The 1909 *American History Encyclopedia of Music* included a ca. 100 page section entitled "The Art of Music Before 1750" by Arnold Dolmetsch. It details his description of the standard disposition of the Chickering-Dolmetsch harpsichords. The encyclopedia was given to John Watson from Glenn Giuttari in 2012 and scanned.

THE AMERICAN HISTORY AND ENCYCLOPEDIA OF MUSIC

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IRVING SQUIRE
NEW YORK

THE AMERICAN HISTORY AND ENCYCLOPEDIA OF MUSIC

ESSENTIALS OF MUSIC

BY

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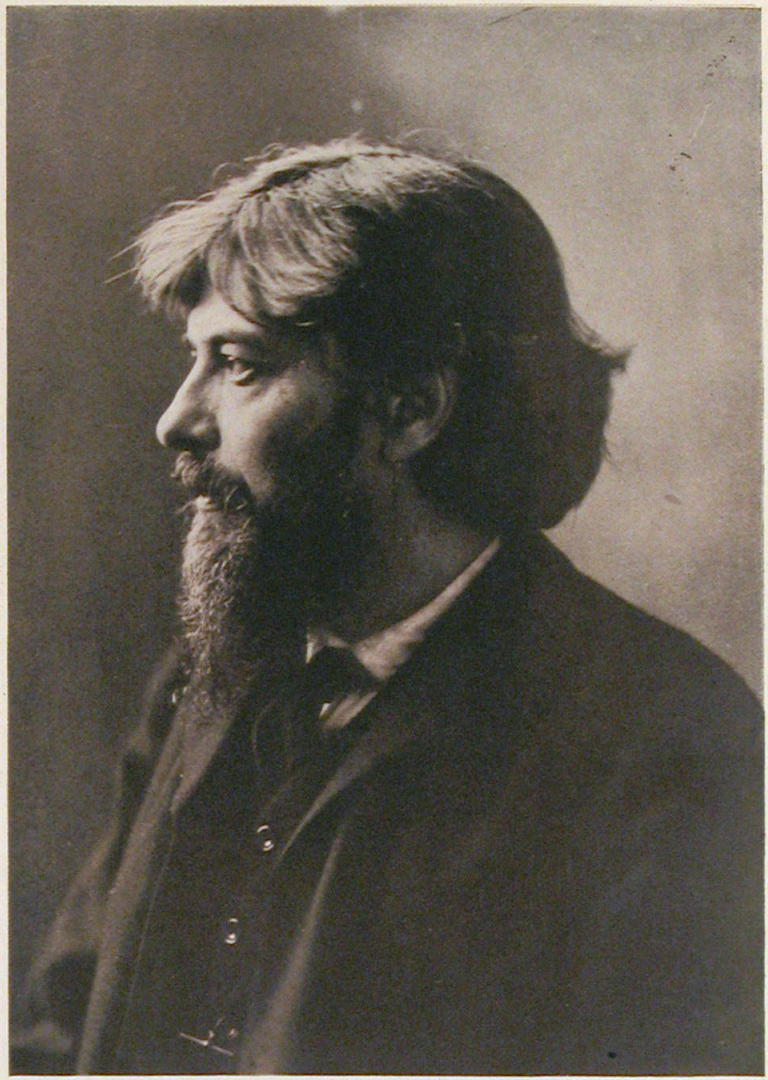

ARNOLD DOLMETSCH

Archæologist of Music

Born in LeMans, France, in 1858. While a boy, became familiar with piano manufacture in his father's factory, and has devoted his life to the repair and reproduction of old instruments and to the perpetuating of old music. Well called an apostle of old music.

THE ART OF MUSIC BEFORE 1750

IN FOUR SECTIONS.

ARNOLD DOLMETSCH.

ANALYSIS OF SECTIONS

Introduction.
Section I.— The Lute.
Section II.— The Viols.
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THE ART OF MUSIC BEFORE 1750

ARNOLD DOLMETSCH.

INTRODUCTION.

Most musicians believe that "Music is the youngest of the arts"; they use no earlier music than Bach or Handel's. Haydn and Mozart, who flourished during the American Revolution, are considered "ancient." Yet, from the earlier dynasties of Egyptian kings, through ancient Greece, the Roman Empire, Mediæval Europe, the Renaissance, the Sixteenth and Seventeenth Centuries, gifted men devoted their life to music, and their contemporaries esteemed and enjoyed their works as much as those of the architects, poets, painters and other artists of the time.

How is it then, that whilst we know and appreciate the literature, architecture and painting of past ages, we should be so ignorant of the old music?

Does the music of today contain the accumulated beauties of former ages any more than the other arts? There is no reason to believe it. Progress in the arts does not resemble the onward march of science where the discoveries of one generation serve as the starting point for the following. There is no more science in music than in literature. Even in the construction of musical instruments the science of acoustics has not been able to help with a single practical discovery.

But, it may be said, the history of music is taught in our colleges and universities; students pass examinations and graduate in it. So it is; but they learn little about the earlier forms of the art besides names and dates; they have practically no chance to get acquainted with the music. Few of the teachers have ever heard any. They speak about it, quoting the opinions of "authorities" who have studied the subject as much as they thought necessary to write a text-book, but far too superficially to get any real knowledge. Only a small amount of old music is at all accessible outside of European museums, and that mostly in corrupt editions. The instruments for which that music was made, and without which it cannot be realized, are only just beginning to be understood and studied practically. Thus it is that the largest part of the Art of Music still remains a closed book to musicians.

I have been investigating this subject for twenty years. I have not gone far, for it is a vast undertaking, but I have seen enough to convince myself that the study of the old music is a most pressing need. It will bring to light works of art of unsurpassed beauty; it will help us to understand the music of the present, and establish the only safe foundation for future developments of the art.

The following instruments would be required: two lutes; a complete "chest of viols," composed of two trebles, two tenors and two basses; a violone; one or two viole d'Amore; a clavichord; a harpsichord with two keyboards and a full complement of stops. No doubt, wind instruments would also be wanted, but the above would be sufficient to begin with. The study of these instruments is fascinating. Gifted students could easily be induced to play upon them, and there is no doubt that the subject, once started, would quickly develop and give valuable results.

One of the chief difficulties in the way of a Musical Renaissance is now removed. It was almost impossible formerly to get an old instrument in really good order.

Piano-makers knew nothing about harpsichords and clavichords; violin-makers were just as ignorant about lutes and viols.

Intending players were unable to direct the restoration of their instruments, not understanding themselves their possibilities and idiosyncrasies.

Now lutes and viols, harpsichords and clavichords as beautiful and good as the old ones can be obtained as easily as violins and pianofortes.

SECTION I.

THE LUTE.

The name of the lute is very familiar. We find it in the Bible, although it merely stands there as a convenient translation for some Hebrew instrument, perhaps very unlike a lute. It often recurs in Shakespeare and the early English literature. Even modern poets use the word on account of its poetical associations, though they hardly understand what it means.

Though the name be common, the thing itself has become very rare. There are some lutes in museums: in Bologna, Brussels, Paris, and other places, and a few in private collections; but spurious "property" lutes manufactured by unscrupulous Italians for latter-day collectors, are far more numerous than genuine specimens, even in public museums.

The modern painter who wishes to introduce a lute into one of his works, a fashionable thing nowadays, has every chance of reproducing some impossible model, perhaps a complete forgery, or, worse still, some partly genuine instrument, which through the successive "restorations" and "improvements" of ignorant admirers has become completely transformed. There is such a lute in the South Kensington Museum in London: its back only is original,

the rest being an absurd hybrid compound; nevertheless it has been reproduced many times, and is even given as an illustration in one dictionary of music.

A careful examination of the lutes so frequently to be met with in old pictures would be a safer guide to the understanding of the various forms of this instrument; for the older masters well understood its beauties, and, unlike their descendants, their paintings were technically accurate. Who has not admired these exquisite angels playing the lute, sometimes a very little angel struggling with too large a lute, which form such a charming incident in early Italian pictures? The drawing of the hands, especially the left one, in the difficult positions necessitated by the performance, is so precise, that in most cases one could tell the very chord that is being played. Undoubtedly the painters were themselves lute players, otherwise they could not have made their meaning so clear.

During the Fifteenth, Sixteenth, and greater part of the Seventeenth Century, the lute was considered the best and most perfect of musical instruments; all the musicians played it. It was the foundation of instrumental music as well as the indispensable companion of vocal music. In some form or other it is as old as the art of music, that is to say as old as civilization itself. It was in use in ancient Egypt and in the East, its name being derived from the Arabic "Al'ud." It attained its greatest perfection in Western Europe between 1500 and 1650, then quickly lost its popularity, and only left with us a degenerate offspring — the mandolin.

The finest lutes were made in North Italy, principally in Venice, in the Fifteenth and Sixteenth Centuries. These instruments were prized in the halcyon days of lute playing, just as we now prize beautiful violins. In the Seventeenth Century they fetched very high prices, as the following quotation will show. It is taken from a delightful book of great interest for our subject:

"Musick's Monument; or a Remembrancer of the Best Practical Musick; Both Divine, and Civil, that has ever been known, to have been in the World.

"* * * The Second Part Treats of the Noble Lute (the Best of Instruments) now made Easie; and all Its Occult — Lock'd-up — Secrets Plainly laid Open, never before Discovered; whereby It is now become so Familiarly Easie, as Any Instrument of Worth, known in the World; * * * By Tho. Mace, one of the Clerks of Trinity Colledge, in the University of Cambridge. London ... 1676.

"First, know that an old Lute is better than a New one: Then, The Venice Lutes are commonly Good; which you shall know by the writing within, right against the knot, with the Author's Name.

"There are diversities of Men's Name in Lutes; but the Chief Name, we most esteem, is Laux Maler, ever written with Text Letters: Two of which Lutes I have seen (pittiful Old, Batter'd Crack'd Things) valued at 100 l. a piece.

"Mr. Gootiere, the Famous Lutenist in His Time, shew'd me One of Them, which the King paid 100 l. for.

"And Mr. Edw. Jones (one of Mr. Gootiere's Scholars) had the other, which He so valued; And made a Bargain with a Merchant, who desired to have It with him in His Travels, (for his Experience;) And if He lik'd It when He returned, was to give Mr. Jones 100 l. for It; But if he Refused it at the Price set, he was to return the Lute safe, and to pay 20 l. for His Experience and Use of It, for that Journey.

"I have often seen Lutes of three or four pounds price, far more Illustrious and Taking, to a common Eye."

These famous lutes had very few useless ornaments about them — inlays of mother-of-pearl and silver, ivory and ebony being detrimental to the tone. When loudness began to be the desideratum to music, and the lute, incapable of

violence, went out of fashion, the most precious instruments, not "Illustrious and taking to common Eye," had least chances of being preserved, hence their extreme rarity.

The decorative lutes one finds in museums were made for collectors rather than players. There were collections of musical instruments as far back as the Fifteenth Century. Hercole Bottrigari, in his dialogue, Il Desiderio, printed in Venice in 1594, gives a tantalizing description of the very famous one kept by Alfonso II., Duke of Este, in Ferrara:

"Ha l'Altezza," says Bottrigari, "sua due gran camere honorate, dette le camere de'musici; percioche in quelle si riducono ad ogni lor volontade i musici servitori ordinariamente stipendiati di sua Altezza; iquali sono molti, & Italiani, & Oltramontani, cosi di buona voce, & di belle, & gratiose maniere nel cantare, come di somma eccellentia nel sonare, questi Cornetti, quegli Tromboni, dolzaini, piffarotti; Questi altri Viuole, Ribechini, quegli altri Lauti, Citare, Arpe, & Clavicembali; iquali strumenti sono con grandissimo ordine in quelle distinti, & appresso molti altri diversi tali useti E non usati."

Note, "usati e non usati," that is: to use and not to use. The magnificent Duke clearly had instruments to be played upon and others preserved for their beauty or curiosity only. It is remarkable that in old pictures one hardly ever sees a decorated lute; they are always "playing" instruments.

The body of the lute is built of very thin strips of cypress or other light sonorous wood, called the ribs, glued edge to edge; the joints are strengthened by slips of paper or parchment stuck over them inside.

A few slips glued across the others consolidate the frail structure. At each end a block of wood binds together the pointed ends of the ribs, the upper block, thicker than the other, giving a firm support to the neck.

The belly is a thin slab of pine wood, barely one-

twelfth of an inch thick, most carefully chosen for its close and regular grain, and free from knots or any faults. The rose or sound-hole, which provides the necessary communication between the air enclosed in the body and the atmosphere, is not merely a round opening, as in modern guitars and mandolins; it is formed of a number of small cuts in the sounding-board, so arranged as to form a pattern. These roses are always beautiful, often masterpieces of design and workmanship. Lute-makers must have had wonderful powers of invention, for it is rare to find two roses alike.

The neck of the lute is about as long as its body. It is thin for convenience in playing, and comparatively wide to accommodate the numerous strings. The head, or peg-box, is of a simple form. It joins the neck at a sharp angle, thereby reducing the total length and helping to distribute the weight more equally; for the body is extremely light in proportion to the neck and the head with all its tuning pegs.

The bridge is a narrow strip of wood firmly glued to the belly. The strings are looped to it through little holes. The tension upon the bridge is relatively enormous; it speaks well for the quality of the glue in ancient times, and the skill in using it, that these bridges do not come off more often than they do.

The strings are of catgut, graduated from an extremely thin one in the treble to a goodly thickness in the bass. They are tuned in pairs, that is, two in unison to the same note, except the treble, which is single. The number of strings varied from eleven in the Fifteenth Century to twenty-six in the Seventeenth. A lute of eleven strings would have six open notes, since the treble is single and the others are double.

The classical tuning of the lute of eleven strings was by intervals of a fourth between all the strings except the two middle ones, which stood a third apart. This gives a

stretch of two octaves between the treble and bass, the actual notes being from the bass upwards G, C, F, A, D, G. One more octave is available in the treble by the use of the fingers, making three octaves in all, or about the range of the human voice. Additional bass strings or "diapasons," tuned in a diatonic sequence, gradually extended the compass to C below the bass stave, or even lower, giving a range of three and a half octaves.

For solo playing, the tuning of the lute became altered in a great variety of ways about the Seventeenth Century; but, in accompaniments, the classical tuning given above remained unchanged.

The lute has frets, but instead of being inlaid ridges of metal or ivory, as in modern guitars or mandolins, they are pieces of catgut tied round the neck with a special knot, ensuring their firmness and yet allowing them to be shifted a little backwards and forwards as may be required. The old gut frets thus possess a great advantage over the modern inlaid ones, for they can be adjusted according to the player's ear and experience. This makes it possible to play in tune, whilst with metal frets fixed more or less inaccurately by the maker, there is no possibility of tuning the notes.

The lute is always played by the fingers, never with a plectrum. Its double strings are intended to mellow, strengthen, and add a special ring to the tone, not to produce the tremolo of the mandolin.

The following directions for playing the lute are taken from Mace's book: "* * * first, set yourself down against a Table, in as becoming a Posture, as you would chuse to do for your Best Reputation.

"Sit Upright and Straight; then take up your Lute, and lay the Body of it in your Lap-a-cross; let the lower part of It lye against your Right Thigh; the Head erected against your Left Shoulder and Ear * * *

"The 2nd thing to be gain'd is, setting down your

Little Finger upon the Belly, close under the Bridge, about the first, 2nd, 3rd, or 4th strings; for there about is its constant station.

"The 3rd thing is, Span out your Thumb, among the Basses, and lay the end of It down, upon which you please, but rather upon the Last, or Greater Bass; and when you have thus made your Span or Grasp, view your Posture in all respects.

"And now, supposing you are perfect in your Posture, proceed to the striking of the string upon which your Thumb lyeth.

"And as to the work, it is only keeping your Thumb straight, and stiff, and gently pressing down that String, so, as your Thumb may only slip Over it, and rest upon the next string, your Thumb standing ready, to do the like to That string, and so from string to string, till you have serv'd all the Basses after the same manner.

"The 4th thing is, to teach you the Use of your Fingers, and is thus done:

"First, observing still, all your former Postures carefully, with your Thumb ever resting upon some one of the Basses, put the End of your second Finger, a very little upon the Treble String, as if you did intend only to feel your String. * * * then draw up your second Finger from under the String, forcing the string with a pretty smart Twich, (yet gently too) to cause it to speak strong and Loud. * * * "

After many more curious and precise explanations, most earnestly reiterated advice about your "Postures," and directions for placing the left hand, our author has the following: "And now in This Lively, And Exact Posture, I would have your Picture drawn, which is the most becoming Posture, I can Direct unto, for a Lutenist * * *."

He then explains how one may find the notes upon the instrument, and teaches at once to play seven charming little preludes in the principal keys. No scales or mechanical exercises are given. In the happy old days one learned to

play tunes by trying to play tunes. The training of the hands proceeded naturally with the development of the musical faculty. Then he describes all the ornaments which formed such an important part of lute playing:

"I will now lay down all the other Curiosities, and Niceties, in reference to the Adorning of your Play: (for your Foundations being surely Laid, and your Building well Rear'd, you may proceed to the Beautifying, and Painting of your Fabrick) And those we call the Graces of our Play. The Names of such, which we most commonly use upon the Lute be these. The 1st, and Chiefest, is the Shake. The 2nd, the Beate. The 3rd, the Back-fall. The 4th, the Half-fall. The 5th, Whole-fall. The 6th, the Elevation. The 7th, the Single Relish. The 8th, the Double-Relish. The 9th, the Slur. The 10th, the Slide. The 11th, the Springer. The 12th, the Sting. The 13th, the Tutt. The 14th, the Pause. The 15th, and last, Soft and Loud Play, which is as Great and Good a Grace, as any other, whatever * * *

"Some there are, (and many I have met with) who have such a Natural Agility (in there nerves) and Aptitude, to That Performance, that before they could do anything else to purpose, they would make a Shake, Rarely well, and some again, can scarcely ever Gain a Good Shake, by reason of the unaptness of their Nerves, to that Action; but yet other wise come to play very well.

"I, for my own part, have had occasion to break, both my arms; by reason of which, I cannot make the Nerve-Shake well, nor Strong; yet, by a certain Motion of my Arm, I have gain'd such a Contentive Shake, that sometimes, my Scholars will ask me How they shall do to get the like? I have then no better Answer for Them, than to tell Them, They must first Break their Arms, as I have done; and so possibly, after that, (by Practice) they may get my manner of Shake."

It is difficult and costly to keep a lute in good order.

Its enemies had no lack of arguments to make use of when fashion began to turn against it. Mace has a delightful chapter about the "Common Aspersions upon the Lute." I wish I could quote it entirely, but space will not allow; he mentions six "aspersions":

"First.—That it is the Hardest Instrument in the World.

"Secondly.—That it will take up the time of an Apprenticeship to play well upon It.

"Thirdly.—That it makes Young People grow awry.

"Fourthly.—That it is a very Chargeable Instrument to keep; so that one had as good keep a Horse as a Lute, for Cost.

"Fifthly.—That it is a Woman's Instrument.

"Sixthly and Lastly (which is the most childish of all the rest).—It is out of Fashion."

As Mace found it necessary to fill up a good sized book to show how easy it is to play the lute, it must be admitted that there was some foundation in the first and second points. Here are some of his answers to the others:

"To this (the Third Aspersion) I can only say, That in my whole Time, I yet never knew one Person, Young or Old, that grew Awry by that Undertaking.

"Yet, do believe it is possible, if (through their own Negligence, and their Teachers Disregard and Unskilfulness) they be suffer'd to Practice in an Ill and wrong Posture * * *"

"That one had as good keep a Horse (for cost) as a Lute, is the Fourth Objection.

"* * * I never took more than five shillings the Quarter to maintain each Lute with Strings; only for the first Stringing I ever took ten shillings.

"I do confess those who will be Prodigal and Extraordinary Curious, may spend as much as may maintain two or three Horses, and Men to Ride upon them too, if they please."

"The Fifth Aspersion is, That it is a Woman's Instrument.

"If this were True, I cannot understand why It should suffer any Disparagement for That; but rather that It should have the more Reputation and Honour.

"I suppose I need not make any Arguments to prove That.

"But according to Their Sence of Aspersion, I deny it to be a Woman's Instrument so, as by That means It shall become less Fit for the Use of a Man.

"For if by That Saying They would insinuate, That it is a Weak, Feeble, Soft Instrument, as to the sound; what can that signifie whereby to make it a Woman's Instrument more than a Man's?

"But, whereas first they say, It is the Hardest Instrument in the World; that shews They Contradict Themselves in This particular; and conclude by That Saying, It cannot so properly be called a Woman's Instrument, in regard They are the Weaker Vessels; and therefore not so Fit to set upon and attempt the Mastery of Things of such Difficulty.

"Therefore if still They will needs put it upon the Woman, I say, the more shame for Them; And so much for That.

"Now Lastly, whereas They most sillily say, It is out of Fashion.

"I say, the Greater Pity, and still the Greater Shame for a Man to Refuse the Use of the most Excellent Thing in Its kind; and especially, Because it is out of Fashion! which, although it be Thus aspers'd by the Ignorant and Inconsiderate, yet notwithstanding It has This General Applause and praize, viz., THAT IT IS THE BEST MUSICK IN THE WORLD."

One more "Choice Observation about Keeping a Lute," and we have done with a book that deserves to be reprinted in its entirety, on account of the insight it gives in such a unique manner upon the Art of Music, and Seventeenth Century things generally.

"And that you may know how to Shelter your Lute, in the worst of Ill Weathers (which is moist), you shall do well, even when you Lay it by in the day-time, to put It into a Bed, that is constantly used, between the Rug and Blanket; but never between the Sheets * * * Therefore, a Bed will secure from all These Inconveniences, and keep your Glew so Hard as Glass, and all safe and sure; only to be excepted, That no Person be so inconsiderate, as to Tumble down upon the Bed whilst the Lute is There; for I have known several good Lutes spoil'd with such a Trick."

The compass of early eleven-stringed lutes did not extend below the G on the lowest line of the bass clef. Their average sounding length of strings being 28 to 30 inches, the bass strings did not need to be very thick to tune to their proper pitch under the right tension; so their tone was satisfactory. But, when lower bass notes came into request, for accompaniments principally, their length had to be increased, whilst the trebles remained unchanged. An additional neck was fitted to carry the bass strings, giving them a length of 40 inches or thereabouts. This kind of lute was called "theorbo."

Sometimes the bass neck was made as long as four or five feet, bringing the total length to six or seven feet. The instrument was then called "archlute."

But these names are a great source of confusion, for we find them differently applied according to the time and country. The "lute" of Mace, for example, was a kind of theorbo, with bass strings of various lengths. In the Seventeenth Century, in England, the lute proper was called the "old lute," and under the name "theorboe" both the theorbo proper and the archlute were included.

These very long instruments were awkward to play, and, besides, the bass strings kept resounding for so long after being struck, on account of their great length, that the music was confused. Towards the middle of the Seven-

teenth Century, when it was discovered that by twisting or gimping round a gut string a fine silver wire its weight could be increased at will and consequently its pitch proportionately lowered without increasing its bulk, the theorbo and archlute fell into disuse, the old form of lute with a greater number of strings being preferable. Thus transformed, the lute remained in use, at any rate in Germany, until the middle of the Eighteenth Century. Bach admired it, and wrote beautiful music for it.

Lute music was written in a special system of notation, quite different from the ordinary one, and called "tablature." Few people understand the tablature nowadays; it is sometimes translated with the help of a key, much as people translate a foreign language with the dictionary, but with what satisfaction I leave the reader to guess.

The tablature is written on a series of six parallel lines, which represent the six principal strings, or rather pairs of strings of the lute, instead of the scale of music. In the English, French, and German tablature the letter "a" on the top line indicates that the treble string, whatever its pitch, is to be played open; the letter "b" indicates the same string, but stopped at the first fret; "c," or rather a Gothic form of "c" resembling a modern quarter rest, refers to the third fret, and so forth. The same figures on the other lines apply to the other strings according to their respective order. The bass strings are noted below the stave, the number of ledger lines before a letter indicating the particular string intended. For ease in reading, instead of four ledger lines, the figure 4 is used and so on for 5, 6, etc.

The duration of the notes is shown by characters placed above the lines. In the Italian and Spanish tablatures the principle is the same; but the treble string corresponds with the lowest line, the order being thus inverted. Figures are used instead of letters, 0 corresponding to a, 1 to b, 2 to c, and so forth.

This system of notation is a direct pictorial representation of the actual performance of the music. It is concise and accurate, and possesses the immense advantage of applying to any tuning of the instrument without disturbing the player. But, apart from the particular instrument and tuning for which it was intended, it is meaningless. It does not convey music directly to the brain like the staff notation.

SECTION II.

THE VIOLS.

A great variety of stringed instruments played with a bow, in use in Western Europe from the Middle Ages to about the end of the Eighteenth Century, is comprised under the name viols.

To study their transformation during six or seven centuries would require a long treatise. We shall mainly consider in these notes the typical perfected viols used from the latter part of the Sixteenth Century until the time when violins were left sole masters of the field.

The disappearance of the viol is regrettable, for it has not been replaced by the violin. The aims and capabilities of both were differentiated even in the earliest times. The three-stringed rebec, prototype of the latter, dry and sharp, was best for popular tunes and dances. To the viol, with its many strings, low and sweet, refined music and harmony was rightly appropriated. As a consequence of the development of the orchestra, which greatly increased the demand for violin players, professional musicians gradually relinquished the study of the viol, not so serviceable for orchestral purposes. The amateur was left without guidance; and, as in every age he only imitates the master, the viol soon became wholly disused, although it is better adapted for chamber music than its rival, and more resourceful and pleasurable for private use.

The form of the viol is simpler and smoother than that of the violin. The shoulders, instead of starting at right angles from the neck, join it at a tangent. The corners turn inward instead of outward. The back is flat; the belly vaulted, but rising insensibly from the edges to the center without forming a groove first. The ribs or sides are higher, making the instrument thicker in proportion. The back and the belly terminate flush with the ribs; they do not project over them, and so there is no rim round the instrument. The sound-holes are in the form of crescents, or C's pointing outwards, sometimes in the conventional figure of a Flaming Sword, very rarely in the form of the violin " f." The neck, long and thin, is fretted with tied pieces of gut, as in the lute; it is wider than the violin's, so as to accommodate a greater number of strings and allow more room between them for playing. The strings are longer, thinner and less tense than those of the violins; their classical number is six, although viols of five or seven strings are not rare, and the number may reach up to fourteen. The tuning is by intervals of a fourth, with a third toward the middle of the compass, like the lutes.

The peg-box, often decorated with carvings, usually ends in a man's or woman's head, a lion or other animal, or, when a scroll, a simpler one than the volute of the violin. The body, the fingerboard and tail piece are ornamented with inlays, or patterns of lines. A small carved rose is often present in the upper half of the sound-board; and, generally, much care and taste was spent by the makers in beautifying the viols, an unmistakable proof of the high esteem in which they were held.

CONSORT VIOLS.

There is a complete family of viols, from a small thing not more than two feet in length, to the largest, nearly eight feet high. The five principal sizes are treble, alto, tenor, bass, and double bass, the latter being generally called

violone. A "chest of viols" in Elizabethan times consisted of six instruments: two trebles, two tenors, or alto and tenor, and two basses. The violone was very little used in England.

The music played upon these "consort viols," as they were called, consisted of fantazies, in nomine, pavans, galliards, allmains, and other dance-measures. The chief among these were the fantazies, also named "fancies." They were written for two, three, four, five or six viols, and so contrived that all parts, whatever their number, were different from one another, and of equal interest. No two viols ever played the same thing at the same time. It was an interweaving of patterns of sound.

"In this sort of music," says Christopher Simpson in his "Compendium of Music," published in London in 1665, "the Composer employs all his art and invention solely about the bringing in, and carrying on of Fugues. When he has tried all the several ways which he thinks fit to be used therein, he takes some other point, and does the like with it: or else for variety, introduces some chromatick notes with bindings and intermixture of Discords; or falls into some lighter Humour, like a Madrigal, or what else his own fancy shall lead him to; but still concluding with something that hath Art and Excellency in it."

The word "fugue" did not mean, as it does now, a composition cast in a rigid form, but a theme or subject so contrived as to lend itself to the answers, imitations, inversions, and such like devices which formed the soul and spirit of this decorative music. A "point" would be some new theme, perhaps cunningly extracted from the foregoing fugue, and treated likewise in its turn.

The "in nomine" were more restricted than the fantazies. They were built upon a "plain-song," generally the old liturgic tune to the words "In nomine Domini," from which their name is derived. This plain-song being played in very slow, long sustained notes by one of the viols, most

commonly one of the middle parts, the other viols embroidered upon it a descant so beautiful and ingenious, though apparently free, as to strike the modern musician with admiring wonder, in our days of degenerated skill, when counterpoint has become a drudge in the hands of teachers.

The pavans and galliards, noble, stately dances in slow time, still afforded the composer occasions to exhibit his contrapuntal skill; but, as we come down to the lighter dances, the music becomes less elaborate, in the end a mere accompanied tune.

"You need not seek Outlandish Authors," Christopher Simpson remarks, "especially for Instrumental Musick; no Nation (in my opinion) being equal to the English in that way."

One of the very last examples of English music ever written is an admirable and most effective "fantazie upon one note," by Henry Purcell, the last composer of the English school. It is for five viols, and the tenor, instead of a plain-song, plays one single note, the middle C, and sustains it right through the piece, whilst the others weave round it most exquisite music.

Purcell tells us of his endeavors to imitate the Italian music, which was then getting so much in fashion. But he had been brought up under the influence of the English masters; the bend of his genius was strong, and his music never lost its national character. His successors to this day have imitated the foreign schools with such success that it has been the death of English music.

THE VIOLA DA GAMBA.

The most interesting of the famliy of viols, taken individually, is the small bass, which, under the name of viola da gamba, held a position in the musical world second only to the lute, until about 1650, and first in importance among stringed instruments afterwards. Viola da gamba,

in Italian means, "the viol of the leg," from its being supported between the legs of the performer. Corrupted into "viol de gamboys," the name is frequently to be met with in the literature of Shakespeare's time. We hear of Sir Andrew Aguecheek, in "Twelfth Night," that "he plays upon the Viol de Gamboys, and has all the good gifts of nature."

According to Jean Rousseau, in his Traité de la Viole, published in Paris in 1687, the English first brought their viols to the shape and size best adapted for performance of elaborate music. "Les premières violes dont on a jouéen France," he tells us, "étaient a cinq chordes & fort grandes * * * en sorte que le Père Mersenne dit que l'on pouvoit enfermer de jeunes Pages de la Musique dedans pour chanter le Dessus, pendant que l'on jouoit la Basse & il dit de plus que celà a esté pratiqué par le nommé Granier devant la Reyne Marguerite, où il jouoit la Basse & chantoit la Taille, pendant qu'un petit Page enfermé dans sa Viole chantait le Dessus." Truly a delightful picture, and far removed from the present time! Later on he writes: "Il est vray que les Anglois ont réduit leurs Violes à une grandeur commode, devant les François, comme il est facile d'en juges par les Anciennes Violes d'Angleterre, dont nous faisons une estime particuliére en France."

In England the most esteemed kind of viola da gamba music was the "divisions on a ground." The ground consisted of a few bars of slow notes in the character of a bass, to be played over and over again upon an organ, harpsichord, or other instrument suitable for the accompaniment. The divisions were effected by "dividing" the long notes of the ground into shorter ones, making runs and ornaments upon them like modern variations: or by inventing some tune or passage in suitable harmony with the ground, or by a mixture of both things. Innumerable sets of such divisions are in existence, fine and effective pieces, well calculated to show the imagination of the composer and the skill of the

performer. The best of them are by Christopher Simpson, author of the Compendium from which I have already quoted, and the greatest among the English viola da gamba players. He published in 1659 another fine and scholarly treatise, entitled "The Division Violist," in which he teaches at length how to write and extemporize divisions, after having first described the viol, and explained the best method of playing upon it.

"Being conveniently seated," he tells us, "place your Viol decently betwixt your knees; so that the lower end of it may rest upon the calves of your legs. Set the soles of your feet flat on the floor, your toes turned a little outward. Let the top of your viol be directed towards your left shoulder; so, as it may rest in that posture, though you touch it not with your hand. Hold the Bow betwixt the end of your thumb and two fingers, near the nut. The thumb and first finger fastened on the stalk; and the second finger turned in shorter, against the hairs thereof; by which you may poize and keep up the point of the bow. If the second finger have not strength enough, you may joyn the third finger in assistance with it; but, in playing swift division, two fingers and the thumb is best."

These directions apply to all kinds of viols, only excepting the viola d'amore, for they were all held downward in playing, even the trebles. In Mace's Musick's Monument, the third part of which "Treats of the Noble Viol in its Rightest Use," much valuable information is also to be found. After explaining how to hold the viol and bow, he gives this piece of advice, which, if applied to the violin pupils of our time, might save our ears much excruciating torture: "A good stroke above all things. Now, being Thus far ready for Exercise, attempt the Striking of your strings; but before you do That, Arm yourself with Preparative Resolutions to gain a Handsome — Smooth — Sweet — Smart — Stroke; or else Play not at all; For if your Viol be never so Good, if you have an Unhandsome —

Harsh — Rugged — Scratching — Scraping — Stroke (as too many have) your Viol will seem Bad, and your Play Worse."

The ideals of French viola de gamba players were different from the English. They did not care so much for division, but preferred the preludes, fugues, and dance-measures such as chaconnes, allemandes, courantes, sarabandes, gigues and menuets, of which they formed these admirable suites which served as models to John Sebastian Bach.

So full of beauty and expression are their melodies, and enhanced by harmonies so rich and daring, that the modern musician, who still believes harmony to be a latter-day science, could not help feeling bewildered at first by this music.

Characteristic pieces, little tone poems with attractive titles, such as "La Plainte, La Mignonne, La Trompette, Le Papillon," were also much in vogue in France.

Among the most famous composers of the French school we find M. de Ste. Colombe, credited by Jean Rousseau with the addition of a seventh string to the viol, an assertion disproved, however, by Dominichino's picture of St. Cecilia; Marin Marais, who composed an immense number of most valuable pieces, between 1695 and 1730, the two Forquerays, father and son, who carried virtuosity to its utmost limits; and De Caix d'Hervlois, remarkable for his grace and charm.

We possess some excellent suites by Augusto Kuhnel, 1690, Johann Schenck, and other German composers in which the possibilities afforded by the viol for playing chords are so skilfully used that an accompaniment is hardly needed. Georg Philip Telemann, Bach's contemporary and rival, wrote numerous fine sonatas in the melodic style, with a figured bass for accompaniment on the harpsichord.

Johann Sebastian Bach gave many important parts to the viola da gamba, principally in his religious music; fore-

most among these is the glorious obbligato in "Komm Susses Kreuz," one of the most touching airs in the St. Mathew Passion. This song is now generally omitted in performance, on account of the difficulty of procuring a competent violist. Bach also wrote three beautiful sonatas for the viola da gamba and harpsichord, which, however, are not at present appreciated as they deserve, for they sound ineffective as usually played upon a violoncello and pianoforte, neither instrument being able to do justice to the music.

THE LYRA-VIOL.

In size somewhat less than a division viol and strung with thinner strings, the lyra-viol had various tunings based upon the intervals of a major or minor common chord, the chief among them being called "harp-way-sharp and harp-way-flat." Its music was written in tablature, like that of the lute, to avoid confusing the player with the changes in tuning. In fact, although much used by itself, or with one or two more lyras, it was frequently played in consort with lutes of various kinds. In the British Museum is preserved a precious manuscript containing no less than one hundred suites of pieces for two lyras and theorboe, by John Jenkins, c. 1630.

The word lyra is often found as "leero," "lero," and in other shortened and corrupted forms.

THE VIOLA D'AMORE.

There is in my mind a connection between the lyra-viol and the viola d'amore, but I cannot clearly trace it. According to Jean Rousseau, the English did partly string some of their viols with brass wire, and a "viole d'amour" strung with wire, instead of gut was known in his time. Its tone had a pretty silvery ring, but Rousseau is right when he asserts that metal strings produce a wretched effect under the bow. Some unknown ingenious person succeeded

in combining the advantages of both gut and wire strings. The viol was provided with a set of each kind, so that, the gut strings being played upon in the usual way, the wire strings would vibrate in sympathy with them, though untouched by either bow or finger. This, of course, can only happen when the note played is in tune with one of the wire strings or some of its lower harmonics, according to the well-known law of sympathetic vibrations.

Attached to pins fixed to the lower part of the ribs or to the belly under the tail-piece, the sympathetic strings, six or seven in number, pass through little holes in the bridge, through a hollow space under the finger-board and over a little nut placed at their point of exit at the end of the neck. From there they thread their way to the tuning pins placed at the further end of a much-elongated peg-box.

The sympathetic strings do not increase the volume of tone. The old makers did not trouble to give more power to an instrument that had enough to make itself well heard. They knew that quantity is antagonistic to quality. In point of fact the wire strings, by their pressure on the sound-board, veil the tone somewhat. But they produce a delightful resonance, almost ethereal in quality, which renders the instrument most effective for the performance of suitable solo music.

Whether the name viola d'amore is an allusion to the sympathy between the two sets of strings, or to the amorous quality of the tone, or simply a corruption of viola da More (the viol of the Moor), remains an open question. The makers themselves were not agreed on the point, if we may judge from the symbolism of the figures with which they decorated their viols d'amore. Some have a winged angel's head, some a cupid blindfolded, others a blackamoor.

Whatever its origin, the viola d'amore proved quite a sensational novelty when Attilio Ariosti came to London and gave performances upon it in 1716. Delicate and refined, his genius suited the nature of the instrument to

perfection, and his six sonatas for the viola d'amore are our most precious compositions for that instrument. But one must not forget that Bach used it frequently in his cantatas and chamber music, and mention must be made of an exquisite concerto by Antonio Vivaldi for viola d'amore and lute accompanied by muted violins and a figured bass. Should this bass happen to be discreetly performed upon a sweet old organ, the effect of the whole composition is a dream of loveliness such as is never to be forgotten if once heard.

SECTION III.

THE CLAVICHORD.

The mechanism of the clavichord is very simple. The strings, made of brass, and hardly thicker than a hair, rest upon a bridge at one end as in other stringed instruments, but the other end instead of going to a nut, loses itself among folds of damper felt, by which they are so completely deadened that no musical sound is perceivable upon their being plucked. When a key is pressed down, the tangent, a thin blade of brass driven perpendicularly into the key near its back end, comes in contact with the two strings allotted to that note at a point between the damper and the bridge, slightly raising them over the other strings. Under these conditions this pair of strings can vibrate between the tangent and the bridge and yield its particular note. The tangents of the clavichord perform the same office as the fingers of the left hand of the player upon the violin or guitar. They are movable nuts or frets. Furthermore, by their impact, they agitate the strings sufficiently to cause them to sound. The tangent, therefore, measures off the length of string necessary to produce the required pitch, at the same time, excites the tone.

When the finger is lifted from the key the sound instantly ceases, for the tangent is thereby removed from the strings, which relapse into their formal musical inertia.

The volume of tone of the clavichord compared with that of the modern piano is very small. But its small tone is capable of the most subtle shading, the sharpest staccato as well as the smoothest legato. The finger, through the key, is in direct communication with the strings and feels their elasticity all the time. If the pressure of the finger is increased, a sharpening of pitch which produces the impression of a swelling of the tone is produced,— if the key is balanced up and down by the finger, the alternate sharpening and flattening of pitch produces a beautiful vibrato.

The importance of these properties of the clavichord cannot fail to be recognized, if one remembers the great value of such alterations of pitch as a means of expression in music. They constitute the chief distinction between the living tones of the voice or the violin and the mechanical tones of the piano or organ.

Another advantage of the clavichord is that its tone production is accompanied by very little mechanical noise. When the hammers of a piano strike the strings, a distinct blow is heard, even more powerful at times than the tone of the strings. This emphasizes the beginning of each note to such an extent as to make it difficult for the ear to follow the individual movement of each part of the music, undue attention being constantly called to every movement of the other parts.

The older clavier music is for the most part contrapuntal and for this reason ineffective upon the piano.

To hear an expressive fugue upon the clavichord is a revelation. There the interweaving of the parts is clearly followed, and each one stands out characterized by its own proper expression. Beethoven, during whose youth the clavichord was still used in Germany, acknowledged it the most expressive of keyboard instruments. J. S. Bach wrote for it most of his clavier music.

In a quaintly worded article of the great French Eighteenth Century Encyclopedia we learn that "Un célèbre musicien allemand, nommé Bach présentement directeur de la musique de la ville da Hambourg, ne juge d'un joueur de clavecin qu'après l'avoir entendu toucher du clavicorde."

The touch of the clavichord is extremely light, and yet the German organists of the Eighteenth Century who were trained upon it were able to play on the organs of that time which, with three or four keyboards coupled together, required a much greater physical strength than the instruments of our days. The old musicians knew that the way to acquire strength of fingers without impairing delicacy and sensitiveness is by practising the clavichord first, and frequently returning to it.

The clavichord went out of fashion when volume of tone became the desideratum in musical instruments. Now that loudness has been carried to its utmost limits, and beyond, the clavichord proves the best remedy against the evil consequences of this state of things.

After many years of study and experiment, I have become convinced that the practise of the clavichord, quite apart from its own fascination and the light it sheds upon the understanding of the old music, is of inestimable benefit to piano-players. It discloses fresh ideals, opens new ways of thought and brings new sets of muscles into action. Under its gentle influence the stiffness of hand and heaviness of brain, which so frequently prevent the execution of light, rapid passages, and the expressive performances of melodies, vanish as by magic.

Music-lovers should practise on the clavichord some of the simplest two-part inventions and preludes of Bach. For example: the first invention in C major or the 13th in A minor; or the 1st Prelude in C major of the first part of the Well-tempered Clavichord, or the 3rd in C major of the same book, playing them at first in the softest tone possible, yet striving to produce each note clear and to give it its

proper musical value. When a command of the softest tone has been acquired it is easy to increase its volume; one need only apply more strength; but there is much danger of never acquiring a beautiful tone if one strives after too much power at the start.

In playing the clavichord, care should be taken to relax entirely the pressure on the key immediately after the tone is produced. The tangent should just only remain in contact with the strings so that the tone may continue. If this is done, the clavichord will not sound out of tune, even if the keys are struck to the limit of endurance of the strings.

One should try to play expressive melodies with as much feeling as could the voice or violin, or rather with all the expression that one's soul is capable of feeling. The clavichord will be found adequate for this. One should remember, however, that as the limit of its tone is very soon reached in the way of power, but practically infinite in softness, the softer one can play the greater will the range of expression be.

A fugue could now be tried, such as the 1st one in C major or the 21st in B major from the first part of the Well-tempered Clavichord. It is wonderful how clearly the several parts come out and how beautiful the composition will sound if well contrived. After that a sonata by Mozart or Beethoven, or anything else one may fancy, provided it is not opposed to the nature of the instrument, as would be, for instance, a rhapsody of Liszt.

The clavichord being very simple in construction does not easily get out of order. There are no parts in it to wear out. Its tone improves by playing. It keeps admirably in tune. A novice might break a string or two at first, but they are easy to replace, and one such warning against undue violence is generally sufficient. The instrument is not large, it is pleasing to the eye and its cost is quite moderate.

SECTION IV.

VIRGINALS, HARPSICHORDS AND SPINETS.

These instruments all belong to the same family. They have metallic strings, one or more keyboards, and their tone is produced by a plectrum which acts like the fingers of the player upon the harp. The device which plucks the strings is called a jack. It is found in almost identically the same form in the earliest known instruments of that kind, as in the latest, and in all countries.

In England from the Fifteenth Century to about 1650, all keyboard instruments with plucked strings, were called virginals. Under that name were included:

First, the harpsichord, wing-shaped, its keys placed in a line with the strings and its keyboard forming a right angle with them. It was called double virginal when it had two keyboards.

Second, the rectangular or oblong instrument with keyboard parallel with the strings, or nearly so.

Third, the pentagonal or hexagonal instrument, similar in construction to the former, but with two or three corners cut off.

Fourth, the clavicytherium or upright spinet, with perpendicular strings.

About 1660, Thomas Hitchcock of London, made an instrument in an oblique wing-shape, like a small harpsichord but much inclined to the right, the keyboard making an acute angle with the strings. It became known as the spinet. Its tone was good, its form graceful. It soon achieved a great success. It superseded the oblique and pentagonal instrument and remained in vogue until the end of the Eighteenth Century.

The name virginal became restricted to the oblong and pentagonal instruments about the time when the spinet was invented, the name harpsichord or harpsicon being then

applied to the larger instruments. The words spinet and harpsichord are both derived from the Italian, the first from Arpicordo, the second from Spinetta, which latter name was applied in Italy to all instruments with transverse or oblique strings.

In Italy the harpsichord was also known as cembalo. In France the spinet and virginal were called espinette, and the harpsichord, clavecin. The Germans used the word cembalo for the harpsichord and commonly called the spinet "instrument." A small spinet tuned an octave higher than normal pitch, was called octavina or octave spinet. It was convenient to carry about on account of its smallness. Its usefulness and attractive shape caused it to become quite popular.

The characteristic feature of the instruments mentioned above, is the jack. It is made of a rectangular piece of wood about half an inch wide and a little over an eighth of an inch thick, which stands perpendicularly upon the back end of the key. It is maintained in place by a rack. In a slot cut in the upper part of the jack, a little tongue of wood is hinged in such a manner that it can swing a little way backward and forward. In the tongue the plectrum is inserted. This plectrum is made of leather, more or less hard, or a piece of the backbone of a crow quill, according to the quality of tone required. When a key is lowered, the jack raises the plectrum, catches the string on its way, and makes it ring. When the key is released, the jack falls down and the plectrum returns to the string, but instead of making it sound, it glides silently upon it, for the tongue swings back. When the plectrum has passed the string, the tongue returns to its original position, being pushed by a piece of bristle adjusted at its back, which acts as a spring. A damper is provided to stop the vibration of the strings when the note is played. It consists of a small piece of cloth fixed in a slot cut on the side of the jack and so regulated as to just touch the string when the key is at rest.

In the virginal and spinet there is only one string and one jack for each note, and, consequently, only one kind of tone, but in the harpsichord there are at least two sets of strings and two rows of jacks. Exceptionally harpsichords were made with four or more sets of strings, many rows of jacks and three keyboards, but the ordinary standard instrument has three sets of strings, four rows of jacks and two keyboards. Such a harpsichord is capable of producing a great variety of sounds of different color and degrees of power.

The old harpsichords differed much in their construction and capabilities. To describe their various forms would not be possible here. A description of the harpsichords now being made under my direction by the firm of Chickering & Sons, Boston, and which embody the best points of the old ones, here follows:

In the new harpsichords there are two keyboards, three sets of springs, four rows of jacks and six pedals. Of the three sets of strings, two are tuned at the usual pitch, or what in the organ is called eight foot tone. They are the first and second unison. The strings of the third set are higher, giving four foot tone. This is called the octave. The strings of the first and second unison are stretched over a bridge 5/8 of an inch high or thereabouts. The two strings giving the same note, are about half an inch distant from one another, the left-hand one being the first unison, the right-hand one the second. The octave strings have a bridge of their own which is lower, being about 1/4 of an inch high. They are not exactly under the first unison but a 32d to the right of it, the jacks working between the first unison and the octave on the left and the second unison on the right, their plectra being turned toward the strings on which they play. The distance between the second unison string of one note and the first unison of the next, is only about 1-16 of an inch; this being much nearer than the first unison of the same note, the strings

appear at first sight to be arranged in groups of two, and to one familiar with the arrangement of strings in a piano, the first impression would be that the two strings next to one another, belonged to the same note, whilst in reality, they belong to two different notes. If one considers the oblique line of the bridge, which causes the strings to become longer and longer from treble to bass, it will be seen that the left unison strings are longer than the right, in the proportion of nearly a semi-tone. This is one of the causes of the differences of timbre between the two unisons.

The strings of the harpsichord are all made of steel and their diameter is very much smaller than that of the piano. The thickest of the former is less than half the diameter of the thinnest in the latter. In the bass the strings are covered with a copper or brass wire wound around them. This is an improvement upon the old method of using brass and copper strings. The covered strings have a finer tone, keep in tune better and last longer.

The four sets of jacks can be seen by removing the jack-rail, a piece of wood placed near the front of the harpsichord and extending right over the strings from left to right. It is hooked on the instrument on the bass side and is held by a bolt on the treble side. The jacks stand in four parallel rows, kept in position by racks or slides. These slides are provided with slots fitted so as to allow the jacks to move freely up and down but without wobbling. The slides can shift to right and left about 1-16 of an inch. Their movements are controlled by the pedals. By pressing down a pedal, the jacks of the corresponding row are brought under the strings so that the point of each plectrum catches its string when the key is played. By lifting the pedal, the jack recedes from the string so that the plectrum cannot touch it. Each row of jacks can thus be brought in or out of action at will.

The jacks of the row which is farthest from the front of the harpsichord, have leather plectra. They are turned

toward the left and play upon the first unison strings. Their leather is rather soft. The point of attack of the strings is farthest removed from the nut, and the first unison strings are the longest. For these reasons the tone of the first unison is fuller, sweeter and more diapason-like than the others. It is the foundation stop of the harpsichord. Its pedal is second of the six.

The jacks of the row next to the above, which is the third from the front, are turned to the right and play upon the second unison strings. These strings are shorter than those of the first unison. The leather of the plectra is harder and the striking point is nearer to the nut. The tone of this stop is lighter and more metallic than the first unison. Its pedal is the first of the row.

The second row of jacks has hard leather points. They are turned to the left and play upon the octave strings. The octave has a brilliant and clear tone. Its pedal is No. 3.

The jacks of the above three rows stand upon the keys of the lower or first keyboard, and are only played from that keyboard. The three jacks of each note can be seen moving up and down when a key is played, but they can only catch the strings when their row has been brought into playing position by a pedal.

The jacks of the first row have points of crow or raven quills. They are turned to the right and play upon the strings of the second unison, standing upon the keys of the second keyboard. These jacks are shorter than those of the other three sets, since the second keyboard is placed over the first and there is less distance from its keys to the strings. The striking points of this stop are nearest to the nut. This fact and the quill plectra combine to give it a reedy tone, which might be compared to that of the oboe in the treble and the bassoon in the bass.

When all the pedals are up, this stop is ready for playing.

When the first pedal is lowered, its jacks are removed from the strings and at the same time the jacks of the second unison are brought to the same strings. In this way the three sets of strings can be played together from the first keyboard, producing all the tone of the instrument. This double movement of the first pedal is a great convenience. It does the work of two pedals. The two rows of jacks could not play on the same strings without interfering with one another, and one of the slides would have to be withdrawn before the other is brought into action.

The fourth and fifth pedals bring in the harp stops, which very closely imitate the tone of the harp. The effect is produced by dropping upon the strings of the first and second unisons, very near to the nut, a small leather button covered with felt, which partially damps them. It destroys the metallic quality of tone and makes it resemble that of gut strings.

Pedal four brings the harp to the first unison; pedal five to the second. As the second unison can be played either from the first or second keyboard, according to the row of jacks used, the second harp is effective on both keyboards, but on account of the quill points of the jacks of the second keyboard the sound produced thereon is not much like a harp. It has its own peculiar charm, however, and is useful as a contrast with the others.

The sixth and last pedal couples the two keyboards so that by playing upon the first the keys of the second are worked simultaneously.

In the old harpsichords this was effected by drawing the second keyboard a little way toward the front. This necessitated removing both hands from the keys. The present arrangement is a new device which proves very convenient.

The pedals can all be fixed in playing position by pushing them a little way to the right after pressing them down.

The effects produced by their various combinations, are very numerous. Each particular piece of music can be played in such color of tone as makes it most effective. In the old harpsichords the changes of tone are usually effected by hand stops. In the English instruments of the second half of the Eighteenth Century, there is commonly one combination pedal to bring contrast of piano and forte. In the French harpsichords of the same period knee levers are used for the same purpose. Still the idea of working the stops entirely by pedals is not new, for an instrument provided with this arrangement is described in Thomas Mace's "Musick's Monument," a most interesting book published in Cambridge, England, in 1676. It is remarkable that such a useful invention should not have been at once adopted and retained as a permanent feature of the harpsichord.

Some of the pedal combinations most often used are the following:

If pedal 2 is hooked down, the left foot placed over pedal 1, and the right foot kept within reach of pedals 3 and 4, the following effects are obtained: without further touching the pedals, the first unison is ready on keyboard 1, and the quills stop on keyboard 2. Each keyboard can be played by itself or the right hand can play upon one and the left hand upon the other. The use of two independent keyboards is frequently indispensable in playing music of the Seventeenth and Eighteenth Centuries.

When playing upon keyboard 1, press down pedal 1. This gives an increase of tone and at the same time the beautiful effect of the two unisons, which is valuable for singing sustained passages. Only remember that the second keyboard is dumb for the time and can only play when pedal 1 is up.

To the first unison on keyboard 1, for which pedal 2 is already supposed to be hooked down, add pedal 3, the

octave. This will give the four and eight foot strings together, giving a clear and brilliant tone. Add pedal 1 with the left foot, and the whole power of the instrument is available.

Lift pedals 1 and 3, which leaves only the second pedal hooked. Hook pedal 4 down and you will have the harp on keyboard 1. A melody can be played on keyboard 2 and accompanied on the harp on keyboard 1.

Hook pedals 4 and 5, keeping the left foot over pedal 1 and the right over pedal 2. By pressing down one or the other or both, you get the first or second harp or the two together. This gives three different effects of color and strength in the harp tone.

If pedal 1 is up, the metallic harp on keyboard 2 can be used as a contrast to the soft harp on keyboard 1.

Unhook pedals 4 and 5 to remove the harp stops. Pedal 2 being hooked, put down pedal 6. The first and second keyboards would thus be coupled and a beautiful reedy tone produced on keyboard 1. If you add pedal 3, you have again the full tone of the instrument but in a more brilliant color. If you release pedal 2, leaving only pedals 3 and 6, you will get a very brilliant but somewhat thin tone.

It is possible on the harpsichord to sustain a bass note or chord although the fingers are removed from the keys and free to play something else. Use the second unison alone or with the octave, put down the first unison an instant before playing the note or chord to be sustained, and release the pedal before taking the fingers off the keys. The tone of these notes will be sustained for a long time. Another way is to couple the two keyboards with or without the octave, and to use the first unison for sustaining as above; the effect will be still more striking. This sustaining effect is also effective in connection with the harps.

There was a general opinion among musicians, and many of them believe it now, that the piano being a later

instrument that the harpsichord and clavichord, had all the advantages of both and many others besides. As a consequence they thought it quite legitimate to play upon the piano the music written before its invention, and they believed that it sounded better so than upon the instruments for which it was intended. They pitied the old composers who had such inadequate instruments to realize their music on. Their mistake is easily understood. Their opinion of the old instruments was based upon such specimens as they had seen exhibited to illustrate lectures upon the history of music. Poor old cracked, battered things, which were no doubt all right in their time, but through 150 years of neglect are now mere ghosts, decayed almost beyond the powers of restoration of an expert, and still more of the piano-maker not acquainted with their mechanism to which they had probably been entrusted. Moreover, the musician who played upon them, knew how to play the piano or organ but probably had no knowledge of the old instruments. No doubt in such cases the piano would be preferable, but under proper conditions, with a good instrument in the hands of an experienced player, the result is radically different. The beauty and fitness of the music and the instrument, strikes one as a revelation and one realizes that the performance on the piano of harpsichord and clavichord music must be considered as a transcription, an arrangement, no better artistically than other arrangements or transcriptions.