edition, Jean-Baptiste-René Robinet (1735–1820), was in some ways an exception in this sad history. In bringing the original edition up to date by gathering and editing new articles as well as by re-working some of the articles from the first edition he appears genuinely to have intended to follow Diderot. But in his abilities to select or update articles for his four volumes of text, to

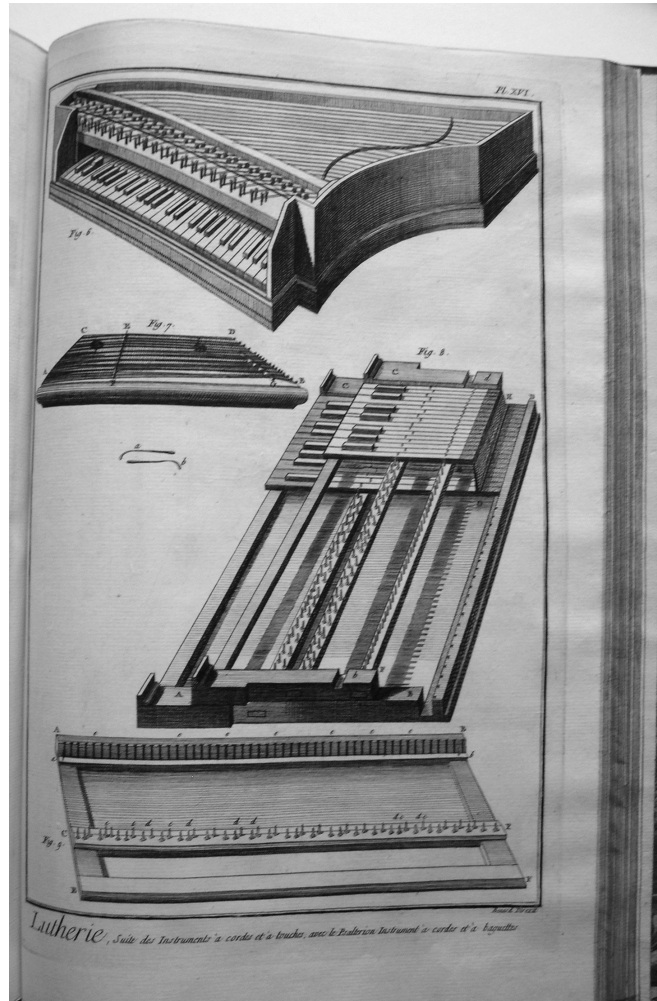
organise and cross-reference those articles, and to relate them to his single volume of engravings, Robinet fell well short of Diderot's capacities.

### *The Encyclopédie, ou dictionnaire raisonné des sciences (1751–1772)*

The seventeen folio volumes of text of the famous *Encyclopédie, ou dictionnaire raisonné* of Denis Diderot (1713–1784) were published between 1751 and 1765 and the eleven volumes of plates were published between 1762 and 1772 (fig. 5).<sup>39</sup> Volume III of the text contains an extensive article entitled “CLAVECIN”, probably written by Diderot himself, comprising a detailed description of how a double-manual French harpsichord was assembled and strung.<sup>40</sup> The article includes cross-references to minor entries to do with harpsichord making, which, because they began with different letters of the alphabet, are found in different volumes, sometimes far apart. These articles have the following titles: “ACCORDOIR” (tuning key, vol. I, 1751, p. 80), “CHASSIS de clavier, des épinettes, & du clavecin” (key frame, vol. III, 1753, p. 232–233), “CLAVIER” (keyboard, vol. III, 1753, p. 512–513), “EPINETTE” (spinet, vol. V, 1755, p. 803), “GUIDE des sautereaux, des épinettes, & des clavecins” (jack guide, vol. VII, 1757,

39. Both Diderot and d'Alembert were originally the chief editors of the *Encyclopédie*. In 1758, however, d'Alembert decided to step out of the project, upset by the opposition and dissatisfied with the pay. He was persuaded to stay on, but in 1759 a decree was issued suppressing the original privilege granted in 1746, prohibiting further sales of the seven volumes already printed, and forbidding the printing of any future volumes under pain of punishment. This was probably the last straw for d'Alembert and in 1759 he abandoned the *Encyclopédie*. Diderot saw to it that the remaining volumes of text and all the volumes of the engravings were published, hence the use here of the words “The *Encyclopédie, ou dictionnaire raisonné* of Denis Diderot”. For this and a short and enlightening assessment of the significance of the original *Encyclopédie*, see Robert DARNTON, *The business of enlightenment*, *op. cit.*, p. 1–17.

40. Vol. III was published in 1753. The article “CLAVECIN” is on p. 509–512. That Diderot wrote the article himself, perhaps with help from a harpsichord maker, is not certain. But according to the preliminary discussion, his articles are those that lack initials at the end. The article on the *clavecin* is one of these.



10. Anonymous, *Lutherie, Suite des Instruments à cordes et à touches avec le Psalterion Instrument à cordes et à baguettes*, engraving, in *Recueil de planches sur les sciences, op. cit.*, *Lutherie*, 2<sup>nd</sup> series, plate XVI, Weimar, Schlossmuseum (formerly Residenzschloss). This plate, from the original folio edition, is twice the size of the plate shown in fig. 9 above. The spinet is shown here with the bentside on the correct side and with the correct ranges for the keyboards.

p. 1005), “REGISTRE DE CLAVESSIN” (lower guide, vol. XIV, 1765, p. 19), “SAUTEREAU” (jack, vol. XIV, 1765, p. 726–727) and “SOMMIER de clavecin” (wrestplank, vol. XV, 1765, p. 336–337). The article on the *clavecin* also makes copious specific references to details of the relevant illustrations in volume V of the engravings. A paragraph from the article about glueing in the soundboard serves as a good example of the ties between the text and the engravings:

*On colle ensuite la table sur les tringles r , s , t , u , fig. 2. & la barre E F ; il faut prendre un grand soin qu'elle soit bien appliquée & collée. Sur la table & autour des éclisses , on colle de petites moulures de bois de tilleul : ces moulures servent à la fois d'ornement , & affermissent la table sur les tringles.*<sup>41</sup>

41. Vol. III, 1753, p. 510.

The reference to “fig. 2” is to one of the three figures in *Planche XV* entitled “*Lutherie. Instruments à cordes et à touches. Suite de Clavecin*”, one of the three plates (XIV, XV and XVI) to do with the harpsichord in the series *Lutherie* in volume V of the *Recueil de planches sur les sciences, les arts libéraux et les arts mécaniques avec leur explication*, published in 1767, no less than fourteen years after the article itself appeared in 1753 (fig. 6, fig. 8 & fig. 10 above). In plate XV, the top part, “fig. 2” shows the internal construction of a harpsichord. The next, “fig. 3”, shows the underside of the soundboard and the last, “fig. 4”, the stand. Numerous letters of the alphabet and numbers are given next to various details in the three figures and are repeated at the appropriate places in the relevant articles (for instance the “*r, s, t, u*” above) to enable the reader to refer to the details in the plates that illustrate the subject matter in the articles.<sup>42</sup>

Clearly, it was the intention that everything should be minutely planned and organised before anything was published; although the text and the plates could appear as much as fourteen years apart, the links between them were already established from the start. Whether such a plan was made or carried out for the entire *Encyclopédie* cannot be assessed here. Nonetheless, for all those articles to do with the *Arts et métiers* or with other subjects that required detailed illustration it can hardly have been otherwise. Diderot himself may later have expressed criticism regarding the adequacy both of the cross-references within the text of the *Encyclopédie* and of the references to the plates but the article on the *clavecin* is nevertheless remarkably thorough in both these respects.<sup>43</sup> The illustrations cannot be fully understood without reading the

article; the article cannot be read properly without having the appropriate illustrations at hand.

With regard to the thoroughness of the cross-referencing however, there is one exception that by chance gives insight into the makings of the *Encyclopédie*. In the article “CLAVIER”, cross-referenced with the article on the *clavecin*, a reference is made to an article on *ravalement* with the words “Voyez RAVALEMENT”.<sup>44</sup> Alphabetically, this article should be in volume XIII on page 830. But although on that page there are five different entries for *ravalement* or *ravaler*, none of them has to do with musical instruments. In the *Supplément* however, this omission is corrected by the inclusion of a short article (vol. IV, 1777, p. 577) by “S” entitled “RAVALEMENT”, [Musiq.]. S was the initial used to indicate the authorship of Jean-Jacques Rousseau (1712–1778). In 1749 he, at the request of the editors, wrote all the articles on music (not to be confused with those on instrument making, that is, those for *lutherie*) for the original *Encyclopédie*, some 390 in all, in a matter of three months.<sup>45</sup> Rameau had refused this task and although Rousseau was apparently a little upset at being second best he nonetheless accepted the work, perhaps partly because it gave him the opportunity to express in print his fundamental disagreements with Rameau. But d’Alembert then edited Rousseau’s articles with a heavy hand, taking out the antagonism towards Rameau, this without giving Rousseau a chance to see the corrections before it was too late to reinstate anything. Rousseau, thus denied of his criticism of Rameau, decided to use all the articles in their original form as the basis of his *Dictionnaire de musique*.

Although Rousseau probably began to work on his *Dictionnaire* already in 1753, it was not published until 1768. Meanwhile, his 390 articles for the *Encyclopédie*, pruned and purged, appeared

42. The inner construction shown in “Fig. 2” and the soundboard ribbing in “Fig. 3” are curious and could possibly stem from an engravers misinterpretation of a drawing (see Fig. 6 in this essay). For these engravings, Diderot would have had to see an instrument being built or would have had to rely on a drawing. The inner construction shown, with Y-shaped struts, could be a misinterpretation for Taskin’s inner construction in which there is a mixture of struts and lower braces crossing each other. The stringing scheme given in the article is unlike those used by Taskin, however.

43. For Diderot’s memorandum on the faults of his *Encyclopédie*, see R. DARTON, *The business of enlightenment*, op. cit., p. 46–47.

44. The article on the *clavier* is in vol. III, 1753, p. 512–513, here p. 513. The use of italics for the word “Voyez” is as in the original and, followed by the title of the article to which the cross-reference refers in appropriate capitals, is standard in the *Encyclopédie*.

45. See Jean-Jacques Rousseau, *Dictionnaire de Musique*, Paris, Duchesne, 1768 in quarto, repr. Geneva, Minkoff, 1998 with an introduction by Jean-Jacques Eigeldinger. This history of Rousseau’s articles is taken from that introduction, p. 13–14.



in alphabetical order as publication of the text volumes of the *Encyclopédie* proceeded, that is, between 1751 to 1765. The article on *ravalement* was somehow forgotten along the way and had to await the publication of the *Dictionnaire* in 1768 to see the light of day, then finding its rightful place on page 405. The version there is identical to the one in the *Supplément* except that all the nouns start with capital letters whereas in the *Supplément* they only do so at the beginnings of sentences.

Volume V of Diderot's *Encyclopédie* contains a nine-line article entitled "EPINETTE", which, again only because there is no indication to the contrary, may be assumed to have been written by Diderot himself:

*EPINETTE*, s. f. (Lutherie.) *sort de petit clavecin. Il y en a de forme de parallélogramme; & d'autres, qu'on appelle à l'italienne, ont à-peu-près la figure de clavecin: il y en a qui sonnent l'octave, d'autres la quarte ou la quinte au-dessus du clavecin; du reste c'est la même facture & la même mécanique. Voyez CLAVECIN, & la fig. 6. Pl. XVI. de la Lutherie. Les épinettes n'ont qu'une seule corde sur chaque touche & qu'un seul rang de sautereaux.*<sup>46</sup>

The rectangular spinets mentioned presumably refer to such as Ruckers virginals while spinets *à l'italienne* refer to the bentside spinets with a protruding keyboard that were made in Paris in the 17th century, the result of the influence of Girolamo Zenti (circa 1610–1668?), known to have been in Paris in the late 1660s.<sup>47</sup> The mention of the three pitches above that of the harpsichord suggests that harpsichords were only found at one pitch in Paris when Diderot wrote.<sup>48</sup> "Pl. XVI", referred to in the text, is shown below in figure 10.

The article on the *clavecin*, the smaller articles with which it is cross-referenced and the above

article on the *épinette* are characterized by their reliance on observation and facts to give an adequate description; all are clearly written and make no pretence to writing history. Diderot appears to have been content to describe instruments that were not only typical of his day but also typical of France.

Although the article "CLAVECIN" appeared in 1753 in volume III and the article "EPINETTE" appeared in 1755 in volume V, the two articles, like those on music written by Rousseau, must have been prepared already in the late 1740s. That these articles mention neither instruments with hammers nor harpsichords with the *peau de buffle* and that these items are not to be found under other possible headings such as *peau de buffle*, *piano forte*, *forte piano* or *Pantalon* is therefore not surprising. When Diderot wrote his article, the piano had not reached France and Taskin had not invented his *peau de buffle*. The lack of a reference to the clavichord, let alone a complete entry for that instrument, tends to confirm the idea that at some time after Mersenne published his *Harmonie universelle* in 1636 but before Diderot wrote his two articles in the 1740s the clavichord fell into abeyance in Paris.

### *Reprints of the Encyclopédie and the run up to L'édition d'Yverdon and the Supplément*

Three folio editions – little more than reprints of the *Encyclopédie* – were produced, all in French, one in Switzerland and two in Italy.<sup>49</sup> All three were

46. *Encyclopédie, ou dictionnaire raisonné, op. cit.*, vol. V, 1755, p. 803.

47. The oldest French instrument of this type known was made by Jean (II) Denis (circa 1600–1672) in 1667. The author is grateful to Luigi Ferdinando Tagliavini for the information given here on the *épinette à l'italienne*.

48. For a discussion of the different pitches of the harpsichords and virginals of the Ruckers family, see Grant O'BRIEN, *Ruckers, a harpsichord and virginal building tradition*, Cambridge, Cambridge University Press, 1990, p. 223–225.

49. For more on the various editions of the *Encyclopédie*, see J. LOUGH, *Essays on the Encyclopédie, op. cit.*, chapter 1 and R. DARNTON, *The business of enlightenment, op. cit.*, p. 33–37. The second folio edition that appeared in Geneva between 1771 and 1776, published by Pancoucke and his partner Samuel de Tournes was simply a reprint. The two other folio editions published in Italy, both in French, were entirely reset with all the plates re-engraved. One appeared in Lucca, directed by Ottaviano Diodati, between 1758 and 1776. A close examination shows that the revision promised was mostly of polemical entries and was given up after volume III. The other Italian folio edition was published in Livorno by Giuseppe Aubert between 1770 and 1779 and included (at the end) a reprint of the *Supplément* (1776–1777, see note 51 for the bibliographical references to the *Supplément*) but with little

completed in the 1770s; these reprints add nothing to the present essay; as far as stringed keyboard instruments are concerned, all three merely reproduce the entries and the plates to be found in Diderot's *Encyclopédie*.

Meanwhile, moves were made to produce revised editions of the *Encyclopédie*, stimulated not only by the desire to amend the original and to bring it up to date but also by commercial interests; four thousand sets of the original had been sold and this gave promise of a good market for an edition that could be advertised as an improvement on the first. One of these second editions was planned by the ambitious and most powerful of French publishers, Charles-Joseph Panckoucke (1736–1798), established in Paris. Since signing a contract with Le Breton (the primary publisher of the first edition of the *Encyclopédie*) in 1768, he could claim ownership of the rights to the *Encyclopédie*.<sup>50</sup> This claim was to shape all the subsequent editions of the *Encyclopédie* except for one.

Although Panckoucke's first project for making a revised edition was never realised, it did result in the *Supplément*, the five volumes of which appeared in 1776 (volumes I, II and III) and in 1777 (volume IV and the single volume of engravings).<sup>51</sup> These were put on the market by Panckoucke as updates to the

original *Encyclopédie* and are usually found today in libraries in the same binding as the set of Diderot's volumes and kept in the stacks on the same shelves, with the four volumes of text, numbered I to IV, following on from Diderot's seventeen volumes of text. Similarly, the single volume of plates follows on from the original eleven volumes of engravings but is given the title "Tome XII" on its spine. Inside it has no volume number.

Meanwhile, perhaps to their embarrassment but certainly to the financial worry of the French involved in the *Supplément* enterprise, the Swiss protestant Fortuné Barthélemy de Felice (1723–1789), baptised as a catholic in Rome as Fortunato Bartolommeo Felice, ordained as a priest and later converted to Protestantism after moving to Switzerland, announced a completely revised edition of the *Encyclopédie*, in quarto, to be published at his press in Yverdon, Switzerland. This was the one edition in the development of the encyclopaedia after Diderot that had nothing to do with Panckoucke. Felice intended to give the *Encyclopédie* an international and more sober character. His efforts were clearly destined to be successful, as indicated by the large numbers of his subscribers.<sup>52</sup>

The publishing of a completely revised *Encyclopédie* in Switzerland could certainly have damaged sales of the *Supplément*.<sup>53</sup> After some heated exchanges, the two protagonists, Felice and Panckoucke, settled their differences by backing down on various fronts. Before either the *Supplément* or the *Encyclopédie d'Yverdon*, as Felice's version came to be called, were published, Felice and the chief editor of the *Supplément*, Robinet, agreed to exchange articles.<sup>54</sup> With regard to stringed keyboard instruments, only one article was involved

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or no revision to the text. For the present essay, sets of the Lucca and Livorno editions were consulted in the Bibliotheca Achiginnasio in Bologna and a set of the Livorno edition was consulted in The Royal Library, The Hague.

50. See R. DARNTON, *The business of enlightenment*, *op. cit.*, p. 29–31.

51. *Supplément à l'encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers, par une société de gens de lettres*. The four text volumes (I to III in 1776, IV in 1777) appeared in Amsterdam (chez Marc-Michel Rey) while the volume of *Planches* (1777) to go with the *Supplément* appeared both in Amsterdam (chez Marc-Michel Rey) and in Paris (chez Panckoucke, Stoupe & Brunet) with the title *Suite du recueil de planches sur les sciences, les arts libéraux, et les arts mécaniques, avec leur explication*. Panckoucke also published the two volumes of index (*Table*), prepared by Pierre Mouchon, for the *Encyclopédie* and the *Supplément* in 1780 in Paris (chez Panckoucke) and Amsterdam (chez Marc-Michel Rey) with the title *Table analytique et raisonnée du dictionnaire des matieres* [sic] *contenues dans les XXXIII volumes in-folio du dictionnaire des sciences, des arts et des métiers, et dans son supplément* but without mention of the royal privilege. The '33 volumes' comprised the original seventeen volumes of text and eleven volumes of engravings, plus the four volumes of the *Supplément* and its single volume of engravings.

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52. *Encyclopédie, ou dictionnaire universel raisonné des connoissances humaine, mis en ordre par M. De Felice*, Yverdon, (no publisher is given but in fact it was Felice), 42 vols. in quarto, 1770–1775, six volumes for a *Supplément* 1775–1776, and ten volumes of engravings, 1775–1780. The set consulted for this study is in the Royal Library in The Hague. For the *Supplément* to Diderot's *Encyclopédie* and its relationship to the *Encyclopédie d'Yverdon*, see K. HARDESTY, *The Supplément to the Encyclopédie*, *op. cit.*, p. 15–17.

53. See R. DARNTON, *The business of enlightenment*, *op. cit.*, p. 19–20.

54. K. HARDESTY, *The Supplément*, *op. cit.*, p. 146.

in the swap; a lengthy entry on the *épinette* dealing with a variety of stringed keyboard instruments was adopted from the *Encyclopédie d'Yverdon* for the *Supplément*.

### *The Encyclopédie d'Yverdon, 1770–1780*

Starting in 1770, Felice took ten years to publish his *Encyclopédie d'Yverdon*, complete with 42 volumes of text, six volumes of supplements to the text and ten volumes of engravings. Volume X (1772) of the text includes Diderot's article (1753) entitled "CLAVECIN" word for word, complete with the cross-references to the smaller articles and references to the engravings. The engravings, copied for this quarto edition at half size from the folio originals, were numbered following a new system and the references to them in the text were changed accordingly. Perhaps because of a lack of awareness on the part of the engravers or a lack of interest on the part of Felice, the engravings were made not only half size but also mirrored.<sup>55</sup> The consequences for instruments like the bassoon are subtle to the untrained eye but the plates showing the harpsichord and the spinet have more obvious deficiencies, showing for instance the bentside on the wrong side (compare fig. 7 & fig. 8). Less obvious is the mirroring of the keyboards where they are shown as separate items. The keyboards in Felice's version seem to have curious ranges, ending at the note a<sup>3</sup> in the treble and with the lowest note not shown (fig. 9). In fact this is only the result of the mirroring of Diderot's original engraving (plate XVI) in which the keyboards start in the bass at the note GG and it is the top note that is not shown (fig. 10).

Volume XVI of the *Encyclopédie d'Yverdon* (1772) contains an extended article "ÉPINETTE".<sup>56</sup> Starting

with a repeat of Diderot's nine-line article with the same title, cited above, the article continues with a lengthy and confusing sequel, signed at the end with the initials V. A. L., those of Paul-Joseph Vallet (?–1790), a lieutenant-general in the Grenoble police force who wrote a number of articles for the *Encyclopédie d'Yverdon*.<sup>57</sup> The article might, from its title, be expected to discuss only the spinet, the small, usually single-strung member of the plucked harpsichord family. The first sentence of Vallet's sequel already indicates however that his description concerns the harpsichord in general, not just the spinet, by referring to "*l'épinette ou clavecin ordinaire*".<sup>58</sup> The curious historical details of the *clavecin ordinaire* that follow include the idea that in the old days the plectra were not of quill but of leather, more or less in the manner of "*M. de Laine , maître de vielle , & M. Pascal , facteur de clavecin , tous deux résidans à Paris*", presumably referring in the case of Pascal Taskin to his use of *peau de buffle* for plectra. This piece of erroneous information about the use of leather plectra is followed by another confusion, namely, that about a hundred years ago, strings of brass and iron began to be used instead of those of gut. A hundred years before the article was written would be about 1670; by that time metal

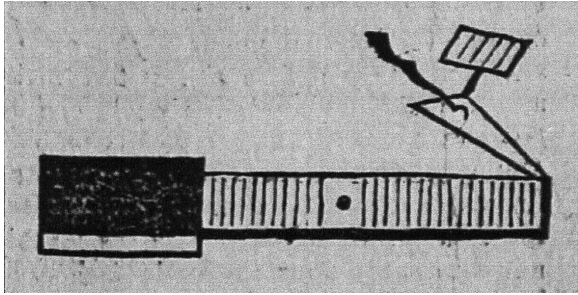
57. K. HARDESTY, *The Supplément*, *op. cit.*, p. 146. The article, as it appeared later in the *Supplément*, is given here in the appendix.

58. Vallet's use of the term *épinette* to refer to the harpsichord may derive from Mersenne's *Traité de instruments à cordes* in which the section on stringed keyboard instruments is entitled "LIVRE TROISIÈME DES INSTRUMENTS A CHORDES. PREMIERE PROPOSITION. DETERMINER QUELLE EST LA MATIERE, la figure, l'accord & l'usage de l'Epinette." See M. MERSENNE, *Harmonie universelle*, *op. cit.*, p. 101–109. The description of the rectangular spinet (and not the harpsichord) continues with "PROPOSITION II. Expliquer la figure de l'Epinette , & la Science du Clavier tant parfait , qu'imparfait , & quel il doit ester pour joier toutes sortes de compositions de Musique dans leur parfaite iustesse , sans user du temperament." This two part section, which also contains references to the "*Clavecin*", may have lead Vallet to think that *épinette* was a generic term that included a variety of stringed keyboard instruments, as indeed could be mistakenly read into the title of the section. In fact the next part, entitled "PROPOSITION III. Expliquer la figure , les parties , le Clavier & l'entendüe du Clavecin" (p. 110–112) deals with the harpsichord and Mersenne's illustration thereof (p. 111). Vallet may also have been confused by the next entry "COROLLAIRE. Expliquer vne nouvelle forme d'Epinette dont on use en Italie" (p. 113–114) that shows a drawing of an upright harpsichord.

55. *Encyclopédie, ou dictionnaire universel raisonné*, *op. cit.*, vol. X, 1772, p. 28–35. The engravings have the title *Encyclopédie, ou dictionnaire universel raisonné des connoissances humaine, mis en ordre par M. De Felice, Planches*, Yverdon. Vol. VII (1778) contains the engravings of musical instruments. That volume contains three sets of pages each numbered separately starting at p. 1. The engravings of the harpsichord and the spinet are in the third set, p. 25–27.

56. *Encyclopédie, ou dictionnaire universel raisonné*, *op. cit.*, vol. XVI, 1772, p. 450–455.





11. *Encyclopédie, ou dictionnaire universel raisonné des connaissances humaines*. Mis en ordre par M. de Felice, vol. XVI, Yverdon, Felice, 1772, p. 452. The Hague, The Royal Library. The illustration of a key with a hammer and damper in the article “EPINETTE”.

strings had been used for harpsichords for a long time.

Some parts of Vallet’s article indicate openly that he used Mersenne’s work. When describing the upright harpsichord, Vallet not only wrote that an illustration of such an instrument was to be found in Mersenne’s 1636 *Harmonie universelle* but also noted some of what Mersenne had to say about it. Vallet, like Mersenne, then moved on to the clavichord, referring again to an illustration in Mersenne’s work, giving page 114 of the *Harmonie universelle* as reference; in fact the illustration is to be found on page 115.<sup>59</sup> The mention of the clavichord may indicate that Vallet was aware of existing instruments, perhaps those in Germany at the time. Perhaps this was not the case, but even so, if the intention of the *Encyclopédie d’Yverdon* was to bring the original up to date and give it a more international character, Vallet, perhaps unintentionally, fulfilled those functions in his

mention of the clavichord, then still as good as forgotten in France, but certainly very much alive in Germany.

The description of the clavichord mentions an interesting point not made by Mersenne, suggesting that Vallet may nonetheless have received more recent information on the instrument. The clavichord, Vallet wrote, gave rise to the idea of the “*épinette à marteaux*, de bois dur” (italics as in the original).<sup>60</sup> By this he clearly meant that the clavichord gave rise to the piano, a reasonable supposition considering in the first place that in both instruments the strings are struck rather than plucked and in the second that many early pianos have the same oblong shape as that of the clavichord. Vallet’s description continues with the information that the hammers in these pianos could be positioned horizontally or vertically. This might be interpreted as follows: an *épinette à marteaux* with hammer shanks orientated horizontally could have been a piano with the hammers pivoted on the keys, as in a German action, or in a separate hammer rail, as in a so-called English action, while an instrument with the hammers orientated vertically could have been a piano with the type of action found in those *Hammerflügel* later called *Tangentenflügel*.<sup>61</sup> In such instruments, the hammers consist of small staves of wood (so-called tangents) standing vertically at rest, either directly on the keys or on intermediate levers. The tangents are thrown up to hit the strings when the keys are played.

The article mentions that these *épinettes à marteaux* required less maintenance than those with quills, suggesting a simple action, perhaps a pivoting hammer action without an escapement mechanism, or otherwise a tangent action without an intermediate lever. The accompanying drawing, although unclear, suggests the former (fig. 11).

59. Mersenne describes the vertical harpsichord as a “*nouvelle forme d’Epinette*” in the *Harmonie universelle* (p. 113–114). See previous note. Vallet described the clavichord as the “*manicordion* {sic} ou *claricorde*”. The term *mani-cordion* came from Mersenne’s article on p. 114–116 of the *Harmonie universelle* (“*Proposition IV. Expliquer la figure, la matiere, & les parties du Manicordion*”) while the term *claricorde* must have come from elsewhere. *Claricorde* could be a misreading of *clavicorde*, the v and the r look similar in some fonts, especially in italics. Much of Vallet’s words on the clavichord are so confusing that it is hard to imagine that he fully understood Mersenne or that he had ever seen a clavichord.

60. *Encyclopédie, ou dictionnaire universel raisonné des connaissances humaines*, op. cit., vol. XVI, 1772, p. 451–452.

61. The term *Tangentenflügel* did not come into use until 1791. Until then, keyboard instruments with unattached vertical hammers were called by the same names as those with horizontal hammers. See Michael LATCHAM, “Franz Jakob Spath and the *Tangentenflügel*, an eighteenth-century tradition”, *Galpin Society Journal*, LVII, 2004, p. 150–170, here p. 150–152. For Marius’s designs for tangent pianos, see G. P. di STEFANO, “The *clavecins à maillet* of Marius and Veltman”, op. cit.

Vallet's description of the "*épinette à marteaux*" mentions not only hammers but also an optional moderator, later known in France as the *céleste*. The moderator inserts cloth or leather between the hammers and the strings, softening the sound. When Vallet wrote, probably in the late 1760s, the English square pianos, then becoming popular in London and perhaps also in Paris too, had no moderator. On the other hand, those small pianos made at the time in Germany that were inspired by the *Pantolon*, the giant hammered dulcimer invented early in the 18th century by Pantaleon Hebenstreit (1668–1750), probably had bare wooden hammers with an optional moderator, presumably in imitation of Hebenstreit's hammers for his dulcimer, bare wood on one side, wood bound with wool on the other. Pianos were also made in Switzerland from the 1760s onwards by Johann Ludwig Hellen of Bern. Some of these may have had bare wooden hammers and a number of the square pianos by Hellen certainly had moderators.<sup>62</sup> Vallet's *épinettes à marteaux* were thus more likely German or Swiss rather than English. Whichever they were, they are the first pianos to be mentioned in a version of the *Encyclopédie*.

Vallet's entry next jumps back to the history of quilled harpsichords, still called *épinettes*, describing (with a dose of fantasy and considerable inaccuracy) English harpsichords with several stops. These governed plectra that plucked the single strings at different positions along the strings. This probably refers to the so-called lute stop, found on some English double-manual harpsichords, that produces a nasal timbre using a row of jacks positioned close to the nut. Although the article then continues to describe double-manual "*épinettes ordinaires*", these are apparently French harpsichords. Flemish harpsichords made in the previous century by Andreas Ruckers and expressive instruments that operated like *Geigenwercken* are also mentioned. "*M. de Berger*" (Joseph-Antoine Berger) and "*M. de Laine*" (Jean Delaine) are noted as makers of instruments that offered the player the possibility

of playing with dynamics.<sup>63</sup> The article ends with a tedious list of possible improvements to the *épinette*. Many of these are fanciful and impractical and serve to show how far this article is removed from a description based on observation. The mention (towards the end of the entry, improvement no. 6) of the death that surely awaits those women who play the glass harmonica, a superstition held at the time, only serves to underline this impression.

Two differences between Diderot's article on the *clavecin*, repeated verbatim in volume X of the *Encyclopédie d'Yverdon*, and Vallet's article on the *épinette* in volume XVI become apparent: first, Diderot's article is based on observation while that of Vallet is based on Mersenne's work and probably on reports from elsewhere; second, Diderot's article is clear and well-structured while that of Vallet is confused. Vallet's article does however have some potentially redeeming features in that it contains something of a historical dimension and a semblance of an international character. In practice however, the parts of his article that demonstrate these features, for instance his accounts of clavichords and of what appear to have been German-style pianos are not sufficiently well worked out or clear enough to be of much use to the historian.

Diderot, when offered the chance of continuing work on his *Encyclopédie* under the auspices of Catherine the Great, refused, not only because he had everything set up in Paris for the actual production, but, so it is said, because everything he needed to observe was to be found in France; in a sense, an encyclopaedia of that which was to be found in France was an encyclopaedia of everything. Not so for Felice, who criticised Diderot's *Encyclopédie* on this point. Felice wrote in the preface to his *Encyclopédie d'Yverdon* that it comprised articles drawn from sources written by authors of diverse nationalities in order to give it

62. See: Jean-Claude BATAULT and Pierre GOY, "Les petits pianofortes de Hellen", *Musique-Images-Instruments*, 6, 2004, p. 49–66; and Michael LATCHAM, "The musical instruments en forme de clavecin by, or attributed to, Johann Ludwig Hellen", *Musique-Images-Instruments*, 6, 2004, p. 68–94.

63. Joseph-Antoine Berger presented a *clavecin organisé* to the Academy in 1765 and was specially commended for the two knee levers to control dynamics (see note 5). Jean Delaine adapted the keyboard mechanism of a *vielle* to the *pardessus de viole* in 1773. See: A. COHEN, *Music in the French Royal Academy of Sciences*, *op. cit.*, p. 61–62; and C. SAMOYAUULT-VERLET, *Les facteurs de clavecins parisiens*, *op. cit.* p. 27.

an international character.<sup>64</sup> Nonetheless, Felice added, his sources included Diderot's *Encyclopédie* and indeed, he went on, the basic structure of that work had been followed for the Yverdon edition. At the same time Felice qualified his debt to Diderot by stating that articles of a purely national character in the original edition had been excluded from the *Encyclopédie d'Yverdon*; furthermore, articles written in a foreign language that had not been included in the Paris edition had been translated in order to make it possible to include them as well; finally, articles in Diderot's *Encyclopédie* of a revolting length ("*d'une longueur révoltante*") had been abridged. The majority of the Parisian articles, Felice added, perhaps adequate when they were written, had been replaced by ones that were new and up to date.

When Felice requested Vallet to write articles for the *Encyclopédie d'Yverdon* he may have specifically asked him to modernize those articles and give them a more international content. This indeed seems to be evidenced by Vallet's article on the *épinette*; it turns out to be an attempt not only to include the clavichord and the piano but also to describe harpsichords in general, including those from different countries. Nonetheless, a less altruistic motive may also have been at work; an encyclopaedia with a modern and international character would surely appeal to a larger market. That a real desire to improve the encyclopaedia may not have been foremost in Felice's mind is suggested by the lack of quality shown in Vallet's article and by the lack of care with the engravings, all printed back to front. These drawbacks point to a lack of editorial care and a lack of a sense of responsibility for the contents of the encyclopaedia on the part of Felice, hardly qualities that go together with an attempt to improve.

Felice may also be criticised for making exactly those mistakes for which he attacked the "*édition de Paris*", as he called Diderot's original edition. Felice wrote that he had deleted articles with a purely national character, and yet he included verbatim Diderot's articles on the French *clavecin*

and the French *épinette*. By all means, the article on the *épinette* was expanded by Vallet to include instruments from other times and places, but by uncritically including Vallet's ramblings, Felice did exactly something else for which he had criticised the *édition de Paris*: he extended Diderot's nine-line article on the *épinette*, concise and to the point, to a length that is certainly tiresome, if not *d'une longueur révoltante*.

The claims Felice made for his *Encyclopédie d'Yverdon* turn out to be hollow when it comes to the engravings. In the first place, Felice's debt to Diderot with respect to them was far greater than Felice had declared. By uncritically copying practically all of the engravings from the original encyclopaedia, Felice included a huge and essential part of the *édition de Paris*. Except for the deletion of two of the engravings of musical instruments, one of a wood turner's equipment, including a lathe, the other a general one of an instrument maker's workshop, all of them were copied without any editing; none of the engravings of musical instruments was replaced by a more up-to-date version or by one of a more international character. At the worst, this suggests that Felice did not see the engravings as anything more than a source of delight for the owners of his edition, that he did not understand the real value of the engravings as an integral part of the *Encyclopédie*. Nevertheless, having once decided to adopt the engravings, he must have been faced with the problem of their interdependence with the texts of the entries. Many of the articles only make proper sense in conjunction with the engravings and many of the engravings can only be properly understood by reading the relevant articles; the articles literally contain the keys to many of the engravings. To include all the engravings therefore meant adopting a huge number of the articles that went with them. In particular here, by including Diderot's engravings of the harpsichord, Felice had to include Diderot's article on the harpsichord. The engravings and the text are inextricably bound up with each other; without the article, the engravings would have lost their function. Ironically, the article, and with it the engravings, were out of date and hardly international in character when Felice adopted them. Not only that, by adopting Diderot's article on the harpsichord and by having Vallet enlarge the article on the spinet to include harpsichords, Felice included two different (and in

64. *Encyclopédie, ou dictionnaire universel raisonné des connoissances humaine*, *op. cit.*, vol. I, 1770, *Préface*, p. xi–xv, especially xii and xiii, cited at length in J. LOUGH, *Essays on the Encyclopédie*, *op. cit.* p. 48–49.



part contradictory) articles on the harpsichord in his *Encyclopédie d'Yverdon*. If he did so unwittingly, this would only add to the mediocrity of his editorship.

Summing up, it may be said that with regard to stringed keyboard instruments, neither Vallet as text writer nor Felice as editor can be said to have had much to commend them except that Vallet did make some reference to the clavichord and to the *épinette à marteaux* with an optional moderator. The suggestion that the *épinettes à marteaux* derived from the clavichord implies that they were oblong in shape, that is, square pianos rather than grand pianos. The hammers could be either vertical or horizontal, the first suggesting a tangent action, the second an action with pivoting hammers mounted on the keys or in a separate hammer rail. The description further mentions that the actions in these pianos were simple ones, possibly with bare wooden hammers. That they also had moderators suggests German or perhaps Swiss origins. Vallet's description is not clear, however, suggesting his information was gathered from elsewhere and was not based on observation.

### *The Supplément to Diderot's Encyclopédie, 1776–1777*

The *Supplément*, intended to bring Diderot's encyclopaedia up to date, comprised four volumes of text and one of engravings, all produced in folio. The editor, Robinet, revised and expanded numerous articles from Diderot's encyclopaedia, either wrote or commissioned various new articles and, in accordance with the agreement with Felice, obtained articles from the Yverdon encyclopaedia.<sup>65</sup>

In the *Avertissement* in the first volume of the *Supplément*, a list of the initials used at the ends of the new and revised articles is given together with the names of the authors to whom the initials refer. One of the authors, Frédéric-Adolphe-Maximilien-Gustave de Castillon (1747–1814), a music theoretician, wrote new articles on music,

including some on musical instruments. His authorship is indicated by the initials F. D. C. One of his tasks appears to have been to update Diderot's original article "CLAVECIN", probably written in the late 1740s. If so, Castillon made no attempt to revise the article itself for the *Supplément* when it was being prepared in the 1770s despite the fact that by then Taskin had already invented his *peau de buffle* and *genouillères*. Instead, Castillon appears to have been content to add three new articles on unusual types of *clavecin*. These were given the titles: "CLAVECIN À ROUE", a form of the *Geigenwerck*; "CLAVECIN VERTICAL" or upright harpsichord; and "CLAVECIN BRISE" or folding harpsichord.<sup>66</sup> From the way they are written, the entries for the *clavecin à roue* and the *clavecin vertical* were almost certainly inspired by Praetorius's 1620 *Theatrum Instrumentorum* or by Mersenne's 1636 *Harmonie universelle* rather than being the products of first-hand experience of the rare examples of these types of instruments that Castillon could have known, for instance Johann Hohlfeld's *Bogenflügel* or Albert Delin's upright harpsichords.<sup>67</sup> The inspiration for Castillon's article on the folding harpsichord was probably the invention by Jean Marius of such instruments; Marius had presented his *clavecin brisé* to the Académie Royale des Sciences more than half a century earlier.<sup>68</sup> Robinet, as editor of the *Supplément*, may thus appear to have brought the *Encyclopédie* up to date by including Castillon's three articles on the *clavecin*. In practice however, the articles on the *Geigenwerck* and the *clavecin vertical* were probably not based on observation but on historical sources; as for the invention of the *clavecin brisé*, this was already part of history.

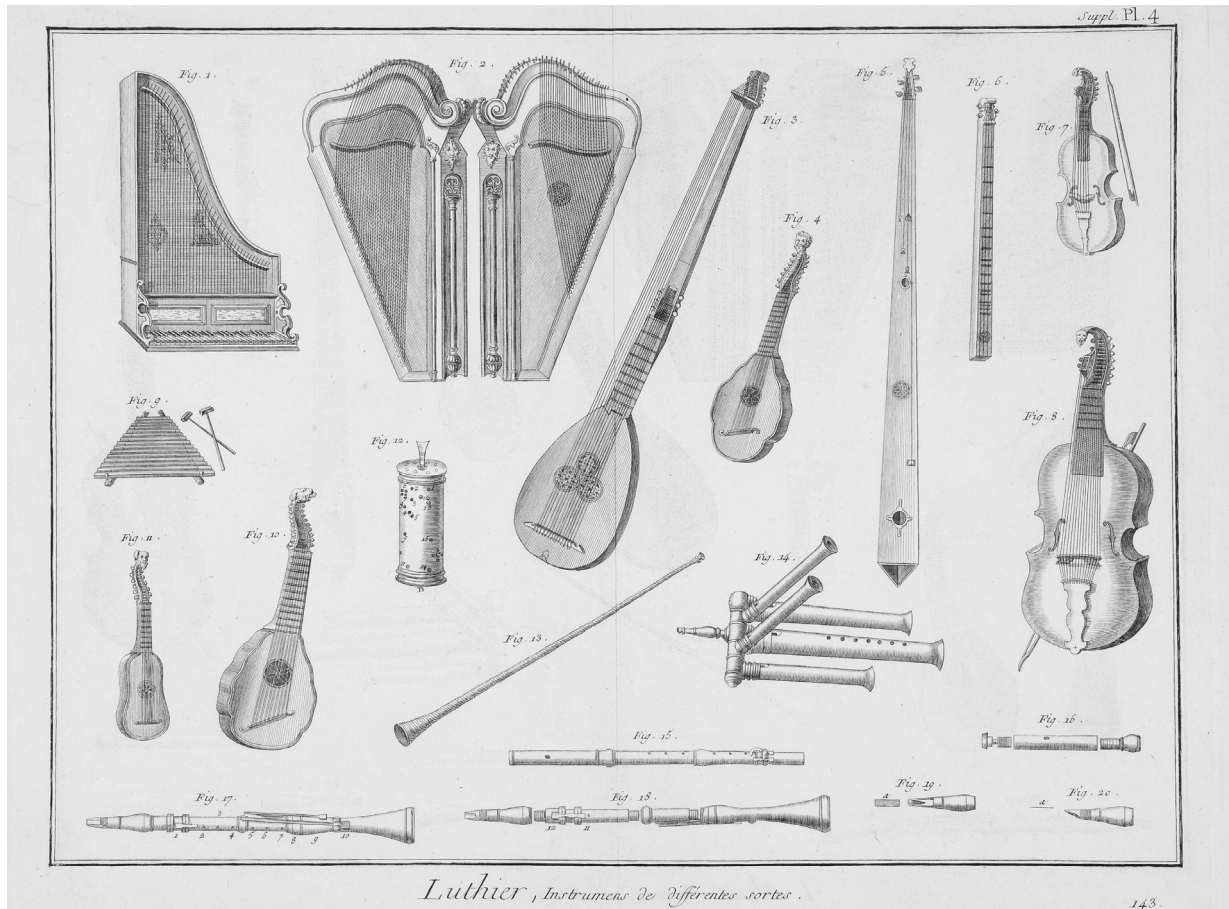
The impression that the *Supplément* relied on the unacknowledged use of historical sources is strengthened by an examination of the illustrations

65. D'Alembert was one of those who wrote for the *Supplément*. In the *Encyclopédie d'Yverdon*, articles are claimed to have been obtained from other foreign versions of the *Encyclopédie* (see n. 73). These could only have been the two Italian versions. These contained little that was new however. See note 49.

66. *Supplément*, *op. cit.*, vol. II, p. 457. The use of large and small capitals is as in the original.

67. Michael PRAETORIUS, *Theatrum Instrumentorum*, Wolfenbüttel, Elias Holwein, 1620; Reprint: Kassel, Bärenreiter, 1985; M. MERSENNE, *Harmonie universelle*, *op. cit.* For more on *Geigenwercken*, see Cristina BORDAS IBÁÑEZ, "La collection Barbieri de Madrid", *Musique-Images-Instruments*, 9, 2007, p. 45–51.

68. See A. COHEN, *Music in the French Royal Academy*, *op. cit.*, p. 47–52 and G. P. di STEFANO, "The *clavecins à maillet* of Marius and Veltman", *op. cit.*



12. Anonymous, *Luthier, Instrumens de différentes sortes*, engraving, in *Suite du recueil de planches sur les sciences, les arts libéraux, et les arts mécaniques, avec leur explication*, plate VI, Paris, Panckoucke, Stoupe & Brunet; Amsterdam, Rey, 1777, The Hague, Gemeentemuseum. A number of the separate illustrations that make up this plate, including the upright harpsichord and the double harp, were exactly copied from Michael Praetorius *Theatrum instrumentorum*, Wolfenbüttel, Elias Holwein, 1620 (compare fig. 13).

of musical instruments in the single volume of engravings published in 1776. “Fig. 1” in the fourth and last plate of musical instruments (“Suppl. Pl. 4”) shows an upright harpsichord (fig. 12). Suspicion is already aroused by the fact that Castillon’s entry on the *clavecin vertical* contains no reference to this illustration. The double plate is subtitled *Luthier, Instrumens de différentes sortes* and includes, among a number of other instruments, a clarinet and a flute, no doubt modern when the plate was engraved in about 1775. But the *clavecin vertical* and other instruments shown in the plate are anything but modern; they are exactly copied

(without acknowledgement) from Praetorius’s 1620 *Theatrum instrumentorum* (fig. 13).<sup>69</sup> Old and new are thus mixed in a hotch-potch of items that might have taken the fancy of any superficial dilettante.

69. M. PRAETORIUS, *Theatrum Instrumentorum*, op. cit., 1620. The *explication* in the *Suite du recueil de planches sur les sciences, les arts libéraux, et les arts mécaniques, avec leur explication*, Paris, Panckoucke, Stoupe & Brunet; Amsterdam: Rey, 1777, p. 17 gives figure 1 simply as “Clavecin vertical” with no reference to Praetorius. The pages in the volume of engravings are not numbered.

A fourth article by Castillon immediately follows his three entries on the *clavecin* in the *Supplément*. This article, entitled “CLAVICORDE”, includes such subjective statements and inaccuracies as those contained in the following:

*Ordinairement les tons graves du clavicorde ont un son de chauderon, & les aigus n'en ont point du tout, ce qui provient du trop, ou trop peu de longueur des cordes; le clavicorde ne peut guere {sic} avoir que tout au plus trois octaves, dont le son soit agréable.*<sup>70</sup>

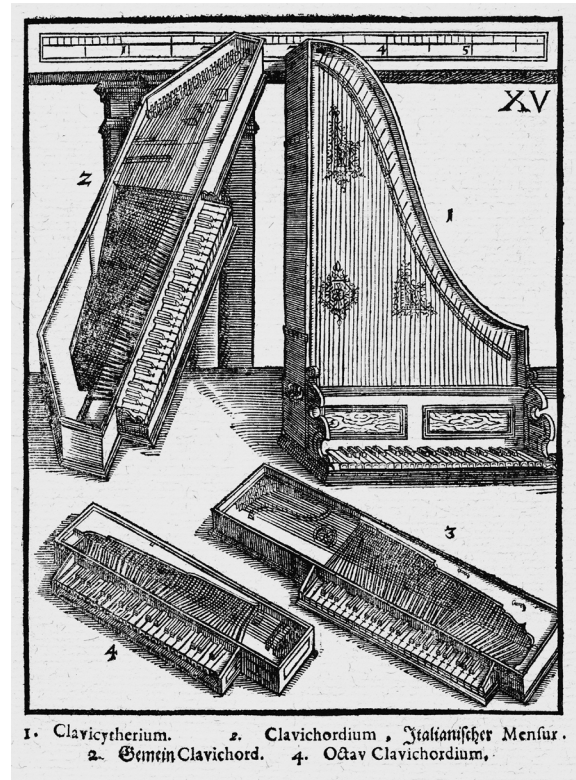
The article is of such poor quality that it seems likely that Castillon was unaware of the clavichord as an existing instrument. But, like Vallet before him in the *Encyclopédie d'Yverdon*, he may at least be commended for including this instrument, forgotten in France, in the *Supplément*.

The next article on a stringed keyboard instrument in the *Supplément* is headed “§ EPINETTE”.<sup>71</sup> In the preface to the *Supplément* the sign “§” is explained:

*La marque § en tête d'un Article, annonce que c'est une simple addition ou correction à l'Article qui se trouve sous le même mot dans le Dictionnaire raisonné, des Arts & des Métiers.*<sup>72</sup>

The “*simple addition ou correction*” to the original article “EPINETTE”, announced by the sign “§”, comprises the replacement of Diderot's nine-line article by Vallet's rambling article “EPINETTE” from the *Encyclopédie d'Yverdon*.<sup>73</sup>

In the *Encyclopédie d'Yverdon*, Diderot's article was combined with Vallet's article; in the *Supplément*, Diderot's article was substituted by Vallet's article. Both the combination of the two articles and the substitution of the one by the other seem to rest on two different understandings of the word *épinette*: Diderot understood *épinette* to mean a spinet; Vallet



13. Anonymous, 1. *Clavicytherium*. 2. *Clavichordium, Italianischer Mensur*. 3. *Gemein Clavichord*. 4. *Octav Clavichordium*, engraving, in Michael Praetorius, *Theatrum instrumentorum*, Wolfenbüttel, Elias Holwein, 1620; reprint: Kassel, Bärenreiter, 1985. The “*Clavicytherium*” was copied for the *Suite du recueil de planches*, *op. cit.*, plate 6 (compare fig. 12).

must have understood *épinette* to mean a variety of instruments including the harpsichord, the spinet, the piano and perhaps even the clavichord. Both the combination of the two articles and the substitution of the one by the other thus demonstrate confusion with regard to the terminology of stringed keyboard instruments.

The internal confusions in Vallet's article on the *épinette* in the *Encyclopédie d'Yverdon*, already noted, were made worse by adopting the article for the *Supplément*.<sup>74</sup> First, Vallet's description of the *clavecin*

70. *Supplément*, *op. cit.*, vol. II, p. 457.

71. *Idem*, vol. II, p. 820–822.

72. *Idem*, vol. I, p. iv.

73. The preface to the *Supplément* (vol. I, p. iv.) gives a separate list of the initials used for authors who wrote articles “*tirés des éditions étrangères de l'Encyclopédie*”, in fact from the *Encyclopédie d'Yverdon*. See K. HARDESTY, *The Supplément*, *op. cit.*, p. 146. The list includes Vallet's initials, V. A. L., and these are found at the end of the article “EPINETTE” in the *Supplément*.

74. As far as stringed keyboard instruments were concerned, the exchange of articles (see K. HARDESTY, *The Supplément*, *op. cit.*, p. 146) between Felice and Panckoucke only involved this one article by Vallet; the exchange had only been one way,



*vertical*, derived from Mersenne and imported into the *Supplément* (vol. II, p. 820), contrasts with Castillon's article on the *clavecin vertical*, probably inspired by Praetorius or Mersenne and written for the *Supplément* (vol. II, p. 457). Second, Vallet's vague description of the clavichord, imported into the *Supplément* (vol. II, p. 820–821), is at odds with Castillon's garbled article on the *clavicorde*, written for the *Supplément* (vol. II, p. 457–458).<sup>75</sup> Third, Vallet's description of instruments that operated like *Geigenwercken*, imported into the *Supplément* (vol. II, p. 821–822), contrasts with Castillon's article on the *clavecin à roue* written for the *Supplément* (vol. II, p. 457). An overall grip of the *Supplément* on the part of its editor would surely have at least resulted in the cross-referencing of these articles or better, would have ensured that there was only one entry on each instrument.

One change of emphasis appears to have occurred when Vallet's article on the *épinette* was imported from the *Encyclopédie d'Yverdon* into the *Supplément*. In the original 1772 article in the *Encyclopédie d'Yverdon*, the hammered instrument is called an "*épinette à marteaux*, de bois dur", with *épinette à marteaux* in italics and a comma immediately after *marteaux*.<sup>76</sup> In the 1776 version in the *Supplément*, the hammered instrument is called an "*épinette à marteaux de bois dur*", with italics used only for the word *épinette* and no comma.<sup>77</sup> The original in the Yverdon edition thus reads more like 'a

spinet made of hard wood with hammers', perhaps therefore meaning an instrument with a walnut (a hard wood) case, while the version in the *Supplément* reads more like 'a spinet with hard wood hammers' as opposed to a spinet with plectra.<sup>78</sup> Although neither interpretation can definitely be taken to mean that the hammers were bare, the words 'hard wood hammers' in the *Supplément* version suggests that the hammers were of plain hard wood, that is, with no leather or any other soft substance covering them.

Whether the change in the entry was intentional or whether it was just a variation due to type-setting can obviously not be determined. But nevertheless and in any case, if an article written in 1772 by a person in Grenoble included details about small pianos, those pianos could easily have had bare wooden hammers. Such instruments were probably known at the time in Germany and in Switzerland too, as already noted. But just because the same article was then published again in 1776 in the *Supplément* to the great French *Encyclopédie* there is no reason to believe that such small instruments with bare wooden hammers were also known in Paris.<sup>79</sup> Furthermore, if Vallet's pianos did indeed have bare hammers, they would have been unlike the English-style square pianos, certainly becoming popular in Paris when the *Supplément* was being prepared, in that those English pianos always had leather on their hammers, as mentioned above. Not only that, Vallet's pianos had a moderator whereas those that came from England never had one as far as is known.<sup>80</sup>

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that is, from the *Encyclopédie d'Yverdon* to the *Supplément* and not from the *Supplément* to the *Encyclopédie d'Yverdon*. The new articles on the *clavecin vertical*, the *clavecin brisé*, the *clavecin à roue*, the article on the clavichord and even a good one on the *Pantalon* referring to square pianos (discussed below), all written by Castillon for the *Supplément*, do not appear to have been of interest to Felice for his *Encyclopédie d'Yverdon*, not even for his six-volume *Supplément* (1775–1776), certainly prepared by Felice after the agreement to exchange articles.

75. The reference to Mersenne is also in vol. II, p. 820. The description may be compared with the original: M. MERSENNE, *Harmonie universelle*, *op. cit.*, p. 114–116.

76. *Encyclopédie, ou dictionnaire universel*, *op. cit.*, vol. XVI, p. 451. The italics given in this and the next quote are as in the original, two exceptions to the convention used in this essay (see note 1).

77. *Supplément à l'encyclopédie*, *op. cit.*, vol. II, p. 820–822, here p. 821. This is the only important departure from the original article. The only other change of any consequence is a misreading of "*sommier*" given in the *Supplément* as "*sommet*".

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78. Or (at a stretch) as opposed to those with hammer heads covered in cork, a substance apparently used for this purpose by Christian Baumann in the 1770s. See Bernard BRAUCHLI, "Christian Baumann's square pianos and Mozart", *Galpin Society Journal*, XLV (1992), p. 29–49, here p. 38.

79. Florence Gétreau kindly pointed out one early reference to a hammered instrument that could have been such a German-style square piano with a moderator, however. In the *Affiches, annonces et avis divers*, quoted in E. de BRICQUEVILLE, *Les ventes d'instruments*, *op. cit.* p. 12 (2 June 1763), the following instrument was described: "*Un petit clavecin à marteau d'une espace nouvelle, ayant plusieurs jeux qui imitent la harpe et le luth et faisant les forte et les piano, même les crescendo*".

80. In 1788, however, Samuel Bury took out a patent for additions to the square piano that included a moderator. See *Patents for inventions. Abridgments of specifications relating to music and musical instruments*. A.D. 1694–1866, London 1871;

A fifth entry by Castillon in the *Supplément*, this time in its objective precision more in keeping with the spirit of the original entry “CLAVECIN” in Diderot’s *Encyclopédie*, also refers to pianos. This one is headed “PANTALÉON”. The article starts with a brief description of the giant hammered dulcimer, already mentioned above, invented by Pantaleon Hebenstreit; this is followed by the fact that the name “*Pantalon*” was given to those instruments the Italians and Germans call “*forte-piano*”:

PANTALÉON , (Luth.) instrument à cordes de boyaux , assez semblable à un tympanon , & dont on joue avec des baguettes.

Le pantalon fut inventé environ en 1716 par un étudiant nommé Pantaleon Hebenstreit , qui lui a donné son nom. Je n’ai pas pu m’en procurer à tems une description détaillée & exacte , ni le dessin ; tout ce que j’en peux dire , c’est qu’outre qu’il est bien plus grand , & contient bien plus cordes que le tympanon , il a de plus tous les semi-tons , comme le clavessin. L’inventeur de cet instrument a été en France , & s’y est fait souvent admirer.

Au reste quelques-uns appellent pantalon le clavessin à cordes & à marteau que les Italiens & les Allemands appellent forte-piano , à cause que le son en est susceptible; probablement le nom de Pantalon a donné lieu à cette dénomination , tout comme l’instrument paroît avoir occasionné le forte-piano. ( F. D. C. )<sup>81</sup>

Even though Castillon’s article mentions here that the Italians called the harpsichord with hammers the *forte-piano*, the idea that the hammered dulcimer gave rise to the *forte-piano* implies that Castillon was unaware of Cristofori’s invention, published by Scipione Maffei (1675–1755) in 1711.<sup>82</sup> Cristofori’s

*cembalo a martelletti* is so obviously derived from the *cembalo a penna* that this would not have escaped the attention of Castillon had he actually seen such an instrument or received an accurate description of one. On the contrary, both the use of the word *forte-piano* by Castillon, a Frenchman, and his use of the name *Pantalon* for a keyboard instrument suggest that he meant a small piano by his words “*clavessin à cordes & à marteau*”. The idea that the hammered dulcimer may well have given rise to such early square pianos suggests that Castillon’s informant, like Vallet’s, had small German-style pianos in mind, those with bare wooden hammers and an optional moderator, reflecting the double hammers of Hebenstreit, one side plain wood, the other bound with wool, rather than the English-style square pianos, those with leathered hammers and no moderator.

In the *Supplément*, the entry “§ EPINETTE”, originally written by Vallet, includes a description of some sort of piano, possibly with bare hammers but in any case with a moderator and therefore probably German, and mentions the possibility that this *épinette à marteaux* derived from the clavichord; Castillon’s entry entitled “PANTALÉON”, also in the *Supplément*, suggests that instruments with hammers, probably also German in style, were derived from Hebenstreit’s dulcimer. While both these ideas probably have some historical foundation (although outside France), a well-planned and well-edited encyclopaedia would have brought together these two entries, both concerning the origins of the piano, if only through a cross-reference. Apparently, these two entries in the *Supplément* were each included without an awareness of the addition of the other. The contrast with Diderot’s articles and engravings relating to the *clavecin*, consistent in themselves, consistently cross-referenced and distributed among different volumes of a far more extensive but nonetheless far better organized work, hardly needs pointing out.

It may be concluded that the entries for keyboard instruments in the *Supplément* do not present the state of affairs regarding keyboard instruments in Paris in the 1770s. Furthermore, a number of the entries are not only inconsistent in themselves but

reprint London 1984, p. 20–21, “A.D. 1788, January 15th. - No. 1637”. The original manuscript patent application is to be found in the National Archives, Kew, London, no. 1637, signature C210/31. For more on Bury and on stops in square pianos in general, see Michael LATCHAM, “The *Clavecin royal* of Johann Gottlob Wagner in its eighteenth-century context”, in: Boje E. Hans SCHMUHL and Monika LUSTIG, eds., *Geschichte und Bauweise des Tafelklaviers* (Michaelsteiner Konferenzberichte, Bd. 68), Augsburg and Michaelstein 2006, p. 127–184.

81. *Supplément*, op. cit., vol. IV, p. 231.

82. Scipione MAFFEI, “Nuova invenzione d’un gravecembalo col piano e forte aggiunte alcune considerazioni sopra gli

strumenti musicali”, *Giornale de’Letterati d’Italia*, V, Venice, 1711, p. 144–159. For Cristofori, see note 24.

also with each other. In short, they appear to have been included without an overall vision on the part of the editor, Robinet. With respect to stringed keyboard instruments, the *Supplément*, rather than adding new information to the original *Encyclopédie* or revising the out-dated information it may have contained, mostly added confusion. On the positive side, Castillon's article "CLAVICORDE" in the *Supplément* at least acknowledged that the clavichord existed, a fact of which Diderot was apparently not aware. Furthermore, Castillon's article "PANTALÉON", with its suggestion that those instruments called the *forte-piano* derived from Hebenstreit's dulcimer, is to be commended at least as a reference to hammered instruments. That Castillon had not seen them himself is not surprising if indeed those instruments were German. But as a Frenchman, probably writing in the mid-1770s, he had apparently not taken note of any of the small square pianos that had already been imported from London or that had been made by French makers, including Erard, by that time. There may not have been so many of them in Castillon's environment, but in any case, those English square pianos that had arrived and those English-style square pianos that had been made by French makers were either unknown to Castillon or, if he did know of them, they made little or no impression on him. If they had, he would surely have made a connection between them and those derived from Hebenstreit's *Pantolon*. Castillon either did not notice the new pianos or he paid them no heed. Like Trouflaut, Voltaire and La Borde, Castillon belonged to the ranks of the reactionaries.

### *The quarto and octavo editions of the Encyclopédie, 1777-1782*

During the production volumes of text VIII to XVII (all 1765) of Diderot's *Encyclopédie*, the publisher, Le Breton, secretly took out passages that he thought would be offensive to the authorities. At the time, writings critical of the establishment could even put the lives of those responsible in danger. Breton made no attempt to patch up the relevant entries and printed them in their mutilated state. Diderot only noticed what had been done when checking through some articles as they came off the press. This was not the only source of dissatisfaction

for Diderot, however. In 1768 or 1769 he himself wrote that his *Encyclopédie* had several shortcomings: the mediocre entries marred the quality of the whole; some important subjects had been omitted; the cross-referencing was not as complete as intended; and the texts were not always sufficiently well related to the engravings.<sup>83</sup> Although the *Supplément*, to which Diderot made no contribution, may have been intended to redress these problems, the new entries it contained on stringed keyboard instruments mostly added confusion and little of value to the original *Encyclopédie*.

Inevitably, there were others besides Diderot who criticised the *Encyclopédie*. Those involved in making new editions, including Felice in Yverdon, were quick to take up on such criticism in order to promote their own endeavours, advertising them as improvements to Diderot's work. There was another motive however, that of making money. The extensive business of producing smaller and cheaper versions of the *Encyclopédie* that gained momentum in France and Switzerland from the late 1760s onwards until the early 1780s was dominated by the commercial aspect of publishing. The making of money even appears to have eclipsed a real interest in improvement, evidenced by the fact that these later editions, published in quarto and octavo, show a lack of respect and understanding for Diderot's original work; a number of articles were shortened in the interests of reducing the sheer bulk of the work (and thus the production costs), but far more importantly, the number of volumes of engravings was reduced from eleven to a mere three. The absence of the volumes of engravings meant cutting out of

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83. For Diderot's own words, see R. DARNTON, *The business of enlightenment, op. cit.*, p. 46–47. The original memorandum is lost. Much of the general aspects of this introduction to the quarto and octavo editions is gleaned from p. 38–200 of Darnton's work. Prior to the *Supplément*, Panckoucke had also launched a plan to publish a revised folio edition of the *Encyclopédie*. This may as well have been partly intended to remedy the faults Diderot had pointed out. Panckoucke asked Diderot to write the memorandum in which the latter expressed his criticism in order to persuade the authorities that such a new edition should be granted the royal *privilege*. This was refused however and this was the last time Diderot appears to have undertaken something concrete with regard to a revised version of his *Encyclopédie*. See R. DARNTON, *The business of enlightenment, op. cit.*, p. 48–49.



the text volumes all the references to the relevant *planches*, now discarded.

After the official banning of the *Encyclopédie*, the last ten text volumes (1765) of the original edition and any new editions had to be published abroad, or rather, they had to appear as if they were published abroad. Nonetheless, by making no references to Diderot and d'Alembert or to the text volumes on the title pages, the eleven original volumes of *planches* could still be produced openly in Paris “avec approbation et privilege du Roy”. In 1772, the last volume of the engravings, all of which of course formed a very real part of the original *Encyclopédie*, were delivered to the subscribers and Diderot's involvement came to an end. Thereafter, the field was dominated by Charles Panckoucke, established at his Parisian *librarie* in the “*rue des Poitevins, à l'Hotel de Thon*”. His power was derived not only from his resources, his contacts and his experience, but also from his claim to the ownership of the rights to the *Encyclopédie*.

Two projects for revised editions, one planned by Panckoucke, the other envisaged by Joseph Duplain, a bookseller from Lyon, led to considerable threatening, haggling, spying, and, in the end, the dropping of both projects.<sup>84</sup> Instead, Duplain and Panckoucke buried their differences and joined forces with various lesser partners (including

Clément Plomteaux of Liège, Gabriel Regnault of Lyons and the Société typographique de Neuchâtel) to produce a *Nouvelle édition* of the *Encyclopédie*, in quarto, published ostensibly by Jean-Léonard Pellet in Geneva but in fact published by the new consortium. This new edition was printed by a variety of presses in Switzerland and, more or less clandestinely, in France. Printing started in 1777 with a nominal run of four thousand. The edition comprised 36 volumes of text and the three volumes of engravings, none of which was of musical instruments. Owing to the success of the subscription campaign, the press run was increased by a nominal two thousand. This increase appears somehow to have been understood by Duplain and Panckoucke as a second edition. In fact, the work of printing the extra two thousand started before the first four thousand had all been printed and any distinction Duplain and Panckoucke may have made between a first and a second edition was only a distinction between a first impression of four thousand sets and a second impression of two thousand sets. Furthermore, of the six thousand sets, each set comprising 39 volumes, no surviving volume has been reported with a title page indicating that it was of a second edition.

For marketing reasons, another increase, again of two thousand (and again initiated before the completion of the printing of the previous press run), had to be announced as a new venture; it seems that in order to launch a new subscription, the product had to be given a new name. The name, “*Troisième édition*”, was duly included on the title pages of this so-called new edition. With regard to stringed keyboard instruments, no changes other than those due to type-setting can be detected between the *Novelle édition* and the *Troisième édition*, as might be expected.<sup>85</sup>

84. For this extraordinary process and for the various names of the editions, see R. DARTON, *The business of enlightenment*, *op. cit.*, p. 94–130. The passage given here on the publication of the new quarto edition is a summary of Darnton's description and analysis. The set of the *Nouvelle édition* in the Bibliothèque nationale in Paris was consulted for this study: *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers, par une société de gens de lettres. Mis en ordre & publié par M. Diderot; & quant à la partie mathématique, par M. d'Alembert. {...} Nouvelle édition*, 36 vols., Geneva, Jean-Léonard Pellet, 1777–1778 (with vols. XXX, XXXIII and XXXVI from the *Troisième édition*, 1779; 3 vols. of engravings: *Recueil de planches, pour la nouvelle édition du dictionnaire raisonné des sciences, des arts et des métiers, avec leur explication*, 3 vols., Geneva, Jean-Léonard Pellet, 1778–1779; and the 6 index vols.: *Table analytique et raisonnée des matières contenues dans les XXXIX volumes in - quarto du dictionnaire des sciences, des arts et des métiers*, 6 vols., Lyon, Amable le Roy, 1780–1781. All the text volumes have the names of Diderot and d'Alembert on the title pages rather than the asterisks of the later volumes of Diderot's *Encyclopédie* with “MIS EN ORDRE & PUBLIÉ PAR M.\*\*\*.” Vol. XXX, from the *Troisième édition*, has only La Société Typographique in Neuchâtel as publisher.

85. *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers. Par une société de gens de lettres. Mis en ordre & publié par M. Diderot; & quant à la partie mathématique, par M. d'Alembert. {...} Troisième édition*, 36 vols., Geneva, Jean-Léonard Pellet, & Neuchâtel, La Société Typographique, 1779. The edition (Germanisches Nationalmuseum) consulted for this study has a number of volumes (IV, VI, VIII and XX) with the date of publication 1778. Two volumes (XXIX and XXXVI) have only Pellet in Geneva as publisher and one (XXX) has only La Société Typographique in Neuchâtel as publisher. There are six index volumes: *Table analytique et raisonnée des matières*

In both Switzerland and in France, numerous presses were kept extremely busy printing different volumes of the new edition; those presses would have been at different points in the total run of eight thousand.<sup>86</sup> Some presses would have been engaged with particular volumes when the edition was still being printed as the *Nouvelle édition*, other presses with other volumes when it had become the *Troisième édition*. Neither were single presses engaged in producing all 36 volumes and nor were all eight thousand copies of a particular volume necessarily printed by the same press; the sets were assembled by gathering them together from the various presses. It is presumably for this reason that particular sets of the 36 volumes comprise some volumes with title pages including the words “*Nouvelle édition*” and other volumes with title pages including the words “*Troisième édition*”. In all of them however, the name of Jean-Léonard Pellet of Geneva appears as that of the publisher, even though he had only a small part in the production.<sup>87</sup>

Abbé Jean-Antoine de Laserre was appointed editor of the *Nouvelle édition*. He was contracted to absorb all the entries in the *Supplément* into Diderot’s *Encyclopédie* at the appropriate places, to delete the references to the amputated *Planches* and further to revise the original entries where necessary.<sup>88</sup> Laserre was given two different contracts, one for

producing the copy for the *Nouvelle édition* and one for producing the copy for the *Troisième édition*. That he had two contracts probably relates to his practice of shortening articles for the *Nouvelle édition*, part of his work as revisor, and to his own personal habit of occasionally inserting his sermons into articles.<sup>89</sup> Some of those involved in the publishing process objected to both these practices. This led to re-editing copy after it had left Laserre’s hands. The new contract may have been drawn up to curtail Laserre’s practices officially. Slight differences may thus occur between volumes titled “*Nouvelle édition*” and volumes titled “*Troisième édition*”. No significant differences may be detected between the two “*éditions*” with respect to the articles on stringed keyboard instruments however, so for the purposes of this study, the *Nouvelle édition* and the *Troisième édition* may be considered as the same.<sup>90</sup>

[sic] *contenues dans les XXXIX volumes in-quarto du dictionnaire des sciences, des arts et des métiers*, 6 vols., Lyon, Amable le Roy, 1780–1781. The XXXIX volumes include the 3 volumes of engravings (also printed twice, once in 1778 and again in 1779). Unfortunately, the set consulted in Nuremberg does not include the three volumes of engravings. Both the set of the *Nouvelle édition* in the Bibliothèque nationale in Paris and the set of the Swiss octavo edition in the Royal Library in The Hague have all three. The engravings related to music are of musical examples, not of instruments.

86. The pages were delivered loose leaf so it would have been no problem to run up title pages mentioning the words *Troisième édition* and exchange them before delivery for those mentioning the words *Nouvelle édition*.

87. See R. DARNTON, *The business of enlightenment*, *op. cit.*, p. 113–115. For almost all volumes of the *Troisième édition*, Pellet’s name is seconded by that of the Société Typographique of Neuchâtel on the title page. Three volumes of the set of the *Nouvelle édition* in the Bibliothèque nationale are of the *Troisième édition*. See note 85.

88. See R. DARNTON, *The business of enlightenment*, *op. cit.*, p. 198–203.

89. *Ibid.* Vol. VIII (containing the article on the *clavecin*) of both the *Nouvelle édition* and the *Troisième édition* were published in 1778, while vol. XII, containing the article on the *épinette* was published in 1777 for the *Nouvelle édition* in the Bibliothèque nationale de Paris and in 1779 for the *Troisième édition* in the Germanisches Nationalmuseum, Nuremberg. In the set of the *Troisième édition* in Newcastle-upon-Tyne, vol. XII was published in 1778 (see J. LOUGH, *Essays on the Encyclopédie*, *op. cit.*, p. 39) and may therefore be part of the first increase of two thousand, the putative second edition.

90. The set of the *Nouvelle édition* in the Bibliothèque nationale, Paris was compared with the *Troisième édition* in the Germanisches Nationalmuseum, Nuremberg for this essay. All the differences between these two, and between them and the second octavo edition, also consulted, may be termed typesetters’ differences. In the article for the *clavecin* the following selection of differences (A–E) may be given (here with capitals and italics as in the originals) as typical: A) *Nouvelle édition* (vol. VIII, 1778, p. 230, 1<sup>st</sup> column): “CLAVECIN, s.m. (*Luth.*) instrument de mélodie & d’harmonie, dont l’on fait parler les cordes en pressant les touches d’un clavier semblable à celui de l’orgue.”; (vol. VIII, 1778, p. 230, 1<sup>st</sup> column): “CLAVECIN, s.m. (*Luth.*) instrument de mélodie & d’harmonie, dont on fait parler les cordes en pressant les touches d’un clavier semblable à celui de l’orgue.”; Lausanne-Bern octavo edition (vol. VIII, 1782, p. 231, 2<sup>nd</sup> column): “CLAVECIN, s.m. *Luth.* instrument de mélodie & d’harmonie, dont l’on fait parler les cordes, en pressant les touches d’un clavier semblable à celui de l’orgue.” B) *Nouvelle édition* (vol. VIII, p. 230): “[...] équivalent à un poids de dix-huit cens livres.”; *Troisième édition* (vol. VIII, p. 230): “[...] équivalent à un poids de dix-huit cents livres.”; Lausanne-Bern octavo edition (vol. VIII, p. 232): “[...] équivaux à un poids de dix-huit cent livres.”; C) comparing p. 230 for the two quarto editions, there are 15 places where the lines break

A new octavo edition (1778–1782), pirated from the new quarto edition, was published by a consortium of two Swiss *sociétés typographiques*, those of Lausanne and Bern. As advertised in the prospectus and cited on the title pages (“*Édition exactement conforme à celle de PELLET, in-quarto*”), this edition, counted sometimes as two (or even three) editions, amounted again to only one edition with different impressions.<sup>91</sup> Counting all the press runs, nearly six thousand sets of this edition were printed. By using a smaller font than that of the *Nouvelle édition*, the Swiss octavo edition could have 36 volumes of text, the same as the *Nouvelle édition*, and almost the same numbers of pages as in the *Nouvelle édition* for each volume. The size of almost all of the engravings was reduced by half to produce the same three volumes of engravings; the few plates that were nonetheless printed in quarto were folded to fit the octavo size. Apart from some small changes in type-setting, the relevant articles in the octavo edition exactly follow those in the *Nouvelle édition*.<sup>92</sup> In short, as far as the contents of

the articles are concerned, any reference made here to the *Nouvelle édition* may not only be taken to apply to all three quarto “editions”, but to these Swiss octavo “editions” as well.

Panckouck’s original aim with the *Nouvelle édition* was doubtless to make a less expensive edition of the original *Encyclopédie*. Even if he claimed that he intended to revise the text his real aim seems to have been to reduce production costs, achieved mainly by cutting out the vast majority of the engravings. The revision of the text seems to have amounted to little more than absorbing the *Supplément* into the *Encyclopédie* and adapting the entire text to the fact that most of the engravings were gone. This revision belonged to Lasserre’s editorial duties; another part of his work was to indicate how the reader could recognize those articles that had been taken from Diderot’s *Encyclopédie*. At the beginning of volume I of the *Troisième édition* (p. lxxviii) an explanation is duly given:

*Presque tous les articles qui n'ont point de lettres à la fin, ou qui ont une étoile au commencement, sont de M. Diderot : les premiers sont ceux qui lui appartiennent comme étant un des Auteurs de l'Encyclopédie ; les seconds sont ceux qu'il a suppléés* [sic] *comme Editeur.*

As in the *Supplément*, a table of authors follows together with the initials used to indicate their authorships at the ends of their articles. The list not only includes all the initials and names on the list in the *Supplément* but some new ones besides. The authorship of “M. DE CASTILLON, fils” is again indicated by the initials F. D. C. and that of “M. D’ALEMPERT” is indicated by the single initial O.<sup>93</sup> Again as in the *Supplément*, the “*Explication des lettres et autres marques*” continues with the remark that entries provided with any other initials or signs had been drawn from foreign editions of the *Encyclopédie*. Just as in the *Supplément* this probably meant in practice only the *Encyclopédie d’Yverdon*. Once again the initials V. A. L., those of Vallet, are included in this list of initials of anonymous writers. The “*Explication*” further notes that the mark § at the

at different places; D) in the Lausanne-Bern edition, (vol. VIII, p. 232) “Couchet” becomes “Conchet”. For the article on the *épinette* the following may be noted: E) *Supplément* (vol. II, 1776, p. 820, 2<sup>nd</sup> column): “[...] les cordes étoient de boyaux, par conséquent les sons étoient doux, moux; [...]”; *Nouvelle édition* (vol. XII, 1777, p. 706, 1<sup>st</sup> column): “[...] les cordes étoient de boyaux, par conséquent les sons étoient doux, mous; [...]”; *Troisième édition* (vol. XII, 1779, p. 706, 1<sup>st</sup> column): “[...] les cordes étoient de boyaux, par conséquent les sons étoient doux, moux; [...]”; Lausanne-Bern octavo edition, (vol. XII, 1782, p. 680, 2<sup>nd</sup> column): “[...] les cordes étoient de boyaux, par conséquent les sons étoient doux, mous; [...]”.

91. See R. DARNTON, *The business of enlightenment*, op. cit., p. 35–36.

92. All the volumes of the octavo set consulted for this essay, in the Royal Library, The Hague, are from the second “edition”, dated 1780–1782. The title page of volume I reads: *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers. Par une société de gens de lettres. Mis en ordre & publié par M. Diderot ; & quant à la partie mathématique, par M. d’Alembert. [...] Édition exactement conforme à celle de Pellet, in-quarto. Tome premier. A Lausanne et a Berne, Chez les Sociétés Typographiques. M. DCC. LXXXI*. There are 36 volumes of text with publication dates ranging from 1780 to 1782. Vol. XXIV (1780) contains the article “PANTALÉON” (p. 401); vol. XXVIII (1780) contains the article “RAVALEMENT” (p. 391–392); vol. XXX (1780) contains the article “SAUTEREAU” (p. 171–172); vol. XXXI (1781) contains the article “SOMMIER de clavessin” (p. 364); vol. VIII (1782) contains the article “CLAVECIN”

(p. 231–236), and vol. XII (1782) contains the article “ÉPINETTE” (p. 680–684).

93. D’Alembert had agreed to return to the *Encyclopédie* by contributing to the *Supplément*; Diderot had refused.



head of an article again denotes an addition to, or correction of, the *édition de Paris*. The letters *A N* precede new articles.

Despite all this precise information, the entirely new article “CLAVECIN” (vol. VIII, 1778, p. 230–37) remains anonymous; it does not end with any initials to show who wrote it and nor is it preceded by \*, § or by *A N* even though it certainly does not come from the original *Encyclopédie*. Perhaps the signs or initials were forgotten, perhaps the author preferred to remain anonymous. Laserre seems somehow unlikely to have been that author although perhaps he had an interest in the harpsichord as well as in spiritual matters; alternatively he may have subcontracted the work to an expert. As will become apparent, the latter seems more likely.

The article “CLAVECIN” in the *Nouvelle édition*, refreshingly well written, starts with what was apparently intended to be a description of a generic harpsichord. It seems however that, like Diderot when he wrote his article, the author had a French double-manual instrument in mind; although, for example, mention is made of the woods used in the construction of the harpsichord as if referring to the harpsichord in general, those woods are in fact the ones used in the construction of instruments built in the Flemish and French tradition to the exclusion, for instance, of the cypress used in the building of harpsichords in the Italian tradition.<sup>94</sup>

Diderot’s original article “CLAVECIN” contained cross-references to related articles, smaller in size, such as the one on harpsichord jacks, the *sautereaux*. All those lesser articles were included in the *Nouvelle édition* by Laserre, each one necessarily depleted of any references to the engravings but nonetheless still including references to the new article on the *clavecin* written for the *Nouvelle édition* and in each case, except for the article on the *guide de sautereaux*, the small article does indeed find some corresponding passage in the new article on the *clavecin*. Nevertheless, the main article contains no references to the lesser articles. In other words, the smaller articles comprise specific references to the main article but the main article has no explicit references to the smaller articles. To some extent

therefore, Laserre managed to maintain the cohesion of the set of texts on the harpsichord and its parts but by no means as thoroughly as in Diderot’s original, properly cross-referenced edition.

Compared with the description of the construction of the harpsichord in Diderot’s article, that in the article “CLAVECIN” in the *Nouvelle édition* is somewhat shorter.<sup>95</sup> Nevertheless, some technical aspects are mentioned that were not covered by Diderot. These include the importance of securing the wrestplank adequately because of the substantial increase in total tension on a triple-strung harpsichord in comparison to one that was double-strung (again an indication that the author had a French harpsichord in mind) and, as far as the sound goes, the importance of the quality of the soundboard, of the correct positioning of the bridges and of the arrangement of the *boudin* or 4-foot hitch-pin rail. Other parts of the description refer to developments not mentioned or not fully described in the original *Encyclopédie* such as the process of enlarging harpsichords to five octaves with two unison stops and an octave stop (giving a total of 183 strings) as part of a *grand ravalement*.<sup>96</sup> Half a page is given to the 17th-century instruments of the Ruckers-Couchet dynasty and their importance to the work of Parisian makers. The Antwerp instruments are mentioned as superior but it is also stated that they require bringing up to date through a *grand ravalement*, preferably by “*Blanchet*”. The entry goes on to mention the importance of quilling and tuning, the latter described in some detail, and that this work is done “*dans les maisons*”, apparently meaning at the houses of the owners of the instruments. Small instruments are given

94. *Nouvelle édition*, *op. cit.*, vol. VIII, 1778, p. 230–232. One mistake is the statement that the bridges are normally made of oak. They were usually of beech.

95. While the general plan of Laserre’s article “CLAVECIN” seems to have been inspired its structure by Mersenne’s article “DETERMINER QUELLE EST LA MATIERE, la figure, l’accord & l’usage de l’Epinette” in his *Traité de instruments à cordes* (*Harmonie universelle*, *op. cit.*, p. 101–116), the one plundered by Vallet for his article for the Yverdon edition, here there seems to be no question of direct borrowing.

96. Diderot however, in his text (vol. III, p. 511) referred to his illustration of a two-manual harpsichord as one *à ravalement*. In the relevant volume of engravings (*Recueil de planches, sur les sciences, les arts libéraux, et les arts mécaniques, avec leur explication*. *Quatrième livraison*, 248 planches, Paris, 1767, vol. V, chez Briasson, David, & Le Breton, *lutherie*, second series, Pl. XIV) the instrument shown has the range FF to f<sup>3</sup>.

a brief mention; they are called *épinettes* or *demi-clavecins* and have but one string for each key, a succinct description comparable to Diderot's own short entry for the *épinette*.<sup>97</sup>

Next within the entry on the *clavecin* comes the *monocorde* or *clavicorde*. “*Ils sont fort agréables quand on les joue tout seul ; leur son est extrêmement doux {...}*” (p. 232). An accurate description of the mechanism of the clavichord is followed by some interesting remarks, both on the use of the clavichord and on German harpsichords. These remarks appear to be founded on reports rather than on older written sources:

*On peut exécuter sur cet instrument toutes les pièces de clavecin ; il sert aussi très-bien pour l'accompagnement d'une voix, flûte ou violon. C'est dommage que ces sorte d'instrumens ne soient pas connus en France. On en fait d'excellens dans la haute Allemagne, ainsi que des clavecins à deux claviers, sur-tout dans les villes de Dresde, Berlin, Dantzick & Hambourg. Dans ces mêmes villes on fait aussi des clavecins en obélisque ou pyramide : leurs cordes étant places perpendiculairement au dessus du clavier , ils tiennent moins de place dans les appartements , & sont un meuble assez agréable ; mais pour les concerts , ils deviennent inutiles , à cause de la difficulté de les placer avantageusement avec tout l'orchestre.*

The reason for the absence of an entry describing the clavichord in Diderot's *Encyclopédie* or an illustration of one in Diderot's original volumes of *planches* is now confirmed; the clavichord was indeed no longer known in France in Diderot's day. This is probably also the reason why neither the *Encyclopédie d'Yverdon* nor the *Supplément* contains a plausible entry for the clavichord. Vallet's entry “*EPINETTE*” in the *Encyclopédie d'Yverdon* included a description of the clavichord that at least partly drew on Mersenne's writings and that was almost certainly not based on observation; the quality of Castillon's entry “*CLAVICORDE*” in the *Supplément* suggests that he too was not acquainted with the instrument he was describing. While Diderot based his entries for stringed keyboard instruments on

those he knew, Vallet and Castillon based theirs, at least for the clavichord if not for other instruments as well, on hearsay and, in the case of Vallet, on Mersenne's writings. By contrast, the writer of the article “*CLAVECIN*” for the *Nouvelle édition* had either seen a clavichord or based his information on reliable reports of existing instruments. The same appears to be true of the description of the German harpsichords, both double manual and upright. Although their descriptions are brief in the article “*CLAVECIN*”, those descriptions appear to be based on a reliable report of actual instruments.

The convincing and objective entry “*CLAVECIN*” in the *Nouvelle édition* ends with a description of the *clavecins à marteau* of Jean-Henri Silbermann:

*Depuis un certain temps on fait venir à Paris des clavecins à marteau, appelés forte-piano, travaillés très-artisement à Strasbourg par le fameux Silbermann. Ces clavecins , dont l'extérieur est tout en bois de noyer le plus propre & le plus luisant , sont faits en sorte que chaque clavier fait lever une espece de marteau de carton enduit de peau , qui frappe contre deux cordes unissonnes , ou contre un seul si l'on veut. Ils ont cet avantage , que l'appui du doigt , plus fort ou plus foible, détermine la force ou la foiblesse du son. Ils sont fort agréables à entendre , surtout dans les morceaux d'une harmonie pathétique , & ménagés avec goût par celui qui l'exécute ; mais ils sont plus pénibles à jouer , à cause de la pesanteur du marteau , qui fatigue les doigts , & qui même rend le main lourde avec le temps.*<sup>98</sup>

The mention of the *una corda*, found almost never in square pianos because the strings run across the keyboard, leaves no doubt that the author is here referring to *clavecins à piano et forte*, that is, instruments in the shape of a harpsichord. The two surviving *Hammerflügel* made by J. H. Silbermann are indeed beautifully worked in walnut, their actions have hammers of card surmounted by pads of leather, and they do have the *una corda*.<sup>99</sup> As mentioned here at the outset, *Hammerflügel* by J. H. Silbermann were known in Paris in the 1760s, a fact in agreement with the statement in this entry

97. This contradicts La Borde's 1780 idea that spinets were double strung except in the treble where they were single strung. See J.-B. de LA BORDE, *Essai*, *op. cit.*, vol. I, p. 346.

98. *Nouvelle édition*, *op. cit.*, vol. VIII, 1778, p. 232.

99. One of the two surviving *Hammerflügel* by J. H. Silbermann is now in Berlin (1776), Musikinstrumenten-Museum, inv. no. 12. The other, undated, is privately owned in Switzerland.

that such instruments had been known in Paris “*depuis un certain temps*”.<sup>100</sup> If the entry was prepared in about 1776, the year before the publication of volume I, “*un certain temps*” would have meant for about sixteen years.

One criticism of the article “CLAVECIN” in the *Nouvelle édition* is that there is no mention of the square piano, certainly present in Paris in greater numbers than the “clavecins à marteau, *appelés* forte-piano” by J. H. Silbermann by the time the first volume of the *Nouvelle édition* was published (1777).<sup>101</sup> The article mentions that the name “forte-piano” was used for Silbermann’s *Hammerflügel*, but in those days that name was usually reserved for the square piano while the name *clavecin* was used for pianos in the shape of a harpsichord. The author of the article “CLAVECIN” in the *Nouvelle édition* does not distinguish these two types of piano and mentions in the description only the one in the shape of the harpsichord. This suggests that he was unaware of the other type, the square piano. Perhaps the article had been written some time earlier, that is, at a time when the square piano had not yet gained prominence in Paris; alternatively, perhaps the writer did not move in circles in which the square piano was popular. Be that as it may, the lack of any mention of the square piano in the *Nouvelle édition* is a disappointment.

The expectation that this well-written entry, in fact not only on the harpsichord but on the spinet, clavichord and *clavecin à piano et forte* as well, might be typical of all the others to do with keyboard instruments in the *Nouvelle édition*, that is that they might all be thorough revisions based on observation or good information, is however met with disappointment in the entries that

immediately follow; these are no less and no more than Castillon’s three supplementary entries on the *clavecin*, absorbed into the text verbatim (with their problems) from volume II of the *Supplément* (p. 457), with the titles “CLAVECIN À ROUE” (p. 232–233), “CLAVECIN BRISÉ” (p. 233) and “CLAVECIN VERTICAL” (p. 233), each one complete with Castillon’s initials, F. D. C.<sup>102</sup> As if following the *Supplément* tradition of having two differing entries for the same instrument, Castillon’s entry on the *clavecin vertical* now doubles the description of *clavecins en obélisque* ou *pyramide* in the entry entitled “CLAVECIN”. However, when it came to Castillon’s article “CLAVICORDE”, which immediately followed his three entries on the *clavecin* in the *Supplément*, someone, perhaps Laserre, does seem to have had the presence of mind not to include it, presumably because there was already a good up-to-date description of the clavichord in the new article on the *clavecin*.

The inclusion of Castillon’s three articles from the *Supplément*, those on special sorts of *clavecins*, was part of Laserre’s work however. That these articles, if anything, should have been absorbed into the article on the *clavecin*, plights against the idea that Laserre himself wrote the article “CLAVECIN”. If he had, he would surely have merged into it Castillon’s three articles in the process of his work as editor. If Laserre did not write the article “CLAVECIN”, perhaps the author who did also had the task of revising Castillon’s article “CLAVICORDE”. Rather than revising it as a separate article he included it in his article “CLAVECIN”.

Hopes that a clear picture of the development of the square piano in Paris in the 1770s might be found other than in the article “CLAVECIN” in the *Nouvelle édition* are quashed by the entry “EPINETTE” in volume XII (1779).<sup>103</sup> First comes an exact repeat of Diderot’s entry “EPINETTE”, taken from volume V (1755) of the original *Encyclopédie* (as in the Yverdon edition but here without the reference to the illustration), in which the spinet is described as a small, single-strung instrument, thus doubling the brief description of the *épinette* already given in the article

100. See note 3. Another reference to a *Hammerflügel* by J. H. Silbermann was kindly pointed out to me by Florence Gétreau: “Un autre *clavecin en forte piano à grand ravatement*, par Silbermann, à Strasbourg, sur son pied de bois de noyer”, *Catalogue des tableaux, desseins, terres cuites, marbres [...]* et autres objets précieux vendus après le décès de S. A. S. Monseigneur Le Prince de Conty par P. Rémy, A Paris, Palais du Temple, 8 avril 1777, no. 2040. See Florence GÉTREAU, “Quelques cabinets d’instruments en France au temps des Bourbons”, *Musique-Images-Instruments*, 8, 2006, p. 34.

101. Of the 48 dated square pianos (made between 1769 and 1791) on Bruni’s list of instruments confiscated from *les émigrés et condamnés* (see note 18), ten were made before 1777.

102. Then follows a fifth entry for the *clavecin*, one entitled “CLAVECIN OCULAIRE” (p. 233–234). See below.

103. *Nouvelle édition*, *op. cit.*, vol. XII, 1777, p. 706–710.



“CLAVECIN”. Then tagged on to Diderot’s short nine-line entry, just as in the *Encyclopédie d’Yverdon*, is Vallet’s entire confused entry “EPINETTE” (here taken from the *Supplément* rather than directly from the *Encyclopédie d’Yverdon*), complete with all its inconsistencies, its description of harpsichords, its borrowings from Mersenne, its *épinette à marteau*, its little drawing of a piano action and all Vallet’s proposed improvements to the *épinette*.<sup>104</sup>

The confusion already created by including Vallet’s Yverdon entry “EPINETTE” in the *Supplément* is thus carried a stage further by including it in the *Nouvelle édition*. For instance, the *Nouvelle édition* contains three descriptions of the *épinette*: first, the entry “CLAVECIN” describes the *épinette* as a small, single-strung instrument; second, the entry “EPINETTE” starts with a repeat of Diderot’s original entry “EPINETTE” in which the *épinette* is also described as a small, single-strung instrument; third, the entry “EPINETTE” continues with a repeat of Vallet’s entry “EPINETTE” from the *Encyclopédie d’Yverdon* (but taken from the *Supplément*) with its lengthy description of the *épinette* as a small or large instrument, plucked or hammered. Furthermore, even after deleting Castillon’s article on the *clavicorde* there remained nonetheless two descriptions of the clavichord in the *Nouvelle édition*, one in the article “CLAVECIN”, the other in the part of the article “EPINETTE” originally written by Vallet. The clear description of the clavichord as a German instrument unknown in France in the entry “CLAVECIN” is now after all confounded by repeating Vallet’s confusing description of the ‘*manicordion ou claricorde*’, originally part of his article “EPINETTE” in the *Encyclopédie d’Yverdon*. As far as pianos are concerned, the description of “l’*épinette à marteau*” (vol. XII, 1777, p. 707) in Vallet’s part of the article “EPINETTE” hardly compensates for the absence of a mention of the fashion for the square piano in Paris in the article “CLAVECIN”.

Castillon’s article “PANTALÉON”, absorbed into volume XXIV of the *Nouvelle édition* on page 411, at least makes mention of square pianos derived from Hebenstreit’s *Pantalon*, probably German instruments, those with a moderator, but these were not the ones that could have been observed in Paris; those instruments were mostly English in style if not in origin.

In short, the corruption already present in the *Encyclopédie d’Yverdon*, made worse in the *Supplément*, is exacerbated in the *Nouvelle édition*. Not only that, the motives for including or excluding at least a number of the articles seems to have had to do with presence or absence in them of references to engravings; Laserre could absorb several articles from the *Supplément* into the *Nouvelle édition* because they contained no references to any illustrations. These articles included Castillon’s three entries on special harpsichords, his article “PANTALÉON” and Vallet’s entire entry on the *épinette*. These articles could be included into the *Nouvelle édition* without doing more than glance at them: they contained no references to any separate volumes of illustrations. By contrast, Diderot’s article “CLAVECIN” was so inextricably bound up with the relevant engravings through references to them that it must have made more sense to have a new article written rather than to adjust the old. In other words, it seems that Vallet’s article on the *épinette* and Castillon’s four articles, those on the *clavecin vertical*, the *clavecin à roue*, the *clavecin brisé* and the *Pantalon* could be absorbed just as they were because there were no engravings to which they referred whereas Diderot’s article “CLAVECIN” had to be entirely rewritten because the engravings to which it referred had disappeared.

Whatever his motives might have been, Laserre, as editor of the *Nouvelle édition* of the *Encyclopédie*, may nonetheless be commended for having Diderot’s article “CLAVECIN” and Castillon’s article “CLAVICORDE” revised. The new article “CLAVECIN” in the *Nouvelle édition*, in reality an article on the *clavecin*, the *épinette*, the *clavicorde* and the *clavecin à marteau*, is similar in general quality to that of Diderot’s original article “CLAVECIN”. The new article is objective in its descriptions and seems largely to have been based on reliable first-hand information or even on observation; the writer included instruments from countries other than France, the process of *ravalement* and the

104. A comparison of the articles on the *épinette* in the Yverdon edition, the *Supplément* and the *Nouvelle édition* confirms that the editors of the latter used the *Supplément* as their source rather than the Yverdon edition. The differences in spelling adopted by the *Supplément* version are used in the *Nouvelle édition*, as are almost all the differences in punctuation and most importantly, the difference in the punctuation and italics of the “*épinette à marteaux de bois dur*”.

piano à queue of J. H. Silbermann, thus adding an international flavour and bringing things up to date at the same time. The same may be said of the inclusion of Castillon's article "PANTALÉON". Nevertheless, on the negative side, as the editor of the *Nouvelle édition*, Lasserre failed in his task of revision by uncritically absorbing outdated and confusing articles from the *Supplément*. In doing so, an edition of the *Encyclopédie* was created that contained two different descriptions of the harpsichord with plectra, two different accounts of the upright harpsichord, two different descriptions of the clavichord, three descriptions of the spinet with plectra, and if the description of the *épinette à marteaux* is set against the description of the *clavecin à marteau* and against Castillon's article on the *Pantalon*, three different and partially contradictory descriptions of the piano.

Summing up the *Nouvelle édition*, it may be said that on the positive side, numerous parts give information based either on observation or on reliable sources. Those parts are: the new article "CLAVECIN", containing good up-to-date information on the *clavecin*, the *épinette*, the *clavicorde* and the *clavecin à marteau*; the part of Diderot's article "EPINETTE", written originally for his *Encyclopédie*; Diderot's smaller articles on parts of the harpsichord (such as "SAUTEREAU"); and Castillon's article "PANTALÉON", taken from the *Supplément*. On the negative side, the articles written by Diderot were about thirty years old when they were included in the *Nouvelle édition*. Furthermore, the part of the entry "EPINETTE" that had been written by Vallet for the *Encyclopédie d'Yverdon* and Castillon's articles "CLAVECIN À ROUE", "CLAVECIN BRISÉ" and "CLAVECIN VERTICAL", written for the *Supplément*, all included in the *Nouvelle édition*, add confusion based on unreliable sources. Not only that, the *Nouvelle édition* makes no mention of the fashion for the new *forte pianos*, those small (as opposed to grand) pianos from England and similar ones made in Paris, certainly part of Parisian musical life before the publication of the *Nouvelle édition* started in 1777.

The most damning criticism of the *Nouvelle édition* however is the absence of Diderot's engravings, not only because of their intrinsic quality but also because of their relationship to the original text. An essential aspect of Diderot's *Encyclopédie* is the interdependence of the text and the illustrations;

the two combine to form a unified resource that provides an extraordinary wealth of information. By leaving out most of the illustrations, Panckoucke produced an emasculated version of the *Encyclopédie* that was indeed cheap. The exclusion of the majority of the engravings mutilated Diderot's work in a manner far worse than did Breton's censorship. Furthermore, any excuse Panckoucke might then have advanced for removing the engravings of musical instruments is contradicted by the fact that it was he who resurrected both Diderot's engravings and those of the *Supplément* in a volume (published in quarto in 1785) of the massive *Encyclopédie méthodique*; if Panckoucke had good reasons for excluding the engravings in his *Nouvelle édition* in the late 1770s, those reasons would certainly have been valid in 1785.

The motive of financial gain thus worked against the motive of making improvements to the encyclopaedia: one of the easiest ways to reduce costs and improve profits was to leave out the majority of the engravings; to exclude the engravings meant to exclude not just a huge set of attractive illustrations but to cut out an important and integral part of the encyclopaedia as a whole. For all the quarto and octavo "editions" that were published after the *Encyclopédie d'Yverdon* and before the *Encyclopédie méthodique*, it was apparently not so much a matter of what was in the *Encyclopédie* as of how much profit could be made. The desire to improve the text, so nobly advertised in the prospectuses for new editions, was overshadowed by the desire to make money. Nonetheless, despite this and perhaps even because of this, a new and valuable article entitled "CLAVECIN", in fact on the *clavecin*, the *épinette*, the *clavicorde* and the *clavecin à piano et forte*, was written for the *Nouvelle édition*.

### *The Encyclopédie méthodique, ou par ordre de matières*

After publishing the *Nouvelle édition*, Panckoucke conceived of a vast enterprise, his *Encyclopédie méthodique*. His avowed intention was not only once again to redress any faults Diderot's original *Encyclopédie* may have had but also to enlarge it, to make it complete and all encompassing. In Panckoucke's own words it was to be "*une bibliothèque complète et universelle de toutes les*

*connaissances humaines*.”<sup>105</sup> His prospectus promised “le recueil le plus riche, le plus vaste, le plus intéressant, le plus exact, le plus complet et le mieux suivi qu'on puisse désirer.”<sup>106</sup> Instead of distributing every separate item alphabetically throughout the volumes of an encyclopaedia, as Diderot and d'Alembert had done, Panckoucke chose to arrange everything according to subject matter. This would take away the need to search through the seventeen folio volumes of text of Diderot's *Encyclopédie* for items related to one topic; no longer would it be necessary to look up the article “SAUTEREAU” under S in volume XIV and the article “CLAVECIN” under C in volume III. Both would be found together in a single part of the section on musical instruments.

The original eleven volumes of *planches* may have provided a source of inspiration for Panckoucke's new project; unlike the original volumes of text, organized purely alphabetically, Diderot's volumes of illustrations were ordered according to subject matter. All the illustrations of musical instruments, for instance, are to be found in the fifth volume of Diderot's *planches* and are organized according to instrument type (see fig. 6, fig. 8 & fig. 10 for the series of three consecutive plates for the *clavecin*).<sup>107</sup>

For the purposes of his new project, Panckoucke divided knowledge into 26 fields and gave each a heading.<sup>108</sup> The headings were to become the titles of the 26 *dictionnaires* (as Panckoucke called them) of the complete *Encyclopédie méthodique*. Next, he engaged a number of persons literally to cut apart two sets of the original *Encyclopédie* and the *Supplément* and to file each separate entry from them

under the 26 headings. That he did not have his *Nouvelle édition* cut up for this purpose shows that he retrospectively (and rightly) had more respect for the original, including its supplement, than for his own *Nouvelle édition*, the latter once advertised as an improvement on Diderot's *Encyclopédie* and its *Supplément*.

Panckoucke was aware that a single item might deserve two places in the *Encyclopédie méthodique*, mentioning for instance that ‘air’ would appear under *Chimie* as a decomposable substance and under *Physique* as an active element.<sup>109</sup> Presumably for this same reason, stringed keyboard instruments received two different treatments. The first of these, mainly describing the making of musical instruments, appeared under *lutherie* as part of the eight-volume *dictionnaire* entitled *Arts et métiers mécaniques* (volume IV, 1785); the second, mainly describing the use of musical instruments, appeared in the *dictionnaire* entitled *Musique* (volume I, A–O, 1791; and volume II, P–Z, 1818).

Having had Diderot's entire *Encyclopédie* and the *Supplément* classified under the 26 titles of the *dictionnaires*, editors were engaged to prepare the contents, in principle by compiling the original entries under sub-headings in each *dictionnaire*. The editors were also required to bring the contents up to date, to supplement them where necessary, to write an introduction and to finish with an alphabetical dictionary or *vocabulaire* of terms specific to the subject in hand. The extent to which a particular editor was merely a compiler and the extent to which he was inspired to revise the old articles or devise new ones seem to have depended on his insight regarding his subject rather than on the subject itself. Apparently, in the case of *L'art du faiseur d'instruments de musique et lutherie* the editor was mostly content to be a compiler, relying on the original *Encyclopédie*, the *Supplément*, the *Nouvelle édition* and La Borde's *Essai sur la Musique* to put together the various articles. Occasionally, explicit references are made to the sources used but on the whole the articles seem to be pieced together from the various versions of the *Encyclopédie* and from La Borde's *Essai* without acknowledgement.<sup>110</sup>

105. Quoted from Panckoucke's abridged version of the *Grand prospectus* published in the *Mercure de France*, 8 December 1781, p. 150, cited in R. DARTON, *The business of enlightenment. op. cit.*, p. 420. Panckoucke was also the publisher of the *Mercure*.

106. Quoted from the *Grand prospectus*, first printed as a pamphlet and reprinted in the first volume of the *Encyclopédie méthodique* on *Beaux-Arts* (1788), p. iv. See R. DARTON, *The business of enlightenment. op. cit.*, p. 421.

107. The 23 plates (excluding the eleven for the organ that precede those for other instruments) with seven pages of *explication* are to be found under the heading *Lutherie* in the fifth volume of plates (see note 36 for the bibliographical reference and see note 114 for the various appearances of the plates).

108. See R. DARTON, *The business of enlightenment. op. cit.*, p. 419–423.

109. *Ibid.*

110. One article is headed “*Observations de M. Rousseau de Genève, sur le tempérament & sur la manière d'accorder les*



Panckoucke's method presupposed that the reader would know the place of a particular item within his hierarchical system of classification. The reader would have to know not only that *sautereau* was an item that had to do with the *clavecin* but also that the *clavecin* was a musical instrument if he wanted to look up *sautereau* in the *Encyclopédie méthodique*; no longer could he simply look under the letter S. Panckoucke may have been aware that such problems could form the basis of a general criticism of the *Encyclopédie méthodique*. In the prospectus, which appeared in December 1781, the number of promised *dictionnaires* rose to 27. The new one was to be the *Vocabulaire universel* that would serve both as an index to the entire work and as a dictionary, not only of the French language but also of ideas.<sup>111</sup> The promise of this last *dictionnaire* was never fulfilled.

To some extent the "VOCABULAIRE de l'Art des Instrumens de Musique & de Lutherie" (p. 150–186) at the end of the section on musical instruments in the *Arts et métiers mécaniques* ameliorated the problem of not knowing where to start looking for the *sautereau*. The reader would still have to know the same facts about the *sautereau* being part of the *clavecin* and that the *clavecin* was a musical

instrument but then, after reaching down the correct volume of *Arts et métiers mécaniques* (volume IV entitled "INSTRUMENS DE MUSIQUE, ET LUTHERIE. ( Art du faiseur d' )"), he could at least turn straight to the *vocabulaire* at the back to find there the definition of the *sautereau* under S on page 178 rather than look through the whole article on the *clavecin* – or at least, so he might think. As it turns out, the five-line entry "SAUTEREAU" in the *vocabulaire* comprises a *précis* of the first fourteen lines of Diderot's 42-line article "SAUTEREAU", to be found under S on page 726 of volume XIV (1765) of the *Encyclopédie*. The five-line entry in the *vocabulaire* mentions the tongue of the jack in italics, "*languette*", but no mention is made of the plectrum carried by the tongue. The italics indicate that there is an entry for the *languette* in the *vocabulaire*. The entry "LANGUETTE du sautereau" (p. 168) mentions the shape of the tongue and that it is "*adaptée au sautereau des instrumens à clavier & à cordes*" but no more than that. The *Vocabulaire* thus fails to mention that the vital function of the jack is to raise the plectrum in order to pluck the string. Diderot's article "SAUTEREAU" not only gives all the necessary detail but also includes cross-references to other relevant articles and gives references to the relevant illustration (plate XIV) in vol. V of the *planches* (see fig. 8). The following short excerpt from Diderot's article contains the essential information regarding the plectrum:

*A la partie supérieure de la languette est un petit trou o dans lequel passe une plume de corbeau o k taillée en pointe, & amincie autant qu'il convient, pour qu'elle ne soit point trop roide : ce qui feroit rendre aux cordes un son desagréable.*

In short, the reader of the *Vocabulaire* in the *Art du faiseur d'instrumens de musique et Lutherie* will after all have to turn to the article "CLAVECIN" in the *Art du faiseur d'instrumens* (p. 2–10) and leaf through to the sub-heading "*Sautereaux*" (p. 7). There he will find Diderot's article "SAUTEREAU", reproduced in its entirety except for the omission of the cross-references to other articles. The cross-references are of course no longer necessary because the relevant articles are all brought together in the eight pages under the heading "CLAVECIN". The next sub-heading after "*Sautereaux*", for example, is "*Guide des Sautereaux*" (jack guide) and gives the complete

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*instrumens à clavier, singulièrement le clavecin. ( Extr. de l'ancienne Encyclopédie. )*" (p. 15–17); another is headed "Remarques nouvelles sur la procédé employé pour accorder le clavecin & autres instrumens à clavier. ( Extr. de l'Essai sur la Musique par M. D. L. B. )" (p. 17–18), a reference to La Borde's work; the article "VIOLONCELLE" (p. 25–26) ends with "( Essai sur la Musique. )", again a reference to La Borde's work; part of the article on the harp is headed "Harpe musicale, par le sieur COUSINEAU, célèbre luthier de Paris" (p. 38–39); the next part on the harp is an "Extrait des registres de l'académie royale des sciences de Paris, du 6 février 1782" (p. 39–41); the next part on the harp is headed "Extrait d'un Mémoire de M. l'abbé Roussier, sur la Harpe perfectionnée par le sieur Cousineau, luthier de la Reine" (p. 41–43); the articles "SERINETTE, ORGUE DE BARBARIE." (p. 85–90) and "Vielle organisée" (p. 92) both end with "( Ext. du Traité de l'Orgue, par D. BEDOS )"; the long article on the flute (p. 92–97) ends with "( Art. de l'ancienne Encyclopédie. )"; the article on the "Hautbois de Forêt" (p. 114–115) ends with "( Essai sur la Musique. )", again a reference to La Borde's work; the article on the *Marimba* finishes with the initials used by Castillon in the *Supplément*: F. D. C. (p. 136). At the end of the article on the *Balafo*, an instrument used by negroes in Africa the following is given: "( Extr. de l'Essai sur la Musique par M. de L. B. )" (p. 138).

111. See R. DARNTON, *The business of enlightenment*, op. cit., p. 420 and 459.

text of Diderot's article "GUIDE des Sautereaux , des épinettes , & des clavecins" (Vol. VII, 1757, p. 1005), again depleted of cross-references.

Whatever benefits might have been provided by having all the articles to do with the harpsichord brought together, the uninitiated in harpsichord building, wanting to know the form and function of the *sautereau*, will be best served by Diderot's *Encyclopédie*.

### Instrumens de musique, et lutherie (Art du faiseur d'): Des instrumens a cordes et a touches of 1785

This first of the two treatments of musical instruments in the *Encyclopédie méthodique*, published in quarto in 1785 as part I of volume IV of the eight volumes of the *dictionnaire* entitled *Arts et métiers mécaniques*, was given the separate title "*instrumens de musique et lutherie (Art du faiseur d')*". The editors of the *Arts et métiers mécaniques*, including the editor of this section on musical instruments, are not easy to identify. Perhaps because their main role was limited to the compilation of existing material according to a new method their names are not given on the title pages. Another reason for their anonymity may be that they did not necessarily come from academic circles. Although Jean-Marie Roland de la Platière (1734–1793), noted by Panckoucke as an *inspecteur des manufactures*, is known to have compiled a considerable part of the eight volumes of the *dictionnaire* of *Arts et métiers mécaniques*, his name as editor is only to be found hidden in the text of the introduction to volume I and not on the title pages.<sup>112</sup> Nonetheless, even if it might therefore be assumed that he put together the section on musical instruments, there is good reason to doubt this, as will be shown below.

112. For a discussion of the authors and editors, see R. DARTON, *The business of enlightenment*, op. cit., p. 422 and p. 430–435. For Platière, see *ibid.*, p. 432, 598 and 609. Platière was later the leader of the *Girondists*. Near Rouen in 1793 to avoid the events taking place in Paris, he committed suicide after hearing that his wife had been guillotined. Before doing so he pinned a note to his chest expressing his dismay at the *Terreur*.

Under the title "*instrumens de musique et lutherie (Art du faiseur d')*", all the relevant entries on musical instruments, duly cut from the original *Encyclopédie* and from the *Supplément*, were bundled together and included with some new material under sub-headings, followed by the *Vocabulaire*. To finish the section, reproductions of all of Diderot's engravings of musical instruments and of the additional engravings from the *Supplément* follow the *Vocabulaire*, all re-engraved at half size. The 186 text pages are numbered and the numbered plates are printed on one side only of 42 unnumbered folios. The text and the engravings thus amount together to 135 folios, all in quarto.

Of the text, page 1 and the first paragraph of page 2 are devoted to a short introduction containing a classification of musical instruments into stringed instruments, wind instruments and percussion instruments. These groups are further divided, for instance the stringed instruments are divided according to the manner in which the strings are made to sound, that is by being plucked, bowed, plucked using *sautereaux* or by the use of a wheel as in the hurdy-gurdy "*&c.*". Presumably the "*&c.*" included the hammers of the piano. The introduction continues with the information that each instrument has its range, its expression and its character. These must be understood and known by the musician. Musical instruments, the introduction continues, can be used to imitate any phenomenon of nature, any passion and any feeling. Particular instruments are appropriate to particular examples of these three. Instruments can also be classified as follows: ancient, modern and foreign. A few notes are given on the first two of these categories.

The complete set of entries that make up the body of the text are arranged according to the classifications announced in the introduction. After the introduction comes the first sub-heading "*I. DES INSTRUMENS A CORDES ET A TOUCHES*", further broken down into separate main entries headed "*CLAVECIN*", "*ÉPINETTE*", "*MANICORDE*", "*CLAVICORDE*" and "*CLAQUEBOIS*", the latter comprising a variety of entries on the "*épinette*" starting with the "*Épinette a marteaux de bois dur*".<sup>113</sup>

113. *Encyclopédie méthodique. ou par ordre de matières: par une société de gens de lettres, de savans et d'artistes; précédée d'un vocabulaire universel, servant de table pour tout l'ouvrage; ornée des portraits de*

Some attempt seems to have been made to make the main entry “CLAVECIN” one that was up to date. Items worked into it were not only gathered from the original *Encyclopédie* and the *Supplément* but also from La Borde’s *Essai sur la musique* (1780) and some parts of the *Nouvelle édition* entry “CLAVECIN”. Nevertheless, the first item, given directly after the main heading without a sub-heading, is a repeat of Diderot’s entire article “CLAVECIN”. Although more than thirty years old, it was probably reinstated because of its references to Diderot’s engravings of the harpsichord. This time, Panckoucke had included the original engravings, copied in quarto instead of in folio, complete with the subtitles in each plate (such as “Fig. 2” and “Fig. 3”) and all the little letters and numbers printed next to the various details. The key to the subtitles and the little letters and numbers for each plate were contained in the relevant articles such that if Panckoucke wanted to include the engravings, he must have had to include the articles as well. So while Panckoucke probably did not include Diderot’s article on the *clavecin* in the *Nouvelle édition* because that edition did not include the engravings, here it is the other way round; probably because he wanted to include all the engravings, this time perhaps not for commercial reasons but out of a desire to include as much of everything as possible, Panckoucke had to include the article, even though it was out of date, as indeed were the engravings.<sup>114</sup>

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MM. Diderot & d’Alembert, *premiers éditeurs de l’encyclopédie : Arts et métiers mécaniques, dédiés et présentés à Monsieur Le Noir, Conseiller d’État, ancien Lieutenant Général de police, &c.*, 8 vols., Paris and Liège, Panckoucke and Plomteux, 1782–1791: vol. IV, part 1 (1785): *Instruments de musique et lutherie. (Art du faiseur d’)*, art. I. *DES INSTRUMENTS A CORDES ET A TOUCHES*, p. 2–18. The section on the *clavecin* is on p. 2–10, those on the various *épinettes* on p. 11–14. The edition of this work in the Royal Library in The Hague was consulted for this study. Each of the headings has a full stop at the end in the original. These have been omitted here because they disturb reading. In the text of this essay, the headings are otherwise given as in the originals with respect to capital letters and italics.

114. Throughout the history of the *Encyclopédie* there were thus five appearances of the famous plates: once in Diderot’s original edition in folio published by Le Breton *et al.*; twice in the Italian folio editions, published in Lucca and Livorno; once in the Yverdon edition, published in quarto but mirrored, pirated from the originals by Felice; and once in the

A number of additions, taken practically word for word from the article “CLAVECIN” in the *Nouvelle édition* but supplied with sub-headings and new paragraphing, follow Diderot’s article on the *clavecin*. These additions include the description of the qualities that make a good harpsichord, the mention of Ruckers harpsichords and the process of *ravalement*. Some of the wording is slightly different from that in the *Nouvelle édition*. For instance, “*Outre cela tous ces clavecins Flamands sont si petit que les pieces ou sonates qu’on fait aujourd’hui ne peuvent point y être exécutées*”, found in the middle of a paragraph on page 231 of volume VIII (1778) of the *Nouvelle édition*, becomes “*D’ailleurs , ces clavecins flamands sont si petit , que les pièces ou sonates qu’on fait aujourd’hui , ne peuvent point y être exécutées*” at the beginning of a paragraph on page 5 of the *Art du faiseur d’instruments de musique, et lutherie* (1785).<sup>115</sup> On the same respective pages, the 1778 *Nouvelle édition* mentions Blanchet as a master in the art of performing a *ravalement* while the 1785 *Art du faiseur d’instruments de musique* adds to this that “*Il (Blanchet) a été encore surpassé par M. Paschal Taskin , son élève.*” With only minor differences in punctuation and paragraphing, both passages continue to describe the process of *ravalement*, including mention of the use of old and sonorous *sapin* to enlarge the soundboard and the necessity of making a new wrestplank. This particular way of editing, that is by altering the wording of an older entry and bringing it up to date in at least some details, is unusual in the history of the *Encyclopédie*. Mostly, it had been a question of bulk transplantation, word for word, without any significant editing.

The article “CLAVECIN” continues with separate paragraphs on key frames, keyboards,

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*Encyclopédie méthodique*, published in quarto by Panckoucke. The intervening editions, that is the quarto and pirated octavo editions, all officially published in Switzerland, omitted the plates, apparently in the interests of making a cheaper edition, thus maiming Diderot’s original concept. Whereas Felice probably included the engravings in the interests of making his version of the *Encyclopédie* more saleable, Panckoucke probably discarded them in the interests of making his *Nouvelle édition* cheaper. He may even have included them again in the *Encyclopédie méthodique* in 1785 to make that final version more attractive to potential buyers.

115. Care has been taken here to render these two passages exactly, including all the spelling, accents and punctuation.



jack registers, jacks, and jack guides, each one a repeat of one of the smaller articles from Diderot's original *Encyclopédie* in which they were distributed among the various volumes according to the alphabet. One of the supposed advantages of the *Encyclopédie méthodique* was that all these separate items were brought together under one heading. This presupposes that difficulties occur when looking up these various parts of the harpsichord in different volumes of Diderot's *Encyclopédie*. Nowadays, to have to look in different volumes may be a disadvantage when a consultation of the work is necessarily hampered by the rules of libraries that usually allow no more than a few volumes of the *Encyclopédie* to be studied at a time, but to have all seventeen volumes of text, eleven volumes of the *Planches*, the five volumes of the *Supplément* and the two-volume *Table* available in a single bookcase with no restrictions applied is an unforgettable experience for the modern reader and also one that must have been a source of wonder for those four thousand subscribers to the original *Encyclopédie*.<sup>116</sup> Even without the *Table* (the index published chez Panckoucke in 1780) the cross-references to other volumes of text and the references to the engravings provide a maze of information that is astonishing. Much of the first of these two organizational aspects of Diderot's *Encyclopédie*, the cross-referencing, is lost in the *Encyclopédie méthodique*, yet this was one of the aspects of his *Encyclopédie* that Diderot must have valued; he singled out the cross-referencing in the original *Encyclopédie* as cause for regret in that he did not consider that it had been thorough enough. The *Encyclopédie méthodique* is a collection of books containing digressions on a vast variety of topics; Diderot's *Encyclopédie* is a whole, a true encyclopaedia in which the entries, no matter how small, are arranged alphabetically, allowing easy access, and cross-referenced, allowing full integration of each item in that whole.

Next under the article "CLAVECIN" in Panckoucke's 1785 *Art du faiseur d'instrumens* come

repeats of Castillon's three harpsichord articles from the *Supplément* (1776), those on the *clavecin vertical*, the *clavecin à roue* and the *clavecin brisé*. Then comes a repeat of La Borde's minimal description (1780) of the square piano. Rather than repeating La Borde's footnote as a footnote however, his words are given verbatim in the main body of the text under the sub-heading "*Forté-piano , ou Clavecin à marteau*". Some extra new details not mentioned by La Borde but apparently based on observation are added: the "*Forté-piano, ou Clavecin à marteau*" was oblong in shape and entirely of walnut; it had a stand or could be set upon a table; it was easy to transport. The idea that square pianos were entirely of walnut may have come from the look of the mahogany of those imported from London; unfamiliar with this wood, a Parisian could have mistaken it for walnut. Next under the same heading comes an astonishing admission that the *forté-piano*, in other words the square piano (from the description given above), was preferred by most composers:

*Le forté-piano est agréable à entendre , sur-tout dans des morceux d'une harmonie pathétique , & lorsqu'il est ménagé avec goût: par un habile musicien ; mais outre les reproches qui lui sont faits par plusieurs maîtres , entr'autres , par M. Trouflant {sic}, organiste de Nevers , on l'accuse d'être pénible à jouer , à cause de la pesanteur du marteau qui fatigue les doigts , & qui même peut rendre la main lourde avec le temps. Cependant, l'on voit la plupart des maîtres s'attacher de préférence à cet instrument pour leurs compositions de musique , parce qu'il leur donne des effets plus marqués que le clavecin.*<sup>117</sup>

The suspicion that the writer might after all have been referring to the *forté-piano en forme de clavecin* – after all, the title mentions the word *clavecin* – is laid to rest by two definitions given in the *Vocabulaire*: first, the "FORTÉ-PIANO ou Clavecin à marteau" is defined as "*un petit clavecin d'une forme oblongue , dont chaque touche fait lever une espèce de marteau de carton enduit de peau , qui frappe contre deux cordes unissones ou contre une seul*" (p. 165), surely a misunderstanding of the description of the *Hammerflügel* of J. H. Silbermann in the article

116. The author is most grateful to the Stiftung Weimarer Klassik und Kunstsammlungen and the Anna Amalia Bibliothek (to which the set belongs) for granting this privilege. Diderot's method also has another advantage: looking up a particular item in the original *Encyclopédie*, a curious person inevitably finds other interesting entries on entirely different subjects.

117. *Art du faiseur d'instrumens de musique, et lutherie*, op. cit., p. 8–9.

“CLAVECIN” in the *Nouvelle édition* with their hammers of card and the *una corda*. Nevertheless, the author of the *Vocabulaire* seems certain about the small size and oblong shape of these pianos. This is confirmed in the other relevant definition in the *Vocabulaire*: the “CLAVECIN à marteau ou forte piano” is defined as a “clavecin de forme oblongue , dont les marteaux qui frappent les cordes sont de carton enduit de peau” (p. 158). Both descriptions claim that the hammers were of card. The hammers of J. H. Silbermann’s *Hammerflügel* were of card; those of the English square pianos were of solid wood. Both were covered in leather. The confusion on the part of the writer here suggests that he had not seen these instruments himself, or if he had, he had not observed the hammers carefully.

The use of the *Nouvelle édition* description of the piano and the resulting confused description of the piano in the *Art du faiseur d’instruments* is confirmed by the source for Trouflaut’s criticism, alluded to in the above quote. That source was not Trouflaut’s own 1773 praise of Taskin’s *peau de buffle*, but the article “CLAVECIN” in the *Nouvelle édition*.<sup>118</sup> There, Trouflaut’s problem with heavy touch had already been paraphrased from La Borde’s *Essai*:

*Ils sont fort agréables à entendre , surtout dans les morceaux d’une harmonie pathétique , & ménagés avec goût par celui qui l’exécute ; mais ils sont plus pénibles à jouer , à cause de la pesanteur du marteau , qui fatigue les doigts , & qui même rend le main lourde avec le temps.*<sup>119</sup>

The similarity of the words used by the compiler of the article in the *Art du faiseur d’instruments* quoted above and the words quoted here from the article in the *Nouvelle édition* shows that the compiler of the article in the *Art du faiseur d’instruments* used parts of the the article in the *Nouvelle édition*, namely, as already suggested, the description of Silbermann’s pianos. But it seems that the 1785 compiler, apparently thinking that writer of the article in the *Nouvelle édition* was describing the square pianos of Gottfried Silbermann and failing to realise that that writer was in fact describing the

grand pianos of Johann Heinrich Silbermann, did not include the latter in the 1785 article. In other words, it seems that because the 1785 compiler had already included La Borde’s description of Gottfried Silbermann’s square pianos, he did not see the necessity of repeating what he thought was their description in the *Nouvelle édition*. The launch of J. H. Silbermann’s *clavecin à piano et forte* into the stream of the *Encyclopédie* in the *Nouvelle édition* was thus ignorantly torpedoed by the compiler of the 1785 article in the *Art du faiseur d’instruments*.

In the *Nouvelle édition*, it was a disappointing to find no mention of the square piano in the article “CLAVECIN”, especially after a clear description of J. H. Silbermann’s *Hammerflügel*; in the *Art du faiseur d’instruments*, it is the other way round: it is disappointing to find no mention of Silbermann’s *Hammerflügel* or indeed of Erard’s *pianoforte en forme de clavecin*, especially after such a clear reference to the use of the “forté-piano”, the square piano also described by La Borde, preferred by “la plupart des maîtres” for their compositions. Nonetheless, the description of the square piano in the 1785 *Art du faiseur d’instruments de musique* is the first report of square pianos in the history of the *Encyclopédie* that appears to have been at least partly based on observation or that was at least partly gleaned from a reliable up-to-date source.

Next in the section on the *clavecin* in the 1785 *Art du faiseur d’instruments* comes a repeat of La Borde’s long quote from Trouflaut in which he describes Taskin’s *peau de buffle* and *genouillères*. The entry “CLAVECIN” then ends with La Borde’s description of Del Piano’s instruments in Sicily, the “*Clavecins singuliers*”, one of which had hammers and a number of different stops. As described above, Denon furnished La Borde with a first-hand report of Del Piano’s instruments in 1778. La Borde used the report to formulate his own description for his *Essai*.

As it happens, Platière, probably the main editor of the *Arts et métiers mécaniques*, had been to Catania a year earlier than Denon and had also visited Del Piano. Platière’s description of the “Forte - piano {...} à quatre registres” shows him to have had a good understanding of keyboard instruments:

*{...} Le Forte - piano est découvert ; j’avois le nez dessus : je voyois le mouvement de toutes les cordes , l’illusion n’en étoit que plus parfaite. Il n’y a point*

118. See [G.] TROUFLAUT, “Lettre aux auteurs de ce journal”, *op. cit.*, p. 19.

119. *Nouvelle édition*, *op. cit.*, vol. VIII, 1778, p. 232.

*de plumes ; ce ne sont que de petits marteaux recouverts en peau. Il a terminé par le tympanon : tout-à-coup les sons , se sont fait entendre.*<sup>120</sup>

Platière thus saw Del Piano's *Forte-pianos* before Denon; if, therefore, Platière had been the author of the 1785 article he would have used his own description and would not have needed that of Denon, the one used by La Borde in his *Essai* and repeated by the compiler of the 1785 article. Platière may thus have been the overall editor of the *Arts et métiers mécaniques*, but he is unlikely to have been the compiler of this section on keyboard instruments. Perhaps he was therefore not directly responsible for any parts of the section on musical instruments.

The article "ÉPINETTE" that follows next starts out with a repeat of Diderot's original article "EPINETTE", that is, the small, single-strung spinet, but then continues with another description of harpsichords even though they had already been described in the article "CLAVECIN".<sup>121</sup> Similarly, although the upright harpsichord had already appeared in the article "CLAVECIN" in the *Art du faiseur d'instrumens* it also receives a second and different description under the sub-heading "Épinette perpendiculaire".

Next, the clavichord is given two descriptions, one in the next entry, "MANICORDE" and then again, in the entry immediately following, "CLAVICORDE". These two opposed descriptions both come from the *Supplément*, the first from Vallet's part of the article "EPINETTE", at least partially derived from Mersenne's *Harmonie universelle* and originally written for the *Encyclopédie d'Yverdon*, the second from Castillon's questionable article "CLAVICORDE" written for the *Supplément*. In the *Supplément* these two confusing descriptions were at least well-separated (vol. II, 1776: p. 820, "EPINETTE" and p. 457, "CLAVICORDE"); here they are starkly juxtaposed as two consecutive articles. The reliable description

of the clavichord declaring it to be unknown in France, part of the article "CLAVECIN" written for the *Nouvelle édition*, is unfortunately not included.

"CLAUQUEBOIS" appears next as the main heading for an entire section that is mostly on stringed keyboard instruments. The confusion here may have been due to a type-setter's mistake; the *claquebois* is described as a keyed instrument (but without strings) in which staves of wood, graduated in length, are struck by hammers. The headings of the various subsections after this description, each given in lower case italics, refer to different sorts of "épinettes" and have nothing to do with the *claquebois*. Presumably, the intention was to give each of the sections on the "épinette" a heading in capitals or to put the sections under the main heading "ÉPINETTE". Be that as it may, each article in this section comprises a part of the *Supplément* article "EPINETTE" (originally Vallet's Yverdon article), in other words, an article on a variety of stringed keyboard instruments, not only on the spinet. The first part is headed "Épinette à marteaux de bois dur" and mentions the same attributes for this piano as those given in the *Supplément*, that is, its possible derivation from the clavichord, its moderator, and its capacity to play loud and soft. To this is added the new information that such instruments can have five octaves, that harpsichord jacks may be added to give the effect of the harp and that such instruments were presumably invented by the Germans at the end of the previous century:

*L'épinette à marteaux renferme souvent cinq octaves : on pourroit encore y ajouter des sautereaux à plumes , qui , rapprochés du chevalet collé sur le sommet {sic}, procurreroient aux cordes le son de la harpe. On présume que les Allemands ont inventé l'épinette à marteaux sur la fin du siècle dernier.*<sup>122</sup>

The writer seems not only to have been confused on a number of counts but also unaware of the description of square pianos already given in the entry for the *clavecin* under the sub-heading "Forté-piano , ou Clavecin à marteau". He may possibly have been referring to instruments combining hammers and plectra with an extra set of jacks plucking close

120. Jean-Marie Roland de la Platière, *Lettres écrites de Suisse, d'Italie, de Sicile et de Malthe*, vol. III, Amsterdam, [no publisher], 1780, p. 188–190, here p. 188 and p. 189.

121. *Instruments de musique et lutherie*, *op. cit.*, p. 11–14. In fact there is a short article between those on the harpsichord and the spinet entitled "CONSONNANTE" that discusses in seven lines a combination of a harpsichord and a harp.

122. *Ibid.*, p. 13. For "someter" as a misreading of "sommier" already in the *Supplément*, see note 77.

to the nut, perhaps called a harp stop in the report from which he may have been quoting. To make matters more complicated, it is not this section but the next that is headed “*Epinette à sautereaux emplumés & à marteaux*”. The complication increases under this new heading: no mention is made of combination instruments; instead a repeat is given of Vallet’s muddled description of English harpsichords in which the strings are plucked at a number of different places along their lengths, a notion that seems to be based on a report of the so-called lute stop as found in English harpsichords. This stop commands an alternative set of jacks that pluck the strings close to the nut, the “*chevalet collé sur le sommier*”.

The subsequent subsections variously contain other parts of Vallet’s article on the *épinette*, using the version in the *Supplément* rather than the original in the *Encyclopédie d’Yverdon* as their source. Nevertheless, their new distribution into different sections fails to prevent each of them remaining as confused as when Vallet wrote them.<sup>123</sup> The last section is headed “*Nouvelles recherches à faire pour perfectionner les Epinettes*” and repeats Vallet’s whimsical improvements for keyboard instruments.<sup>124</sup> This section on stringed keyboard instruments ends with three articles, one entitled “*Clavecin oculaire*” (p. 14–15), a shortened version of Diderot’s article “CLAVECIN OCULAIRE” (vol. III, p. 511–13) that immediately follows on from the article “CLAVECIN” in the original *Encyclopédie*, another entitled “*Méthode pour accorder le Clavecin*” (p. 15), and another (p. 15–16), supplied by Rousseau, entitled “*Observations de M. ROUSSEAU de Genève, sur le tempérament & sur la manière d’accorder les instrumens à clavier, singulièrement le clavecin. (Extr. de l’ancienne Encyclopédie.)*”.<sup>125</sup>

Because a number of items in the articles on stringed keyboard instruments (and indeed on other instruments) in the 1785 *Art du faiseur d’instrumens* derive from his *Essai sur la musique* of 1780, it might be conjectured that La Borde was the editor or compiler responsible for the entire section entitled “*DES INSTRUMENS A CORDES ET A TOUCHES*”.

Nevertheless, the entry “*Clavecin oculaire*”, found under the same heading, is a shortened version of Diderot’s article “CLAVECIN OCULAIRE” (*Encyclopédie*, vol. III, 1753, p. 511–12) and not of La Borde’s entry in the *Essai* entitled “*Sur le Clavecin de Pere Castel*” (*Essai*, vol. I, 1780, p. 351–55). Diderot was critical of the instrument in his article, La Borde was not. If the compiler of the section entitled “*DES INSTRUMENS A CORDES ET A TOUCHES*” preferred to include a *précis* of Diderot’s critical article rather than of La Borde’s affirmative article it seems unlikely that La Borde was the compiler of the article.<sup>126</sup>

As far as the history of objective writing on musical instruments is concerned, the articles on stringed keyboard instruments in the 1785 *Art du faiseur d’instrumens* are of little significance. The doubling of articles, the misunderstanding of previous articles (themselves often already confused), the failure to distinguish between observed facts and speculation, the mixing up of history, the failure to organise the material under clear headings and the failure to use clear terminology all contribute to give an impression of a lack of conscientious editorship. Nonetheless, the compiler’s one new contribution to the history of stringed keyboard instruments in the *Encyclopédie* is his mention of the square piano. Although probably not based on observation, the description does in part appear to be based on a reliable report, perhaps one from La Borde.

Castillon’s article “PANTALÉON”, written for the *Supplément*, appears to have been lost when the original *Encyclopédie* and the *Supplément* were dissected for the *Art du faiseur d’instrumens*. Only the following odd little remark is given under the entry “PANTALON”:

{...} nom que l’on donne en quelques pays au clavecin vertical, dont le corps est plus étroit que celui du clavecin ordinaire.<sup>127</sup>

123. *Ibid.*, p. 13–14.

124. *Ibid.*, p. 14.

125. La Borde’s ideas for keyboards with more than twelve keys to the octave probably came from Mersenne. See note 10.

126. The article “CLAVECIN OCULAIRE” in the original *Encyclopédie* (vol. III, 1753, p. 511–512) was repeated verbatim with minor changes in punctuation and italics in the *Nouvelle édition* with the same title, “CLAVECIN OCULAIRE” (vol. VIII, 1778, p. 233–234). It is therefore possible that the compiler of the articles for stringed keyboard instruments in the *Art du faiseur d’instrumens* made his *précis* from the *Nouvelle édition* rather than from the original *Encyclopédie*.

127. *Instruments de musique et lutherie, op. cit.*, p. 172.



There seems to be no knowing where this confusion arose. Either those who cut up the original *Encyclopédie* and the *Supplément* filed Castillon's article under the wrong heading or the compiler of the 1785 *Art du faiseur d'instruments* missed it.

### *The original sources that served the Encyclopédie, 1751–1785*

The occasion of the publication in 1785 of the articles on stringed keyboard instruments and the three engravings to do with the *clavecin* in volume IV of the *Arts et métiers mécaniques* was the last time Diderot's original articles and engravings were used, supplemented or revised. The two last articles on stringed keyboard instruments in the history of the encyclopaedia, those in the two volumes of the *dictionnaire* of the *Encyclopédie méthodique* for *Musique*, published respectively in 1791 and 1818, were essentially new and do not appear to derive from their predecessors. By contrast, practically all the information in the 1785 *Art du faiseur d'instruments* is derived from previous articles in the history of the *Encyclopédie* or from La Borde's *Essai*. Except for some minor details, for instance that Taskin had superseded Blanchet as the best enlarger of harpsichords, the only new information of note contained in the 1785 *Art du faiseur d'instruments* comprises a report of square pianos (in fact an extended version of a footnote in La Borde's *Essai*) and the assertion that most masters preferred these *forté-pianos* for their compositions. Otherwise, the articles on stringed keyboard instruments in the 1785 *Art du faiseur d'instruments* amount to a mere concoction of abstracts, extracts or repeats of articles from the original *Encyclopédie*, from the *Edition d'Yverdon*, from the *Supplément*, from the *Nouvelle édition* and from La Borde's *Essai*. The present-day historian of keyboard instruments, rather than trying to sift through the accumulated confusion, can rather assess the original sources that served the various versions of the *Encyclopédie*. These sources are now listed in chronological order:

1. Praetorius's 1620 *Theatrum Instrumentorum* may have served Castillon as a source for his articles "CLAVECIN À ROUE", "CLAVECIN VERTICAL" and "CLAVICORDE" in the *Supplément* and certainly served as a source of illustrations for the *Supplément*;
2. Mersenne's 1636 article "*Des instruments à cordes*" from his *Harmonie universelle* served Vallet for his article "EPINETTE" (on stringed keyboard instruments in general) in the *Encyclopédie d'Yverdon* and from there passed to the mainstream of the *Encyclopédie*;<sup>128</sup>
3. Diderot's 1753 article "CLAVECIN" and his 1755 article "EPINETTE", both probably prepared in the late 1740s for his *Encyclopédie*, served as sources for ensuing versions of the *Encyclopédie* (excepting the quarto and octavo editions) up to and including the 1785 *Art du faiseur d'instruments*;
4. Vallet's 1772 article "EPINETTE" in the *Encyclopédie d'Yverdon* passed to the *Supplément* and from there to the mainstream of the *Encyclopédie*;
5. Trouflaut's 1773 article "Lettre aux auteurs de ce journal, sur les clavecins en peau de buffle, inventés par Mr. Pascal" on Taskin's inventions of 1768 in the *Journal de musique, par une société d'amateurs*, V, 1773 passed to La Borde's 1780 *Essai* and from there to the 1785 *Art du faiseur d'instruments*;
6. Castillon's 1776 articles "CLAVECIN À ROUE", "CLAVECIN VERTICAL", "CLAVECIN BRISÉ" and "CLAVICORDE" in the *Supplément* passed from there to the mainstream of the *Encyclopédie*; although the article "CLAVICORDE" was not used in the *Nouvelle édition* it reappeared in the 1785 *Art du faiseur d'instruments*;
7. Castillon's 1776 article "PANTALÉON", written for the *Supplément*, passed into the main stream of the *Encyclopédie* but was left out of the 1785 *Art du faiseur d'instruments*;<sup>129</sup>
8. The 1778 article "CLAVECIN", in fact an article on the *clavecin*, the *épinette*, the *clavicorde* and the *clavecin à marteau*, written by an unknown author for volume VIII of the *Nouvelle édition*, passed in part to the 1785 *Art du faiseur d'instruments*;

128. See M. MERSENNE, *Harmonie universelle*, *op. cit.*, p. 101–116.

129. For the *clavecin brisé*, that Castillon did not have from Mersenne, the known sources for Marius date from 1716. See G. P. di STEFANO, "The *clavecins à maillet* of Marius and Veltman", *op. cit.*

9. Denon's own 1788 publication of his 1778 diary as a book entitled *Voyage en Sicile* may count as the original source for the description, used by La Borde in his 1780 *Essai*, of Del Piano's *clavecins singuliers* in Catania; La Borde's description passed to the 1785 *Art du faiseur d'instruments*;<sup>130</sup>
10. La Borde's 1780 footnote mentioning Silbermann's pianos and English pianos in his *Essai* passed to the 1785 *Art du faiseur d'instruments*.

The 17<sup>th</sup>-century sources by Praetorius and Mersenne were used by the writers of some of the 18<sup>th</sup>-century encyclopaedia articles, sometimes with acknowledgement. When used without acknowledgement, that is, probably by Castillon and certainly by Vallet, they seem to have been disguised as if they referred to 18<sup>th</sup>-century instruments. But leaving these two 17<sup>th</sup>-century sources to one side, it may be said that Vallet's article on the *épinette* was probably based on hearsay and conjecture, that Castillon's entries "CLAVECIN À ROUE" and "CLAVECIN VERTICAL" were probably both derived from older writings, and that Castillon's article "CLAVECIN BRISÉ" and his questionable entry on the *clavicorde* are both questionable; apart from these, the sources listed above seem to have been based on observation or on reliable reports.

Whereas Diderot's articles "CLAVECIN" and "EPINETTE" in his *Encyclopédie, ou dictionnaire raisonné* (1753 and 1755), Trouflaut's article (1773) on Taskin's inventions and the parts of

the article "CLAVECIN" (1778) in the *Nouvelle édition* describing the *clavecin*, the *épinette* and the *clavecin à marteau* give a good idea of some of the keyboard instruments in Paris when these articles were written, that of Castillon on the *Pantalon*, though solid enough, and the parts of the article in the *Nouvelle édition* that mention upright harpsichords and the *clavicorde* refer to instruments outside France. Furthermore, while the descriptions by Platière and Denon of instruments in Sicily of course refer to instruments outside France, this may also be the case for Vallet's *épinette à marteaux*. With regard to a French awareness of pianos in other countries (as distinct from the presence of foreign pianos in France), at least two of the writers, Vallet and Castillon, seem to have been aware of German-style pianos, Vallet of the *épinette à marteau* in 1772 and Castillon of the *Pantaleón* in 1777, but certainly in Castillon's case and probably in Vallet's case too, without ever having seen one.

Trouflaut, La Borde and the compiler of the 1785 *Art du faiseur d'instruments* seem to be the only writers of original sources who were aware of English-style square pianos in Paris, even if Trouflaut and La Borde did not like them. Despite the fact that English square pianos were popular in Paris and elsewhere, already when the *Nouvelle édition* was being prepared, the absence of a clear reference to them in that edition accentuates the methods used by editors and writers for the *Encyclopédie* after Diderot. Rather than following his example of tirelessly going into the field to record what was actually happening, it seems to have been quite normal to reach out in the comfort of the library, either to the work of others, for instance of Mersenne, or to a previous edition of the *Encyclopédie*, or to La Borde's *Essai*.

### *The Encyclopédie méthodique, ou par ordre de matières. Musique, volume I (A–O) of 1791*

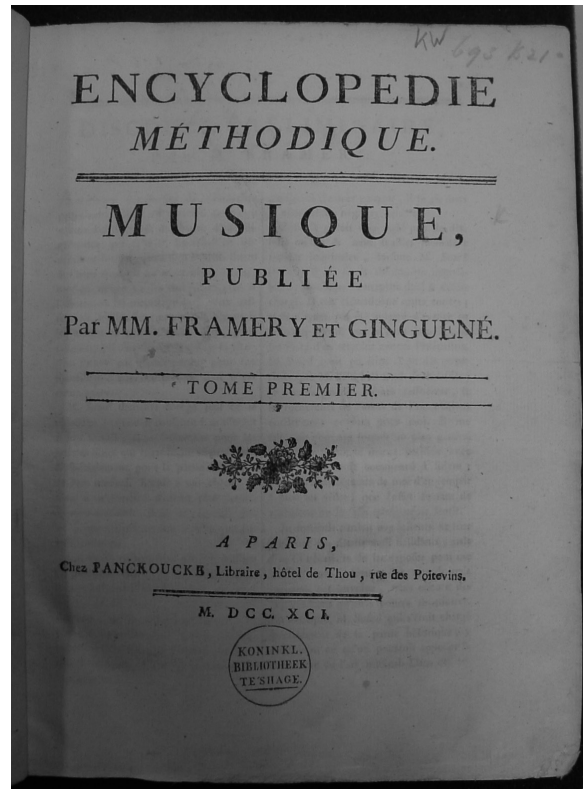
In the original edition of the *Encyclopédie*, the names of the editors, Diderot and d'Alembert, are included on the title pages, at least for volumes I to VII, but after the publication of those volumes, the *Encyclopédie* was banned in France and volumes VIII to XVII had to appear anonymously, officially published in Switzerland even if in reality they were printed in Paris. In fact still edited by

130. Denon's text reads: "Cet ingénieux prêtre a fait des clavecins qui ne lui sont pas moins d'honneur; l'un, entre autres, dont les sautereaux viennent marteler la corde avec tant de vivacité, qu'ils lui sont rendre un son aussi fort, aussi brillant, que le pincement de plume, sans en avoir le glapisement, et laissent au musicien la facilité du forte ou piano, par le plus ou moins de force à battre sur la touche. Ce clavecin est susceptible de plusieurs jeux, et particulièrement de celui de la harpe qui est parfait; il a encore l'avantage, en fatiguant moins la corde, de ne lui faire presque jamais perdre son accord. Une invention non moins heureuse, c'est, par l'augmentation ou la soustraction d'une hausse, c'est, par baisser ou hausser le ton de tout le diapason à la fois, et ôter ainsi l'inconvénient qu'a cet instrument de contraindre les voix à chanter à son ton." Dominique Vivant, Baron de DENON, *Voyage en Sicile*, Paris, Didot L'Aîné, 1788, p. 30–31. The author is grateful to Giovanni di Stefano for the original text. For Platière, see J.-M. R. de LA PLATIÈRE, *Lettres écrites de Suisse, d'Italie, de Sicile et de Malthe*, op. cit., p. 188–189, quoted above.

Diderot, although without d'Alembert's immediate assistance, an asterisk was used on the title pages instead of Diderot's name: "M<sup>r</sup>. \*".<sup>131</sup> Similarly, the *Supplément* has the form "M \*\*\*", even though Diderot had nothing to do with its publication. The *Nouvelle édition*, the *Troisième édition* and the pirate octavo editions all give the names of both Diderot and d'Alembert as editors on the title pages of all their volumes.<sup>132</sup> Something similar holds for the eight volumes of the *Encyclopédie méthodique: Arts et métiers mécaniques*; although no editors are mentioned on the title pages, the names Diderot and d'Alembert still feature on the half-title page as the "*premiers Éditeurs de l'Encyclopédie*" (italics as in the original). By contrast, the name of the editor of the *Supplément*, Robinet, is not mentioned in any of his five volumes and the name of editor Lasserre is not mentioned anywhere in the *Nouvelle édition*, the *Troisième édition* or in the pirate octavo edition of the *Encyclopédie*. Platière is only mentioned in passing in the introduction to volume I of the *Encyclopédie méthodique: Arts et métiers mécaniques* as the editor for some subjects and was probably not the editor of the section on musical instruments, as argued above. In short, after the first edition of the *Encyclopédie*, none of the editions up to and including the *Encyclopédie méthodique: Arts et métiers mécaniques* has the names of their editors on their title pages and the identities of those editors are not easy to find, if at all. It is as if the original editors were the only ones considered to have been important. In a sense this is justifiable; a large part of the original *Encyclopédie*, that is, the work of Diderot and d'Alembert, certainly remained preserved in the different versions and editions up to and including the 1782–1791 *Arts et métiers mécaniques*. Not only that however, the names Diderot and d'Alembert were also the names by

131. The singular "M<sup>r</sup>." was presumably used because d'Alembert had left the project after volume VII. The two Italian editions seemed oblivious to the fact that d'Alembert had left and to the need to use asterisks, leaving the names of both Diderot and d'Alembert as editors on the title pages of all 17 volumes.

132. The Yverdon edition does not mention Diderot and d'Alembert on the title pages and gives Felice as editor. Both versions of the new quarto edition, that is, the *Nouvelle édition* and the *Troisième édition*, also have portraits of Diderot and d'Alembert as frontispieces in volume I.



14. Nicolas-Étienne FRAMERY and Pierre-Louis GINGUENÉ acknowledge as editors: *Encyclopédie méthodique. Musique*, vol. I, Paris, Panckoucke, 1791, title page, The Hague, Royal Library.

which the *Encyclopédie* would have been recognized and would presumably therefore have helped to sell the later editions.

Although Panckoucke was still at the helm in 1791, the first volume of the *Encyclopédie méthodique* devoted to music, published that year, represents a break with the past, and indeed with Diderot and d'Alembert. Although their names are still given on the half-title page, the names of the actual editors of the volume are given in large letters on the title page proper: "ENCYCLOPEDIE METHODIQUE. MUSIQUE, publiée Par MM. FRAMERY et GINGUENÉ. TOME PREMIER. A PARIS, Chez PANCKOUCKE, Librarie, hôtel de Thou, rue des Poitevins. M. DCC. XCI." (fig. 14). Nicolas-Étienne Framery (1745–1810), a writer, poet, playwright and composer, and the poet Pierre-Louis Ginguené (1748–1816), two men of renown, are thus given their due as editors. The inclusion of their names

on the title page of this volume thus mark the end of the dominance of the publisher Panckoucke over the editors of the *Encyclopédie*. No longer were the editors just the servants of a publisher, carrying out his instructions to rework the encyclopaedia; now it was again the turn of the editors to take responsibility for the texts.

The publication of the first volume on music in 1791 not only marks the end of Panckoucke's dominance but also the end of the repetition and adaptation of Diderot's *Encyclopédie* articles. The 1791 article on the *clavecin* was newly written, not because of any ulterior necessity, as appears to have been the case with the article for the *Nouvelle édition*, but simply, so it seems, because a fresh start was the order of the day. Accordingly, the new article on the *clavecin* of 1791 represents a turn in the tide for articles on stringed keyboard instruments in the *Encyclopédie*. The reliance on the older sources was relinquished; instead, the editors commissioned the harpsichordist, pianist and composer Nicholas Joseph Hüllmandel (1756–1823) to write an entirely new article on the *clavecin*.<sup>133</sup>

In keeping with Burney in his *A general history of music, from the earliest ages to the present period* (1776–1789) and La Borde in his *Essai* of 1780, Hüllmandel's article "CLAVECIN" starts by establishing a few ties with antiquity, noting for instance a report of an instrument transported from Greece to Rome in the time of Julius Caesar. Such links with the distant past, especially with the heyday of Imperial Rome, might have been of some comfort to a royalist in those troubled times.<sup>134</sup> Be

that as it may, the article moves on quickly to more solid history, although considerably larded with Hüllmandel's imagination. He starts with the idea that the first stringed keyboard instruments were clavichords. These, in which different notes could share the same string, were probably invented by the Italians but were soon imitated by the Flemish and the Germans. The use of the clavichord continued in Germany. But, the article continues, two disadvantages of the clavichord, the distortion of the pitch because of the pressure on the keys and the fact that the tangent did not leave the string free to vibrate, probably led the imagination to conceive of the harpsichord jack with its feather plectrum and its cloth damper. Instruments with jacks took two shapes: square "*comme les petits piano-forte*"; and that of "*l'épinette, qui ressemble à une harpe couchée horizontalement*."<sup>135</sup> The *clavecin*, Hüllmandel's article continues, emerged at the end of the sixteenth century. Although the virginals and spinets then disappeared, their soundboards were used to make harpsichords.<sup>136</sup> The *clavecin* was developed as a two-unison enlargement of the single-strung *épinette*.<sup>137</sup> Hans Ruckers added to these an octave, giving three strings for each note, and another keyboard for one of the sets of strings. Here it should be noted that Hüllmandel made a mistake: Hans Ruckers made instruments with one set of strings at 8-foot pitch and one set at 4-foot pitch; when his instruments had two keyboards, they both served both sets of strings. It was not until Ruckers instruments were enlarged later in their lives that a second 8-foot added, usually played alone from the upper keyboard, while all three sets of strings could be played from the lower keyboard. Hüllmandel's article goes on to praise Ruckers instruments, mentioning the quality of the soundboard wood and the fact that different thicknesses were used to match the bass and treble frequencies. Hans Ruckers made his first instruments at the end of

133. Nicholas Joseph HÜLLMANDEL, art. CLAVECIN, *Encyclopédie méthodique, op. cit.: Musique*, vol. I, Nicolas-Étienne FRAMERY, Pierre Louis GINGUENÉ (eds.), Paris, Panckoucke, 1791, p. 285–288 and the continuation of the same article by N.-E. FRAMERY, p. 288–289. The edition in the Royal Library in The Hague were consulted for this study. In the literature, the spellings of Hüllmandel's first name and surname vary.

134. Charles BURNEY, *A general history of music, from the earliest ages to the present period*, 4 vols. in quarto, London, Becket et al., 1776–1789; J.-B. de LA BORDE, *Essai, op. cit.*, vol. I; N. J. HÜLLMANDEL, "CLAVECIN", *op. cit.*, p. 285. Burney's volume I is devoted to the music of the ancients, including a few pages for their instruments (p. 508–516). Including debts to Burney, the first hundred pages of the "LIVRE PREMIER" of vol. I of La Borde's *Essai* are also devoted to music and instruments of the ancients.

135. N. J. HÜLLMANDEL, "CLAVECIN", *op. cit.*, p. 286.

136. This certainly happened. The 1782 harpsichord by Taskin in the Museu da Música, Lisbon, inv. no. MM 1096, for instance, incorporates the soundboard of a 1636 virginal by Andreas Ruckers.

137. This account of the spinet, like Diderot's, with one string for each note contrasts with La Borde's description; La Borde mentioned that the *épinette* had two strings for each note.



the sixteenth century; his two sons “Jean & André” continued his work.

The Italians, Hüllmandel’s article goes on, did not profit from the new developments and continued with the two unisons and a single keyboard in their instruments. These *clavecins* were particularly employed for accompanying the voice however, not intended for solo music; for such an accompaniment one only required a sweet harmony. The best makers in Italy were: “[...] *le Prêtre , Zanetti , le Crotone , Farini , tous du commencement du dix-septième* {sic} *siècle. Le dernier de ces facteurs a monté quelques uns de ses clavecins en cordes de boyaux.*”<sup>138</sup>

In France, Blanchet particularly excelled:

*[...] le son agréable de ses clavecins , & principalement par la légèreté extrême de ses claviers , qui contribua beaucoup aux progrès de cet instrument en France. Blanchet refit des claviers à un grand nombre de clavecins des Ruckers, auxquels il ajouta quatre notes graves & autant d’aigues.*<sup>139</sup>

Hüllmandel’s article continues: the range was soon extended to five octaves and the harpsichord thus reached its present state of development. But despite this perfection, experiments, both favourable and absurd, were still being made to find ways of modifying the sound. Harpsichords were now created that could vary the sound in twenty different ways, imitating the harp, the lute, the mandoline, the bassoon, the flageolet, the oboe, the violin and other instruments. Those effects that were discovered that did not correspond to the sounds of existing instruments were given new names like “*jeu céleste , &c.*”<sup>140</sup> To achieve such effects the number of rows of jacks was increased and plectra of different materials were thought up so that the various ideas could be realised. The sound could be

changed while playing using *genouillères* and pedals. Some instruments had a third keyboard, also for enabling the player to change the timbre while playing. Other instruments were supported on an organ instead of a stand so that the harpsichord and the organ could be played together.

Hüllmandel wrote on all of this in London, where he had fled early in the Revolution. Living there, he must have relied for a good part of his information on other writers or observers. Indeed, the description of an instrument that could imitate so many other instruments and the mention of a third keyboard is reminiscent of descriptions of German instruments that combined plectra and hammers. An example of an instrument that corresponds quite closely to Hüllmandel’s instrument with three keyboards was announced by Philipp Jacob Milchmeyer (1749–1813) in Carl Friedrich Cramer’s *Magazin der Musik* for the year 1783. Milchmeyer’s “mechanical Flügel” could “change more than 250 times by mixing the stops”.<sup>141</sup> The two-manual harpsichord was combined with a *Pantolon*, here meaning a piano, that was played from a third keyboard. Another combination harpsichord was described by Spath in his 1770 announcement in J. A. Hiller’s *Musikalische Nachrichten und Anmerkungen*.<sup>142</sup> Spath’s instrument comprised both a quilled harpsichord (probably with three stops), played from the lower manual, and a hammered instrument, the latter called by Spath a “*Clavecin d’amour*”, a type of piano, played from the upper manual. This combination instrument could produce fifty different changes of sound. At least one such instrument by Spath was known in Paris in 1777: “*Un clavecin à deux claviers & trois unissons, dont deux cordes à plumes, & un*

138. N. J. HÜLLMANDEL, “CLAVECIN”, *op. cit.*, p. 286. The origins of Hüllmandel’s list is obscure. Other references to these makers usually lead back to this article and give no further information. Zanetti could perhaps be the 17<sup>th</sup>-century Italian maker Girolamo Zenti who worked in Paris, traditionally from 1666 to 1668 (see also note 46). Maybe Hüllmandel meant the 18<sup>th</sup> century, that *le Prêtre* was Del Piano and that Farini was Giovanni Ferrini (circa 1690–1758), Cristofori’s pupil.

139. *Ibid.*, p. 286.

140. *Idem.*

141. “[...] dieser Mechanische Flügel durch die Vermischung der Register sich über 250 mal verändere [...]”. *Magazin der Musik für das Jahr 1783*, ed. Carl Friedrich CRAMER, I/2, p. 1027. The description is by Milchmeyer himself. For more details, see M. LATCHAM, “Franz Jakob Spath”, *op. cit.*, p. 161; and Silke BERDUX, “Johann Peter oder Philipp Jacob Milchmeyer? Biographische und bibliographische Notizen zum Autor der Hammerklavierschule “Die wahre Art das Pianoforte zu spielen””, *Musica Instrumentalis*, III, 1999, p. 103–120.

142. *Musikalische Nachrichten und Anmerkungen*, ed. Johann Adam HILLER, Leipzig, 30th April 1770, 142. See M. LATCHAM, “Franz Jakob Spath”, *op. cit.*, p. 165–166.

*clavier en fortepiano, qui frappe les trois unissons, à grand ravatement, par Jacob Spal.*"<sup>143</sup>

Not only such instruments but also simpler ones with only a hammer action were advertised in Europe using the same names used for the harpsichord with plectra, the *harpsichord*, *clavecin*, *cembalo* or *Flügel*. Perhaps because he relied on reports or written sources that used such names as these, all of which he could easily have thought meant harpsichords with plectra, Hüllmandel appears unknowingly to have included in his history of the plucked *clavecin* some instruments that had both hammers and plectra, imagining from the names given to these instruments that they were complex harpsichords that had plectra and many stops to vary the sound made by those plectra. By the same argument, Hüllmandel may even have understood reports of harpsichords that only had hammers, that is, pianos, to be plucking harpsichords. His mention of the stop called the *jeu céleste* as a harpsichord stop seems to confirm this. The name *jeu céleste* was given to the moderator or *Pianozug*, a stop that inserted tabs of leather or cloth between the strings and the hammers, modifying the sound. Although by definition this stop is only found in the piano and not in the harpsichord, Hüllmandel seems to have assumed that it was some kind of harpsichord stop.

Hüllmandel's article continues with a description of the disadvantage of the harpsichord, namely that it was incapable of nuance, by which he meant dynamic nuance. All that could be done was to have stops that successively advanced or retracted the plectra under the strings. Here Hüllmandel was probably not referring to Taskin's "*decrecendo*" *genouillère*, a stop for which he had considerable admiration, but rather to the English "Machine Stop" that enabled the player gradually to reduce the number of stops in use; Hüllmandel goes on to note that in England, the Venetian swell was

also invented for similar dynamic purposes.<sup>144</sup> This section ends with disparaging remarks about all these different stops and mechanisms and a eulogy for the "*Piano-forte*": "*Un instrument où l'unité, la pureté de son & tous les degrés désirables de force & de douceur, parlent au cœur sans blesser l'oreille, remplit bien mieux le but de la musique. (Voyez Piano-forte.)*"<sup>145</sup>

Hüllmandel's article then distinguishes Taskin's *peau de buffle* plectra as something special, above the mass of other inventions: "*Elles donnent à ces clavecins une beauté de son qui auroit dû détruire l'usage des plumes; mais l'habitude arrête trop souvent le progrès des arts.*"<sup>146</sup> Unlike Trouflaut and La Borde, who had earlier despised the piano and praised the *peau de buffle*, Hüllmandel appreciated both. Nonetheless, at the same time he seems to have disapproved of too much gadgetry.

A surprising invention comes next, that of an extra soundboard, placed under the baseboard of a harpsichord, with two octaves of strings struck by hammers operated from a pedal board. According to Hüllmandel this was an idea of "*Schobert, célèbre claveciniste*" (Johann Schobert, *circa* 1735–1767), and such instruments were made by "Silbermann à Strasbourg & Peronard à Paris" (J. H. Silbermann and presumably François-Balthazard Péronard, *fl.* 1760–1789). One such instrument has survived in Paris, not by either of these makers but by Joachim Swanen (*fl.* 1783–1816), a maker of German origins who worked in Paris.<sup>147</sup> The soundboard, open to the floor, is visible, suspended, as it were, a few centimetres under the baseboard.

143. *Catalogue des tableaux, Dessins, Terres cuites, Marbres {...} et autres objets précieux vendus après le décès de S. A. S. Monseigneur Le Prince de Conty par P. Rémy, A Paris, Palais du Temple, 8 avril 1777.* See Florence GÉTREAU, "Quelques cabinets d'instruments en France au temps des Bourbons", *Musique-Images-Instruments*, 8, 2006, p. 34. This instrument, undoubtedly by Spath of Regensburg (as Gétreau notes), combined a hammer action (probably the action today known as a tangent action) and a plucking action. Florence Gétreau kindly pointed out this source.

144. N. J. HÜLLMANDEL, "CLAVECIN", *op. cit.*, p. 287. Hüllmandel's description is clearly of Shudi's invention. Nonetheless neither the name Shudi nor the name Venetian Swell is given.

145. N. J. HÜLLMANDEL, "CLAVECIN", *op. cit.*, p. 287.

146. *Ibid.*

147. Musée du conservatoire national des arts et métiers, inv. no. 6615. For a brief description, see Michael LATCHAM, "Don Quixote and Wanda Landowska: bells and Pleyels", *Early Music* XXXIV/1, February 2006, p. 95–109, here p. 98–99. Two *Hammerflügel* attributed to Johann Schmidt of Salzburg, both of about 1790 (Germanisches Nationalmuseum, inv. no. MINE 100, Museum Carolino Augusteum, inv. no. B 15/18), had or have such a pedal board that operates a two-octave piano with the strings and soundboard directly under the case of the main instrument.

Next come two brief descriptions, one of upright harpsichords, the other of the use of little bows instead of plectra to prolong the sound, both notions that could have derived from Castillon's entries in the *Supplément* on the same subjects, or perhaps from the versions of those entries in the *Art du faiseur d'instruments de musique, et lutherie* of 1785. Alternatively, the idea of the upright harpsichord could come from La Borde's *Essai* and the idea of the little bows could come from the description of the *Cembalo Angelico*, an instrument invented in Italy and announced in Rome in 1775 in which soft leather was used for the plectra. In the 1775 description, each plectra was called a finger tip (*Polpastrello*):

{...} when the jack rises, the string is stroked by the delicate sloping surface; this stroking action of the Polpastrello, which imitates in miniature the bowing of a violin, gives the brass strings a sound similar to that of a recorder.<sup>148</sup>

Next, Hüllmandel mentions the idea of a machine to automatically write down the notes played on a harpsichord. This may again have come from the *Magazin der Musik* of 1783 in which Gottlieb Friedrich Riedelen of Tutlingen is described as a maker of various *Clavierinstrumenten*, one of which had both quills and hammers and another that wrote down the notes "played by the player as he played".<sup>149</sup> Alternatively, Hüllmandel may have seen the combined harpsichord-piano, which has such a machine, made in London in

1780 by John Joseph Merlin (1735–1803), some ten years before Hüllmandel wrote.<sup>150</sup> Preserved in Munich, this instrument produces separate and distinguishable pencilled lines on a moving paper driven by clockwork, each line representing the duration of a particular note played.

Next comes a list of composers whose various styles had contributed to the music of the *clavecin*: "[...] le genre d'harmonie & d'exécution, la grace & la légèreté qui lui conviennent. Alberti, Scarlatti, Rameau, Mütel, Wagenseil, puis Schobert, ont presque en même temps opéré cette révolution."<sup>151</sup> The work of these composers had continued to serve as an example for those who composed for the harpsichord for some time. Nevertheless:

Emanuel Bach, par sa musique savante, agréable & piquante, mériterait peut-être la première place parmi les artistes originaux; mais comme il composait pour le piano-forte, usité en Allemagne avant d'être pour ainsi dire connu ailleurs, il ne doit pas être confondu parmi eux. Il en est de même de divers auteurs qui, donnant à leur musique des nuances graduées, des oppositions & une mélodie convenables au son & aux ressources du piano-forté, ont préparé ou décidé la chute du clavecin.<sup>152</sup>

If indeed Hüllmandel understood the harpsichord-shaped piano as a harpsichord and not as a piano, this praise of Philipp Emanuel Bach's use of the piano would have been referring to his use of the square piano, not of the *Hammerflügel*. By the same token, if Hüllmandel is referring here to the square piano, it was that instrument, not the grand piano, that caused the "*chûte du clavecin*". Be that as it may, after this praise of the piano, Hüllmandel's

148. "In questo assottigliamento consiste la perfezione del Polpastrello, perchè nell' alzamento del salterello la corda deve strisciarsi sù questo lato scarnito ed inclinato, e questo strisciamento del Polpastrello, che imita in piccolo l'arcata del Violino, rende il tuono della Corda di ottone simile al sossio di un flauto dolce." Anon., *Lettera dell'autore del nuovo Cembalo Angelico*, Rome 1775, p. 11. For more on the *Cembalo Angelico* see Michael LATCHAM, "Four eighteenth-century cembali", in: Luisa MORALES (ed.), *Five centuries of Spanish keyboard music*, proceedings of the FIMTE conferences 2002–2004, Almería, Leal, 2007, p. 233–253, here p. 246–249.

149. "Ein Instrument, auf welchem alles, was der Spieler spielt, in währendem Spielen durch einen besondern Mechanismus in Noten abgedruckt wird." *Magazin der Musik*, ed. C. F. CRAMER, op. cit., 1/1, p. 396. Riedelen also made instruments with steel plectra, others with gut strings that could imitate 2 violins, a viola, a 'cello, a contrabass and a flute.

150. Deutsches Museum, acc. no. 1915-43872. For Merlin's work, see Michael LATCHAM, "The apotheosis of Merlin", in Michael LATCHAM (éd.), *Musique ancienne – instruments et imagination*, Actes des Rencontres Internationales harmoniques, Lausanne 2004, Bern etc., Peter Lang, 2006, p. 271–298.

151. N. J. HÜLLMANDEL, "CLAVECIN", op. cit., p. 287. Presumably Domenico Alberti (circa 1710–1746), Domenico Scarlatti (1685–1757), Jean-Philippe Rameau (1683–1764), Johann Gottfried Mützel (1728–1788), Georg Christoph Wagenseil (1715–1777) and Johann Schobert (circa 1735–1767).

152. *Idem.*, p. 287–288. Hüllmandel may have been a pupil of C. P. E. Bach.



15. P. TASKIN, *Piano-forté en forme de clavecin*, 1788, Paris, musée de la Musique, on loan from the Musée du Louvre. The tuning system used in all four *piano-fortés en forme de clavecin* by Taskin and mentioned by Framery. Some of the tuning heads are to be seen on the right above the keyboard; the U-shaped pieces of brass are clearly visible.

article finishes with appreciation of the harpsichord in its remaining role as continuo instrument.

A postscript by the chief editor, Framery, describes Hüllmandel's article as excellent.<sup>153</sup> This seems today to be a justified assessment, give or take Hüllmandel's flights of fancy and his small mistakes in the historical section, were it not apparent that quite a considerable part of Hüllmandel's text must have been based on misunderstandings of sources, probably foreign, describing instruments. If Hüllmandel had seen the actual instruments themselves he would no doubt have written more accurate reports.

Framery's postscript goes on to describe another of Taskin's inventions about which, according to Framery, Hüllmandel would not have known because he had been in London for so long.<sup>154</sup> This latest

invention, described in great detail by Framery, was for a new method of attaching the strings at the wrestplank. Instead of having two unison strings, each ending around its own tuning pin, one continuous string approached the wrestplank as one of the unisons and then looped back to return as the other. The loop at the wrestplank was pulled in or released by a U-shaped piece of brass, rounded and smooth. A thin bolt, placed horizontally through a raised part of the wrestplank and attached to the U-shaped piece of brass, screwed in or out in the direction of the strings, thus tensioning or releasing the pair of strings, tuning both strings up or down simultaneously. This invention, thus described by Framery, is in fact found in all four of Taskin's pianos *en forme de clavecin* but not in any of his harpsichords (fig. 15).<sup>155</sup> While it is true that his

153. N.-E. FRAMERY, "CLAVECIN", *op. cit.*, p. 288.

154. *Idem*. Hüllmandel did not settle in London until 1790, however.

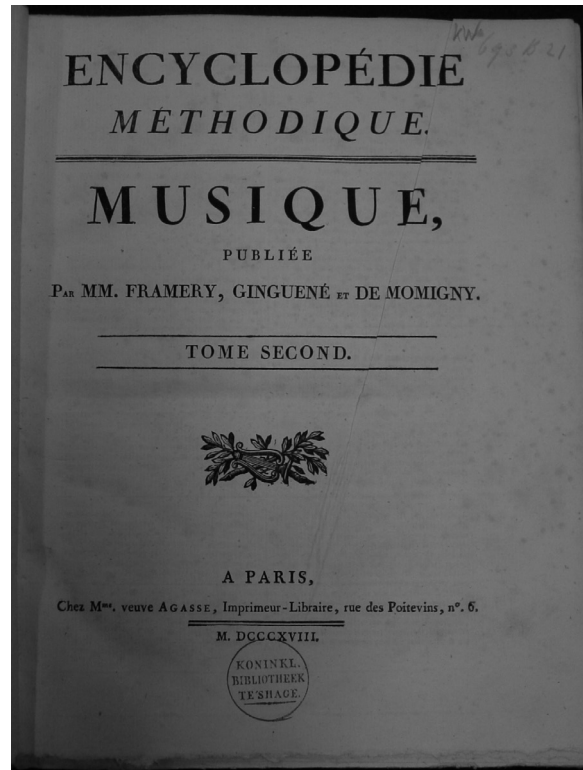
155. Yale University Collection of Musical Instruments, cat. no. 4992.60, possibly *circa* 1780; Musikinstrumenten-Museum, Staatliches Institut für Musikforschung, Berlin, cat.



harpsichords are dated between 1769 and 1786, all before his dated pianos (1787–1790), the earliest of the pianos is undated and may be as early as 1780 (fig. 3). This exceptional way of attaching the strings at the wrestplank thus appears to have been developed by Taskin for his pianos only and not for his harpsichords.

Framery's description mentions this method of attaching the strings as another of Taskin's inventions for the *clavecin*, along with some extra praise for the *peau de buffle*, also an invention for the *clavecin*. Although the *peau de buffle* is obviously only found in the harpsichord and not in the piano and although the special attachment system for the strings appears only to have been used by Taskin in his pianos and not in his harpsichords, Framery discussed them both in the same context (and indeed in the same paragraph) as inventions for the *clavecin*. Framery thus appears to have been thinking of Taskin's *clavecins à marteau* and his harpsichords as belonging to the same category, that is, in Framery's mind Taskin's *clavecins à marteau* seem to have been harpsichords, perhaps special harpsichords, but harpsichords all the same. Hüllmandel before him seems to have assumed that the term harpsichord, *clavecin*, or *Flügel* always referred to instruments with plectra. When he mentioned the *Piano-forté*, he appears to have been referring to the square piano. In other words, it is reasonable to suppose that not only in the mind of Hüllmandel but also in the mind of Framery, the *clavecin à marteau*, as made by J. H. Silbermann and Taskin, was a special harpsichord. It seems that to Hüllmandel and Framery, the *Piano-forté*, the instrument that caused the *chûte* of the harpsichord, was not the harpsichord-shaped piano but the new square piano.

No. 343, dated 1787; Musée de la Musique, on loan from the Musée du Louvre, inv. No. OA 10298, dated 1788; Versailles, Musée national des châteaux de Versailles et de Trianon, inv. no. T 508C, dated 1790. For the six harpsichords (1769–1786), see D. H. BOALCH, *Makers of the harpsichord and clavichord 1440–1840*, op. cit., p. 177. For more on Taskin's pianos, see Jean-Claude BATAULT, "Les pianoforte en forme de clavecin de Pascal Taskin. Recherches d'un facteur sous l'Ancien Régime", in *Cordes et claviers au temps de Mozart (Actes des Rencontres internationales harmoniques, Lausanne 2006)*, Thomas STEINER (ed.), Bern, Peter Lang, 2010, p. 227–261.



16. Nicolas-Étienne FRAMERY, Pierre-Louis GINGUENÉ and Jérôme-Joseph de MOMIGNY acknowledge as editors: *Encyclopédie méthodique. Musique*, vol. II, Paris, veuve Agasse, 1818, title page, The Hague, Royal Library.

### *The Encyclopédie méthodique, ou par ordre de matières. Musique, volume II (P–Z) of 1818*

The publication of the *Encyclopédie méthodique*, initiated by Panckoucke, began in 1782 and was taken over by his son-in-law Henri Agasse in 1794, four years before Panckoucke died. When Agasse died in 1813, his wife, Panckoucke's daughter Thérèse-Charlotte, continued and published the last of the 206 volumes in 1832.<sup>156</sup> The different *dictionnaires* came out sporadically and in the case of

156. The number of volumes of the *Encyclopédie méthodique* varies considerably according to the sources that mention it or the libraries that possess it. In the Royal Library at The Hague the catalogue gives 199 volumes. The variation probably relates to the difficulty of collecting together a complete set as each

the one for *Musique*, there was even a huge gap, both in time and otherwise, between the first volume (A–O), published in 1791, containing Hüllmandel's article on the *clavecin*, and the second volume (P–Z), published in 1818, containing the article on the *Piano-forté*. Although a reference in Hüllmandel's article of 1791 made clear that another article, one on the piano, was planned and perhaps even ready for the printers in 1791, it was never published. That it was ready seems likely considering that more than half of the entire *Encyclopédie méthodique* was prepared by 1789.<sup>157</sup> For alphabetical reasons however (*clavecin* begins with a c and *piano* with a p) the public had to wait until the publication of the second volume on music in 1818 to read an article on the *piano forte*, even though one had been promised by Hüllmandel in 1791. An article on the *piano forte* was thus probably written in about 1790, possibly by Hüllmandel, but rejected by the editors in 1818 because by then it was out of date. Instead, a new article was written by the composer and musicologist Jérôme-Joseph de Momigny (1762–1842). He had joined Framery and Ginguené as editor for music and his name also joined theirs on the title page of volume II for music of the *Encyclopédie méthodique* (fig. 16). His relatively short article, entitled “PIANO. (Piano-forté ou forté-piano)” was new and had nothing to do with the articles of previous editions of the *Encyclopédie*.<sup>158</sup>

Momigny's article starts by describing the piano in relation to the harpsichord without any reference to the period during which the *clavecin à piano et forte* had coexisted peacefully with the *clavecin* with plectra, supporting again the idea that those earlier *clavecins à marteau* had been thought of as special harpsichords:

*Cet instrument qui a succédé au clavecin , trop automate , est bien digne du triomphe qu'il a obtenu sur son prédécesseur , & par son expression , qu'il étend*

*du piano au forté , d'où il tire son nom , & comme moins embarrassant.*

*Qu'il y a loin du sautereau emplumé de l'épinette & du clavecin au marteau du piano-forté! Quelle différence il en résulte & pour la qualité & pour la quantité du son qu'il tire!”*<sup>159</sup>

No hints are given in this passage about the type of *piano-forté* discussed. Today, it might be imagined that Momigny meant the grand piano; in fact he may well have meant the square piano.

The article continues with a clear emphasis on the importance of the different stops: “*La couleur lui est donnée par les jeux différens qui composent le piano-forté , & qui sont mus par l'action des pédales.*”<sup>160</sup> The pedal for disengaging the dampers and its use for both loud and cantabile playing are described. The article also mentions the moderator or *jeu céleste* and that it may be used together with disengaged dampers for ethereal and supernatural sounds. Such effects were certainly abused on occasions, the article continues, but even the great pianists could draw on these precious resources: the *jeu céleste* for sweetness and the *sourdine* for the imitation of both the harp of a *pizzicato* on the violin. With regard to the use of these stops, Momigny wrote:

*Il y a quelque chose de nocturne mêlé au jeu céleste ; & lorsqu'on veut ramener vers le jour & à la clarté , on peut commencer à lever les étouffiers , en tenant toujours la sourdine & le jeu céleste , puis ôter à la fois le pied de toutes les pédales , en ménageant , par le tact , cette transition.*<sup>161</sup>

By “*toutes les pédales*” Momigny probably meant only the *sourdine* and the *jeu céleste*; the burst of light as the sun rose above the horizon would surely have needed the *forte* pedal. No mention is made of the *una corda* stop, usually only found in *piano-fortés en forme de clavecin* and only very rarely in square pianos, suggesting that in this section, Momigny, like his predecessor Hüllmandel when describing Phillip Emanuel Bach's prowess at the piano, was primarily thinking of the square piano.

*dictionnaire* came out and also to the fact that binding occurred after acquisition.

157. R. DARNTON, *The business of enlightenment*, op. cit., p. 597.

158. Jérôme-Joseph de MOMIGNY, art. PIANO, *Encyclopédie méthodique*, op. cit.: *Musique*, vol. II, N.-E. FRAMERY, P. L. GINGUENÉ and J.-J. de MOMIGNY (eds.), Paris, veuve Agasse, 1818, p. 267–268.

159. *Idem.*, p. 267.

160. *Idem.*

161. *Idem.*

Next comes a remark on the importance of the soundboard, of good strings, of the action of the hammers and how they were covered, followed by praise, first of Sébastien Erard and then of “*les deux frères*”, referring to the *Erard frères*, who, Momigny noted, together perfected the piano in Paris. Different types of pianos were made:

*On fait des pianos carrés, longs, à deux cordes & à deux pédales, ou à quatre pédales.*

*A trois cordes & à quatre ou cinq pédales.*

*A cinq octaves & demie & à six octaves.*

*On en fait en forme de clavecin, de différentes dimensions & de verticaux.*<sup>162</sup>

Although the article speaks largely for itself, the emphasis on the use of the pedals in 1818 for colour and descriptive expression is perhaps remarkable today, although, as noted above in the introduction to the history of keyboard instruments in Paris, the range of such effects available on French pianos at the time was greater than on English ones. Also noteworthy is that Momigny seemed to have the square piano in mind when describing the use of the piano, indeed he may even have had the square piano in mind when writing the article as a whole. That this could have been the case is supported by his list of the different types of piano, starting with the square pianos, mentioning the different sorts in some detail, and adding the grand pianos at the end of the list without specifying their ranges or the number of pedals they possessed. From today's perspective, the grand pianos would be listed first and the square pianos second; the square pianos would probably be seen today as lesser instruments, perhaps reserved only for domestic use. By placing the square piano first on his list, Momigny seems to

have suggested that the square piano was at least as important to him, if not more important, than the grand piano. This appreciation of the square piano may have been widespread in musical life in his day.

The article ends, and with it the history of articles on stringed keyboard instruments in Diderot's *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers, par une société de gens de lettres* and its derivatives, with a special mention of vertical pianos, not made in Paris but in London:

*Jusqu'ici, ce n'est guère qu'à Londres qu'on s'est occupé sérieusement de la fabrication du piano vertical. Plusieurs facteurs y réussissent d'une manière très-satisfaisante, & entr'autres la fabrique de MM. Clementi, Collard frères & compagnie.*<sup>163</sup>

## Conclusion

No further conclusions regarding this history of the entries on stringed keyboard instruments in the *Encyclopédie* and its derivatives need be drawn; all of them have become clear along the way. Diderot emerges as a man of principle who regarded as primary the dissemination of objective knowledge based on observation. Whether or not he would emerge as the same hero of the tale if articles on more weighty matters were similarly traced through the various versions of the *Encyclopédie*, none of his successors may be cast in the same light. Of the versions of the *Encyclopédie*, only the original at least set out to follow the principles of the Enlightenment; the rest, either through their infidelity to those principles or through their ignorance of them, will remain in the shadows.

162. *Idem.*, p. 268.

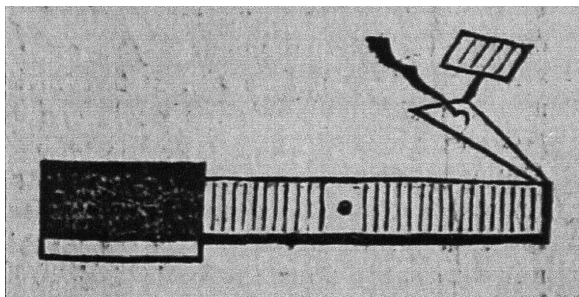
163. *Idem.*

## APPENDIX

The entry “EPINETTE” from volume II (1776) of the *Supplément*, p. 820–822, written by Paul-Joseph Vallet (?–1790), a lieutenant-general in the Grenoble police force.<sup>164</sup>

§ EPINETTE, s. f. (*Lutherie.*) L'on ignore le nom de l'inventeur de l'*épinette* ou clavecin ordinaire, l'on ne sait ni le tems, ni le lieu, où l'on a imaginé cet instrument. Il y a deux cens ans que l'*épinette* n'avoit que cinq pieds de long sur vingt pouces de large, il contenoit environ trente touches; il commençoit au *fa* quarte du prestant, & finissoit à l'*ut*, octave de la clef de *sol*.

La mécanique des touches étoit à-peu-près semblable à celle d'aujourd'hui, excepté qu'au lieu de plume, le sautereau étoit armé d'un morceau de cuir à-peu-près de la même maniere que le pratique aujourd'hui M. de Laine, maître de vielle, &



M. Pascal, facteur de clavecin, tous deux résidans à Paris. Les sautereaux des anciens clavecins n'étoient point étoffés, de sorte que les sons se confondoient : les cordes étoient de boyaux, par conséquent les sons étoient doux, moux; l'humidité & la secheresse désaccordoeint chaque jour l'instrument. On trouve encore quelques-uns de ces vieux clavecins dans Paris & dans les grandes villes des Pays-Bas & de l'Allemagne.

164. The later version of Vallet's article as it appeared in the *Supplément* has been transcribed here, rather than the earlier one from the *Encyclopédie d'Yverdon*. Every care has been taken to follow exactly the original spelling, irregular use of italics, the lack or presence of accents and the punctuation, the latter including the use of spaces before commas and semicolons.

Il y a environ cent ans qu'au lieu de cordes de boyaux l'on mit dans l'*épinette* des cordes de fer & de cuivre; l'on arma les sautereaux de plumes & d'étoffe pour arrêter la vibration de la corde : cette heureuse découverte a été depuis lors pratiquée dans toutes les *épinettes*.

Dans le livre intitulé *la Harmonie universelle, contenant la théorie, la pratique de la musique, & la composition de toute sorte d'instrumens*, par F. Marin Mersenne de l'ordre des Minimes, à Paris, chez Cramoisy 1636, gros *in-folio* avec *figures*, l'auteur donne le plan d'une *épinette*, dans le corps sonore & les cordes sont perpendiculaires. Cet instrument étoit pour lors en usage en Italie. Cette *épinette* commençoit au *sol* au-dessus de la clef de *fa*, & finissoit à *sol* à l'octave de la clef de *sol*; par conséquent elle n'avoit que deux octaves.

Le pere Mersenne dit que cet instrument avoit le son très-doux; les sautereaux étoient emplumés, & couloient horizontalement pour heurter la corde. Le vice de cet instrument étoit, que l'on n'avoit pas encore pour lors inventé l'art d'arrêter les vibrations de la corde par un morceau d'étoffe; les sons se confondoient : mais aujourd'hui cette *épinette* ou ce petit clavecin n'auroit plus le même inconvénient; & il auroit l'avantage de n'occuper presque point de place dans les appartemens, parce que le corps sonore seroit plaqué contre le mur.

J'observe en passant, que le plan de cet instrument engagea M. Berger, musicien de Grenoble, à ajouter un clavier à une harpe ordinaire : mais le nommé *Frique*, ouvrier Allemand, qui travailloit pour le sieur Berger à Paris, en 1765, vola & emporta toute la mécanique, & les plans de cet instrument qui étoit destiné pour M. de la Reiniere, fermier-général.

On présume que le mani-corde que l'on nomme aussi *mani-cordion* ou *claricorde*, est un peu moins ancien que l'*épinette*; il en differe en ce que, au lieu de sautereau armé d'une pointe de cuir ou de plume, le sautereau du mani-cordion {no italics} est armé à son extrémité, 1°. d'un morceau de cuivre; 2°. d'une petite pointe qui peut soulever un morceau d'étoffe, qui appuie sur la corde : lorsque l'on baisse la touche, le marteau de cuivre frappe la corde dans l'instant que l'étoffe est soulevée. Il est visible que le morceau d'étoffe doit arrêter la vibration, dès que la touche reprend sa situation naturelle. Le mani-cordion a quatre octaves, les cordes sont de métal. Cet instrument a le son très-



doux , il sert à accompagner les petites voix. Les doigts en frappant les touches avec plus ou moins de violence , procurent le *forte* ou le *piano* : mais le mani-cordon ne doit pas être réuni avec d'autres instrumens dans un concert ; il n'a pas assez de force pour se faire entendre , & il exige que l'on frappe la touche ; au lieu que dans l'*épinette* il suffit de l'abaisser. On présume que les Allemands sont les inventeurs du mani-corde.

Dans la page 114 de l'ouvrage de la *Harmonie universelle* , le pere Mersenne donne le plan d'un manicomde de quatre octaves ordinaires.

Le mani-cordon a vraisemblablement donné lieu d'imaginer l'*épinette* à marteaux de bois dur {in the *Encyclopédie d'Yverdon* "*épinette à marteaux*, de bois dur"}. On place ces marteaux ou horizontalement ou verticalement.

Quelquefois on met entre les marteaux & la corde un petit morceau de peau de mouton , ce qui fait rendre un son de luth à la corde qui est frappée ; mais lorsque l'on veut faire rendre un son d'*épinette* , il faut avec le genou faire mouvoir un levier qui souleve les peaux. Il est évident que dans cette *épinette* à marteau on peut faire le *piano* & le *forte* , ou sur l'*épinette* ou sur le luth. Cette *épinette* à marteau rend beaucoup plus de son que l'*épinette* à plume; elle a l'avantage sur cette dernière de n'exiger presque aucune réparation : il est vrai que l'on a un peu de peine à s'accoutumer à frapper la touche plus ou moins fort , & à ne donner que le degré de force que l'on souhaite. Il y a grande apparence que l'*épinette* à marteau prévaudra dans peu aux *épinettes* à sautereaux emplumés , qui exigent des réparations continuelles. Le marteau a environ six lignes de face sur trois lignes de hauteur , il est porté par un fil de fer ; près du marteau est une seconde branche qui porte à sa sommité un morceau d'écarlate , qui s'élève lorsque le marteau va frapper la corde ; ces deux machines sont fixées à la sommité d'un petit levier du premier genre , en bois ; il a environ un pouce de hauteur ; le levier est soulevé par l'extrémité de la touche du clavier.

Nous représentons ici la principale mécanique de cet ingénieux instrument.

L'*épinette* à marteau renferme souvent cinq octaves: on pourroit encore y ajouter des sautereaux à plumes qui rapprochés du chevalet collé sur le sommet {in the *Encyclopédie d'Yverdon* "sommier"} , procureroit aux cordes le son de la harpe. On présume que les Allemands ont inventé l'*épinette* à marteau sur la fin du siècle dernier.

On dit , qu'en 1758 ou environ , les Anglois ont ajouté à l'*épinette* ordinaire six rangs de sautereaux emplumés & un rang de sautereaux à marteaux. Les sautereaux emplumés heurtent la même corde , les uns près du chevalet , les autres plus ou moins loin, ce qui est cause que la même corde peut rendre six sons d'un différent genre , c'est-à-dire , aigus , durs , doux , mous , &c. Tel est le mécanisme de l'*épinette* admirable qui fait le *piano* & le *forte* , que le sieur Virbes , musicien de Paris , promène actuellement dans les provinces de la France.

Les *épinettes* ordinaires ont six pieds de long et deux pieds & demi de large ; elles sont composées de deux claviers , le supérieur a un sautereau sur chaque touche ; le clavier inférieur porte deux sautereaux à chaque touche : l'un fait mouvoir une corde à l'unisson, & l'autre fait mouvoir une corde à l'octave. On pourroit y ajouter sans beaucoup de dépense , un quatrième sautereau procureroit à la corde le son de la harpe. On pourroit encore sans frais y appliquer une petite règle qui glisseroit dans une coulisse ; cette règle seroit armée de peau de buffle pour empêcher en partie la vibration de la corde & lui faire rendre un son de luth.

Les meilleurs facteurs d'*épinettes* ordinaires ont été André Rukers, résidant à Anvers, qui vivoit sur la fin du siècle dernier , & Jean Denis de Paris : mais depuis la mort de Rukers on a fait quelques changemens avantageux à ses *épinettes*. 1°. L'on a donné plus d'étendue à ses claviers qui n'avoient que trois octaves & demie , ils commençoient à *fa* , octave au-dessous de la clef de *fa* , & finissoient à *l'ut* , douzième au-dessus de la clef de *sol* ; l'on a ajouté une octave aux basses , & une quarte aux tons supérieurs , en conservant le même diapason & la même forme : on y a ajouté outre cela les machines suffisantes pour imiter le luth & la harpe : quelques personnes y ont joint une petite orgue , ce qui centuple l'agrément.

La plus singulière & la plus étonnante des découvertes que l'on ait faite dans ce siècle , pur perfectionner les *épinettes* de Rukers , est celle de M. Berger , musicien , résident à Grenoble : il a inventé une mécanique fort simple qui fait rendre à l'*épinette* , non seulement le jeu du luth , celui de la harpe , le *piano* , le *forte* , mais encore le *crescendo* , effet qui jusqu'alors avoit été regardé comme impossible à trouver : Mrs. de l'Académie des Sciences de Paris lui ont donné des certificats avec beaucoup d'éloges dans le mois d'août 1765.

Les gazettes l'ont annoncé ; mais comme tous les connoisseurs de Paris se sont bornés à l'admirer , M. Berger n'a point trouvé à-propos de publier la mécanique de cet instrument , ainsi que celle de l'orgue qui y étoit jointe , dont les sons haussoient & baissoient ; elle faisoit aussi le *crescendo* que l'on regardoit également comme impossible d'appliquer à l'orgue. Ces deux mécanismes singuliers sont applicables à toute espece d'*épinette* , & à toute espece d'orgue , sans en altérer le toucher & le corps sonore. Il y a grande apparence que si quelque souverain n'achete pas incessamment le secret de la mécanique de M. Berger , on ne le trouvera vraisemblablement jamais. M. de Laine , maître de vielle de Paris , a tenté de procurer le *crescendo* à son *épinette* , en faisant avancer ou reculer le sautereau : mais il arrive souvent que dans cette invention la plume du sautereau ne peut pas se dégager de la corde ; au lieu que jamais on ne sent aucune difficulté dans la mécanique du sieur Berger ; son *épinette* n'exige point que l'on appuie plus ou moins le doigt sur la touche pour faire le *piano* , le *forte* , ou le *crescendo* ; le genou ou le pied presse un levier qui aboutit à la mécanique ; alors l'on a des sons plus ou moins forts dans l'*épinette* , ainsi que dans l'orgue. Voilà tout ce que l'on fait de la mécanique de ces instrumens.

Quelques personnes ont tenté de donner à l'*épinette* la commodité du transport, & dans cet objet ils ont divisé le clavier & le corps sonore en trois parties parallèlement aux cordes : par ce moyen on est parvenu à réduire ces *épinettes* en parallélogramme rectangles , en transportant une des parties : mais ces *épinettes* ont rarement les corps sonores proportionnels en force , & en espece de son ; d'ailleurs elles sont sujettes à des réparations continuelles , quoique l'on fasse modeler les sautereaux en étain pour les rendre plus solides.

Le sieur Renaud , bourgeois de Paris , originaire d'Orléans , artiste fort ingénieux , a tenté de quadrupler le son de l'*épinette* , en y mettant un archet sans fin , formé d'un tissu de crin , cousu sur une courroie. Une pédale fait mouvoir la roue sur laquelle passe l'archet. Les touches par la pression du doigt , font baisser la corde sur l'archet par le moyen d'un pilote qui est fixé à la touche. Ce pilote saisit la corde en-dessus ; il la rapproche de l'archet , qui circule horizontalement sous toutes les cordes. Cet instrument a deux défauts : 1°. comme les cordes sont en boyaux , il ne tient pas l'accord ;

l'humidité & la sécheresse le font varier d'un instant à l'autre. 2°. Si l'on baisse plusieurs touches à la fois , elles pressent trop fortement l'archet , il reste immobile.

Un commandeur de Malte fort ingénieux , travaille actuellement dans Grenoble , à finir une *épinette* à cordes de métal & à archet sans fin , c'est-à-dire , en courroie tissée & mobile par une pédale. Ce savant a ajouté un mécanisme pour exciter des oscillations longitudinales dans les cordes de métal. Ce point d'attache des cordes est au centre des leviers , dont l'extrémité répond par un mécanisme aux touches de l'*épinette*. Chaque touche de l'*épinette* a une ouverture & un petit point saillant , de sorte que , dès que l'on veut faire rendre un son plus ou moins fort , il suffit de presser plus ou moins l'extrémité de la touche ; & si l'on veut avoir des sons tendres , de la nature du tremblant doux de l'orgue , il faut mettre le doigt sur le bouton de la touche , & trembler plus ou moins , ce qui produit un effet des plus singuliers. J'observe , en passant , que cet ingénieux seigneur a placé des leviers à-peu-près de la même espece sur ce luth ; & en les pressant plus ou moins avec la paume de la main , il en tire des sons tendres & très-flatteurs.

Il y a environ vingt ans , qu'un particulier de Paris imagina une espece d'*épinette* , ou plutôt un instrument , où il a réuni deux violons , une taille & un violoncel ; ces quatre instrumens ordinaires sont posés horizontalement sur une table , ils ont des chevalets dans l'endroit où on les place ordinairement : mais ces chevalets ne sont point bombés ; ils sont très-longs , & en ligne droite , comme un bout de règle ; ils occupent l'espace des deux S S : sur le chevalet de chaque instrument , il y a quatorze cordes de boyaux tendues ; chaque instrument a un grand archet , placé à quelques lignes au-dessus des cordes ; une pédale fait tourner une roue , & cette roue fait mouvoir le *va & vient* de chaque archet. Les archets ne jouent point auprès des S S des instrumens ; ils jouent , au contraire , à cinq pouces de distance du sillet des violons. Lorsque l'on met le doigt sur une des touches du clavier , la corde s'élève , & va s'appuyer plus ou moins fort contre l'archet ; par conséquent la corde rend alors un son. Il est évident que les cordes du côté du sillet doivent avoir des doubles cordes qui les alongent , on les monte par le moyen des chevilles ordinaires : avec cet instrument un homme seul peut faire un concert entier ; il est dommage que les violons ne

tiennent pas beaucoup l'accord , & que toute cette mécanique coûte environ quinze cens livres. Ces détails sont suffisans pour les artistes , & pour le commun des lecteurs.

En finissant l'histoire des *épinettes* , nous allons donner quelques nouvelles idées pour les perfectionner.

1°. Au lieu d'archet en tissus flexibles , on peut employer une roue semblable à celle de la vielle.

2°. On pourroit tenter d'exciter la vibration des cordes , par le moyen d'un tuyau rempli d'air.

3°. Employer une roue hérissée de petites pointes de plumes.

4°. Comme l'expérience montre que le chevalet à marteau mobile de la trompette marine en quadruple le son , on pourroit tenter de mettre un chevalet de cette espece sous chaque corde de l'*épinette* ; on pourroit aussi tenter de faire des chevalets à ressorts de différens bois , qui en excitant le mouvement de corps sonore , centuplassent la force , ou le nombre des oscillations de l'air qui est renfermé dans ce corps sonore , & qui sont causées par la vibration de la corde.

5°. On sait , qu'un violon sans ame a un son sourd & très-bas ; on pourroit tenter de mettre plusieurs ames sous les cordes de l'*épinette*.

6°. L'on a vu , il y a environ dix ans , à Paris un instrument singulier , inventé par un Anglois. Le corps sonore étoit une enfilade de timbres de verre , semblables à ceux des pendules à carillon ; on jouoit de cet instrument , en faisant tourner l'arbre , qui contenoit tous ces timbres ; ensuite pour faire un ton , il falloit approcher , d'un des timbres de verre , un doigt humide. Ce frottement excitoit un frémissement argentin , sonore , flûté , susceptible du *crescendo* ; mais comme ces frémissemens du verre se commuquoient à la main & au corps de la dame qui en jouoit , elle périt en peu de tems. On pourroit adapter un clavier à cet instrument, pour empêcher

l'effet nuisible à la santé : au lieu de timbres de verre , on pourroit exciter un frémissement harmonique par le frottement sur la surface des timbres , des carillons , des pendules , &c.

7°. Pour compléter l'idée que nous avons donnée du claqué-bois , que quelques auteurs nomment aussi *regale-de-bois* , *patouille* ou *échelette* , nous observons présentement que l'on joue ordinairement du claqué-bois par le moyen de deux baguettes , au bout desquelles on met une petite boule de bouis ou d'ivoire , 2°. avec un clavier dont l'extrémité des touches sert de marteau ; 3°. on peut enfin tenter d'en tirer un son agréable , en approchant chaque bâton d'une roue semblable à celle de la vielle : enfin l'on peut suspendre les bâtons sur des corps sonores.

Le plus grand bâton du claqué-bois a ordinairement dix pouces de long ; le plus petit a trois pouces & demi. Au lieu de bâtons on peut employer des cylindres creux de bronze ou d'autre métal.

8°. On peut perfectionner les corps sonores des *épinettes* , 1°. par la qualité des bois ; 2°. par leur épaisseur ; 3°. par leur contour ; 4°. enfin par leur étendue, &c.

9°. On doit observer que les cordes en boyau ont un son plus agréable & plus doux que les cordes en soie ; 2°. que les cordes en métal ont un son plus aigu , plus clair & moins doux que les cordes tirées du regne végétal ou animal ; le fil de fer a un son plus aigu que celui du laiton ; le fil de cuivre rouge & ceux d'argent ont encore le son plus doux. Le fil d'or rend encore un son plus doux. Les fils de cuivre filés en cuivre , ont un son très-doux & mou. Les fils de métal tordu ou croisé ont un son très-harmonieux & de longue durée , ils sont excellens pour les basses. Au lieu de cordes métalliques rondes , on pourroit essayer à les aplatisir ou à les rendre triangulaires dans l'objet d'augmenter ou de varier la qualité des sons. ( V. A. L. )