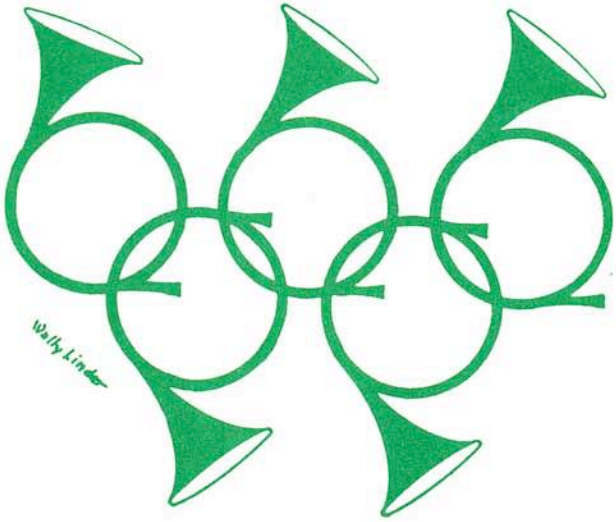
The Horn Call Annual 1992



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The International Horn Society recommends that *Horn* be recognized as the correct name for our instrument in the English language. [*From the Minutes of the First General Meeting, June 15, 1971, Tallahassee, Florida, USA.*]

No. 4, 1992

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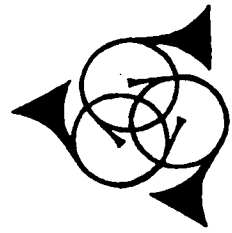


The HORN CALL ANNUAL solicits the submission of scholarly articles dealing with the horn. Possible subject areas may include, but are not limited to, such subjects as technical and acoustic research, musicological studies, historical matters, biographical materials, literature, analysis, and pedagogical theory. Articles submitted will be reviewed by a panel of referees before being accepted for publication.

Manuscripts must be submitted to the Editor in double-spaced typescript throughout with generous margins to allow for copy editing. Footnotes are to be numbered consecutively and placed at the end of the text. Music examples and illustrations must be in black ink on white paper. Photographic illustrations should be glossy black and white prints. ***The HORN CALL ANNUAL*** requires a consistent, scholarly format with Endnotes rather than Footnotes. (Refer to the Kate L. Turabian *A MANUAL FOR WRITERS OF TERM PAPERS, THESES, AND DISSERTATIONS*, fourth edition, for examples and specifics of writing style and for footnote and bibliography format.) The author's name, institutional affiliation (if any), and preferred mailing address should be listed on a separate title page. The deadline for submission of articles to the ***ANNUAL*** is January 15.

The Valve Horn and Its Performing Techniques in the Nineteenth Century: An Overview

by John Q. Ericson

Preface

The invention of the valve in 1814[1] by Heinrich Stölzel, a horn player in the service of the Prince of Pless in Silesia, led to great changes in the design and technique of brass instruments. The brass instrument with probably the most highly developed technique at that time was the horn, and this invention would both solve some old problems and create new ones. The horn could now produce all the notes of the chromatic scale, without the use of crooks or hand-horn technique, with an even tonal color. However, there was no established playing technique or notation for the valve horn, and most performers of the period had a deep vested interest in the natural horn. The valve was a new and not necessarily welcomed invention that, for horn players in the nineteenth century, would lead to great changes in technique.

This article will examine the valve horn in the nineteenth century, focusing on the performing techniques presented by four famous teachers and performers of the early valve horn, P.-J.-E. Meifred, J.-C. Lewy, Henri Kling, and Oscar Franz. With the growing interest in period instrument performance of nineteenth- century music, suggestions will also be given toward re-creating an authentic nineteenth-century approach to playing the valve horn.

The Valve and its Application to the Horn

The patent of the valve in 1818 by Heinrich Stölzel and Friedrich Blühmel[2] marked the beginning of a burst of activity by inventors and manufacturers wanting to exploit this new technology. Many different valve types of varying success came out in this period, but four designs stand out as being the most successful on the horn.

The first successful valve design was the Stölzel valve. See figures one and two. This piston-type valve had some inherent acoustical problems. The bore of the instrument, enlarged at the 90-degree bend in the windway at the bottom of the valve casing, was then constricted in the tube in the middle air passage of the valve. In addition, the valves could push air back at the performer due to the piston working against the windway. Valves of this design were difficult to disassemble. In spite of these problems, however, the Stölzel valve was widely used early in the century. Its design was fairly simple to construct and, overall, provided satisfactory results. The Stölzel valve was retained the longest in France.

The next important design was the Vienna valve, a double-piston valve related to the Stölzel valve in design but avoiding some of its problems. See figures three and four. The use of two pistons for each valve loop allowed a more consistent bore and eliminated the problem of back pressure. This valve design, patented in 1823 by Joseph Riedl and Joseph Kail of Vienna, had actually been produced as early as

1819 by C. F. Sattler of Leipzig and possibly earlier by Stölzel and Blühmel.[7]

FIGURE ONE
Stölzel Valves[3]

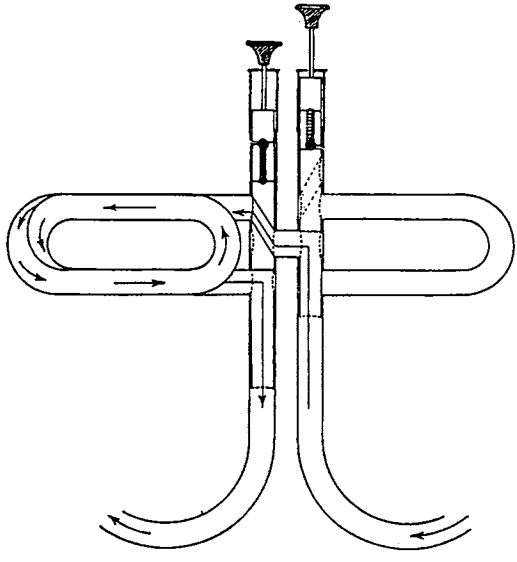


FIGURE TWO
Horn Equipped With Stölzel Valves[4]

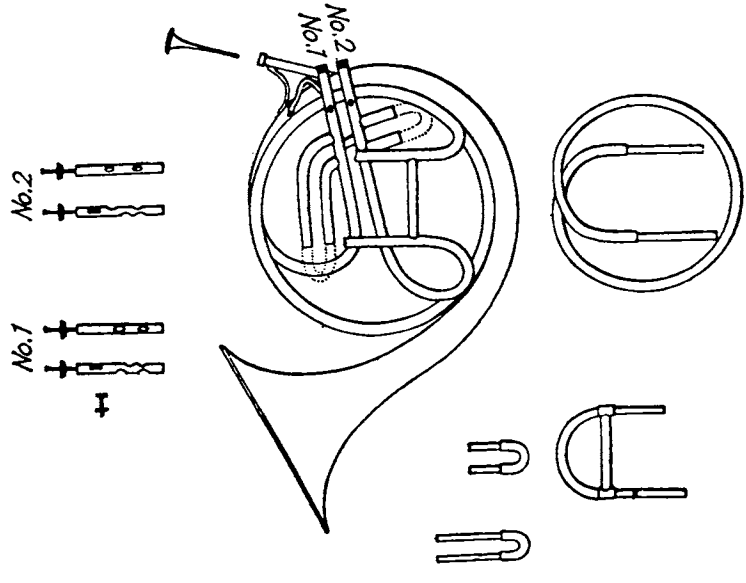


FIGURE THREE
Vienna Valves[5]

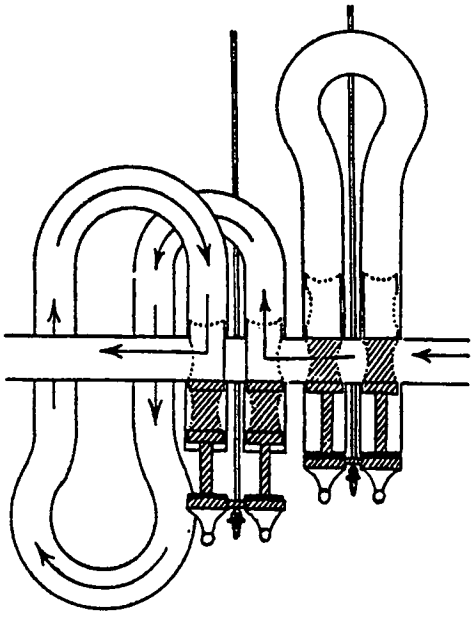
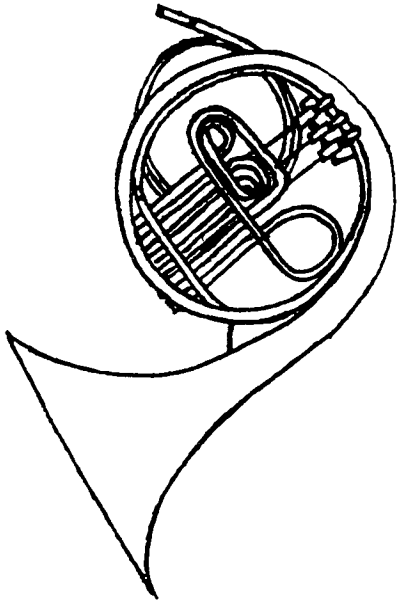


FIGURE FOUR
Horn Equipped With Vienna Valves[6]



The third valve design to receive wide use was the rotary valve, patented in 1835 by Joseph Riedl.[8] See figures five and six. In this design the piston turned in the valve casing instead of moving up and down. A much more consistent bore was possible with this design although rotary valves tended to be difficult to disassemble.

The final improvement of note in valve design was the improved piston valve brought out in 1839 by François Périnet of Paris.[9] See figures seven and eight. This design was basically an improvement of the Berlin valve, developed in 1828 by Wilhelm Wieprecht of Berlin,[10] which was used frequently on lower brass instruments but not often applied to horns. Both of these designs featured improved tubing arrangement over the older Stölzel design and ease of maintenance.

Each of the above designs had individual advantages and disadvantages. Mechanically, all of them worked satisfactorily if well constructed and maintained. The Vienna valve tended to create something of a "blurring" of notes during valve changes, resulting in less of a "pop" to the change of notes than with other designs.[11] Périnet piston and rotary valves probably offered the quickest movement and were the most efficient in their design, as is proven by their widespread use today.

FIGURE FIVE
Rotary Valves[12]

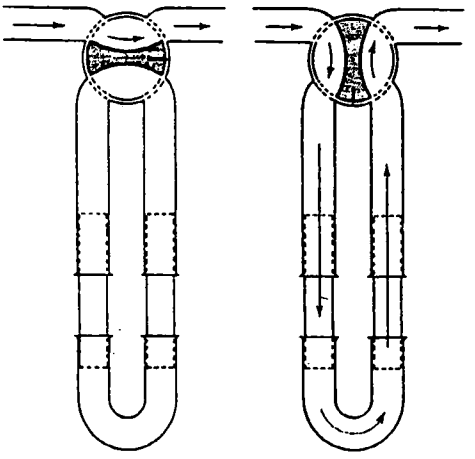


FIGURE SIX
Horn Equipped With Rotary Valves[13]

FIGURE SEVEN
Périnet Piston Valves[14]

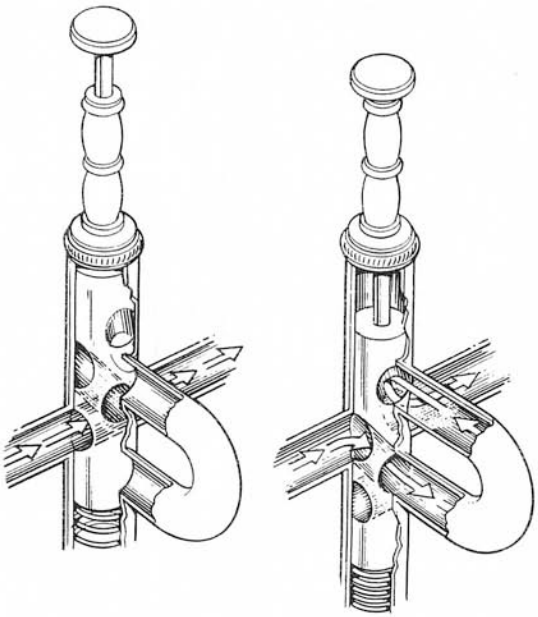
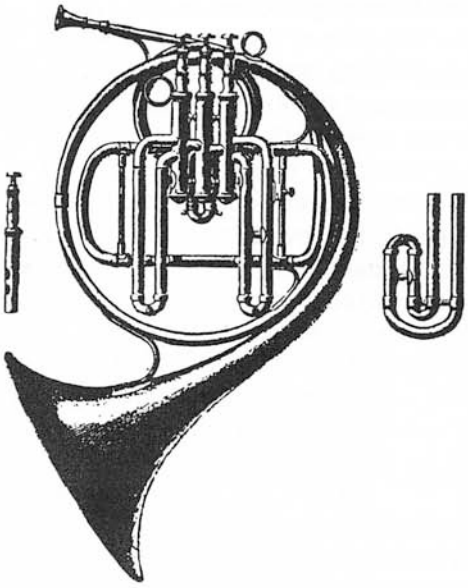


FIGURE EIGHT
Horn Equipped With Piston Valves[15]



As its design improved, the valve was adapted to the horn in a number of ways. Many of the earliest valve horns featured a detachable valve section. That is to say, they were natural horns to which valves could be applied if desired. Many early valve horns were, in fact, constructed as natural horns and later adapted to use with valves. Thus, many early valve horns featured the small bells and small bores and crooks of the Classical natural horn. Piston-valve types were apparently the most suitable in detachable valve sections as detachable rotary or Vienna valve sections were rare.

Early valve horns varied from country to country in terms of their internal dimensions. In general, the instruments were closely derived from the natural horns in use in that geographical area. The bore of the tubing in the central, cylindrical sections of the instruments was generally about 11 mm. German natural horns typically featured the largest bell throats of the time and French natural horns the smallest bell throats. Austrian instruments, in terms of internal dimensions, lay somewhere in the middle. Additionally, the French tended to use tapers which opened up much more gradually in the crooks than the tapers used in other countries.[16] For example, a typical French F crook might contain over 27 inches of tapered tubing which opened up quite slowly, while an Austrian F crook, although containing nearly as much tapered length, opened up quickly almost to the diameter of the bore.[17] These differences of design resulted in a noticeable difference in tonal colors between the instruments of different areas.

In the first half of the nineteenth century in Germany, the Vienna valve was the

favored type on the horn.[18] Later in the century this type gave way in popularity to the rotary valve. Austrian horn players also favored the Vienna valve and retained its use during the entire century. Hornists of both countries favored a horn with a fixed valve section and crooks. The French, however, favored horns with detachable valve sections which could be played either as natural horns with crooks or as valve horns. In the first half of the century Stölzel valves were widely used in France but gave way in popularity later in the century to the more efficient Périnet piston valves. The English generally followed the French model of horn design in this period.

In the first half of the nineteenth century, horns with two valves were very common. A two-valve horn with one half-step and one whole-step valve was completely chromatic above written A below middle C and, with the aid of hand stopping, was chromatic to the lowest tones. As valves were complicated and expensive, many players apparently saw little need for three. Early in the century the first two valves were placed in either order with regard to length but came to be most commonly constructed with the whole step valve first. After mid-century, valves were improving in quality, and the advantages of three valves were well known in the other brasses. Horns with three valves became the predominant type, but horns with two valves were still offered by several makers until early in the twentieth century.[19]

As horns with three valves became predominant, German, Austrian, and English players generally adopted the standard valve arrangement: the first valve lowers the instrument one whole step, the second a half step, and the third valve a step and a half. The French, however, came to favor the ascending-third-valve system, which was invented around 1847 by a student of Meifred, Jules Halary (son of the horn maker Antoine Halary).[20] This system uses the standard arrangement for the first and second valves, but the third valve raises the pitch instead of lowering it. It is arranged so that the air normally passes through the third valve slide; when the valve is depressed the instrument is shortened by one whole step. An instrument arranged to stand in the key of F with no valves depressed would then actually be crooked in G, with this shorter tube length available by depressing the third valve. This system offered quite a number of different fingering possibilities, greater security in the high range, and the potential for better intonation compared to an instrument built on the standard three-valve descending system. Also, a more even tone color was theoretically possible, as the valve-tube lengths centered around a central tonality, thus remaining relatively alike in length, instead of getting longer and longer. The instrument in figure eight is equipped with this system and is depicted with a standard descending valve and slide which may be subtituted for the ascending third valve and slide as well.

Mouthpieces in the nineteenth century tended to be deep and funnel shaped. These mouthpieces were closely derived from Classical horn mouthpieces and were generally made from either sheet or turned brass. The deep cup of the mouthpiece softened the edge of the sound, providing a better blending, more woodwind-like quality.[21] A mouthpiece with a deep cup also allowed greater flexibility of intonation, which proved useful in dealing with the idiosyncracies of early valve horns.

In the nineteenth century, equipment gradually evolved away from the design of the Classical natural horn. The internal dimensions of typical instruments grew

during the course of the century, and shallower, cup-shaped mouthpieces came into use as well. These changes occurred to meet the increasing physical demands for volume and stamina placed upon the horn players of the time.

Early in the nineteenth century there was much prejudice against the valve horn in general. This was due in part to the poor quality of early valves, many of which must have been leaky and mechanically inferior, and in part to the poor quality of early valve horn playing. In addition, valves were considered to be a hindrance in the production of a fine legato style.[22] This legato was a point of pride among the great natural horn players. Confusion in the technique of the valve horn did not help that situation. For example, some early method books dispense entirely with the use of the right hand in the bell, which greatly changed the sound of the horn.[23] Opinions also differed over the necessity of using multiple crooks. Some performers retained them, while others chose to use only the F crook.

Valve-horn technique evolved slowly. Early nineteenth-century method books retained as many of the good qualities of the natural horn and its technique as possible. Crooks were retained for much of the century, both to avoid transpositions and to retain the true tonal color of each crook. The valves were used only when absolutely necessary.

The technical demands placed on valve-horn players increased markedly through the century. The works of post-Romantic composers, such as Strauss and Mahler, bristle with technical challenges that led to further developments in instruments and technique. Many orchestral high-horn players began using horns crooked in B-flat alto, but many conductors would not allow this practice, due to the inferior tone quality, unless this high crook was originally specified by the composer.[24] Horn players found the solution to their dilemma in the double horn, which combined B-flat and F horns in one instrument. The first prototypes of this design were displayed in Markneukirchen by the Erfurt horn maker Kruspe in 1897.[25] With these instruments the modern era of horn playing was introduced.

The transition from the natural horn to the valve horn was a long and difficult one; many hornists and composers certainly struggled with the new valve horn and its technique. The following sections will examine the technique of four famous performers and teachers of the valve horn in this transitional period. As the horn writing of composers reflects the horn playing of the period as well, composers and works that seem to be influenced by the technical development of the horn will also be examined.

Pierre-Joseph-Emilé Meifred

P.-J.-E. Meifred (1791-1867) was the first prominent French musician to study seriously the valve horn.[26] Meifred studied the horn with Louis-François Dauprat (1787-1868) at the Paris Conservatory, where he was awarded the First Prize in horn in 1818.[27] A *cor basse*, Meifred was an active performer, teacher, and student of horn design. In 1826 he had a Stölzel valve horn constructed to his own design by Labbaye, with tuning slides on the valves (an innovation of Meifred's). This instrument won a silver medal at the Exhibition of Products and National Industry in Paris in 1827.[28] A horn of this design is shown in figure two. In the first concert ever

given by the Société des Concerts du Conservatoire on March 9, 1828, Meifred performed a valve horn solo that formally introduced the new instrument to the French public.[29] In 1833 the Paris Conservatory instituted a valve-horn class with Meifred as professor; he held this position until his retirement in 1864.[30]

Meifred's *Méthode pour le Cor Chromatique, ou à Pistons* was published in 1841. In the foreword Meifred put forth five objectives that will seem rather foreign to the modern horn player but clearly had been well thought out.

1. To restore to the horn the notes it lacks.
2. To improve the intonation of some of its notes.
3. To make the muffled tones sonorous, while retaining those that need slight hand stopping, the tone of which is so agreeable.
4. To give all leading notes, whatever the key or mode, the character they have in the natural scale.
5. Lastly, not to deprive composers of crooks, each of which has its own particular tone color.[31]

The Meifred *Méthode* was not intended as a beginning method. Rather, it was intended to complement the *Méthode de Cor Alto et Cor Basse* (1824) of Dauprat, which, Meifred insisted, should be in every horn player's library.[32] Thus, he approached the valve horn from a solid foundation of natural-horn technique.

Meifred wrote his *Méthode* for the two-valve horn, using the symbols "s" for the superior (first, or whole-step) valve and "i" for the inferior (second, or half-step) valve. This is a natural and idiomatic set of designations for the horn he had designed. A close examination of the Stölzel valves in figure one and of the horn pictured in figure two shows that, by design, the second (half-step) valve tends to push air back at the performer when pressed down, as the valve works against the airstream. The first valve, however, is free from this problem. In practice, the difference between the two valves is small but noticeable in the way that the airstream is interrupted in valve changes, particularly noticeable in legato passages. It appears that the great majority of instruments with two Stölzel valves were set up in the same manner, with the half-step valve working against the airstream. Although never stating this specifically, as a student of horn design Meifred seemed to feel that the first valve was superior in more ways than just length. His fingerings often avoided the inferior valve, calling instead for lightly stopped half steps, especially in slurs, rather than separately fingered notes.

Meifred was not just concerned with avoiding the acoustical problems of the inferior valve, however, in his retention of some right-hand technique. To quote from the *Méthode*, "I have stated, in the chapter which serves as an introduction to this Method, that to eliminate all of the stopped tones of the horn and replace them by the open tones would do injury to the nature of the instrument and cause it to lose its special character which gives it an indefinable charm."[33] Clearly, Meifred was referring to an important underlying aesthetic of horn playing, a concept shared by his teacher, Dauprat. In his *Méthode* (1824), Dauprat made the following comments on the new devices for making brass instruments chromatic.

> Some persons would desire one to try, by means of holes and keys to eliminate from the horn the very large series of factitious tones which confines it, and at the same time and by the same procedure to endow it with those which are totally lacking

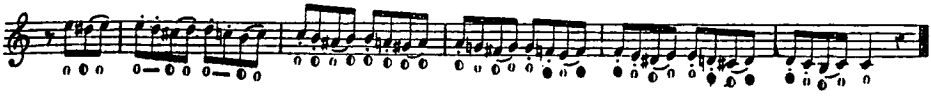
in the lower register. But this, already accomplished on the trumpet, has changed its timbre, to the point of giving to it a very peculiar character, by making it an instrument which is neither the trumpet nor any of the known instruments. . . .

It would be the same with the horn, if one caused it to undergo similar changes. It would lose its character and the true quality of its natural and factitious tones. Most of the latter have a charm which is peculiar to them and which supplies, so to speak, shades, nuances and contrasts to the natural tones. It may be presumed that far from gaining by their total suppression, the horn would lose much. What was said here of all the tones of the instrument, ought, for the strongest reasons, to apply to its different crooks. Each of them, taken alone, has its colour, its timbre and its proper character. When all the crooks are combined to form a single instrument in one key, it would be well enough if one desired the same range of low, high, and intermediate tones. However, this new invention would put equality among all keys and the character, colour, and timbre proper to each crook would be distorted and confused.[34]

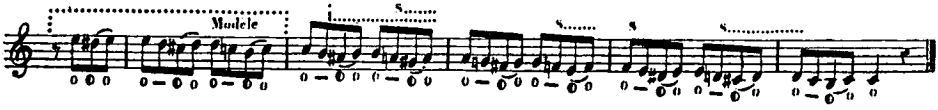
Dauprat was arguing primarily against the keyed brasses and the newly invented omnitonic horn (the latter, first constructed around 1815 by J.-B. Dupont of Paris,[35] allowed the horn to be tuned into every key without the use of crooks). Meifred, in 1841, agreed. Meifred especially wanted in his valve-horn playing to retain right-hand technique for what he referred to as the "Notes *sensibles*" [sensitive tones], particularly those a half step lower than the tonic or the fifth.[36] Right-hand technique is retained both for more sure intonation and for a smoother legato, the valves being used primarily to avoid notes that would be especially muffled or out of tune on the natural horn. Meifred gave this example to show how his technique differed from that of the natural horn. See example one. In addition to the markings for the superior and inferior valves, notes to be taken lightly stopped were notated with the symbol "○" and notes to be taken fully stopped with the symbol "●."

Example 1, Meifred, Méthode, p. 32.

The natural horn:



The valve horn:[37]

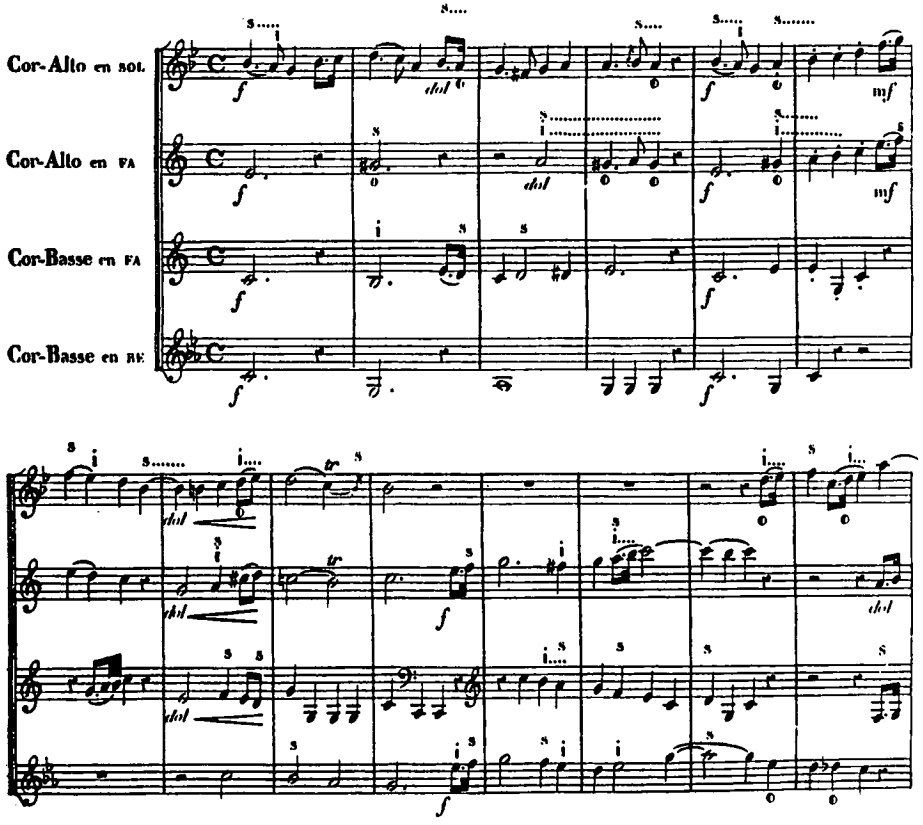


Heavily stopped notes, such as written F and D at the bottom of treble clef, were thus avoided, while all leading tones were lightly stopped.

Meifred gave one other reason for the retention of right-hand technique: the increased difficulty of the valve horn. "Instead of the difficulty being diminished, it has been increased again by the handicap of fingering in certain rapid passages in which the hand plays an important role."[38] This implies strongly both an inherent mechanical inferiority of early valves and more faith in hand-horn technique.

Meifred did not, it appears, look at the valve as simply a quick way to change crooks. He was, however, very interested in retaining the use of crooks. In 1829 he wrote a book, intended mainly for composers, entitled *De l'étendue, de l'emploi et des ressources du cor en général et de ses corps de rechange in particulier* [The range, use, and resources of the horn in general and its crooks in particular].[39] In this short work Meifred classified the crooks into three large groups, for the purpose of calling attention to the various colors of tone. The first class contained the low crooks of B-flat, C, and D; the second those of E-flat, E, and F; the third class contained the high crooks of G, A, and B-flat alto.[40] That he was not in favor of discarding loose crooks is also shown in the *Méthode*. The following example from the *Marche Funèbre* of Dauprat's *Quatuors*, Op. 8, retains the original crooks requested by Dauprat and gives fingerings for valve horns in G, F, and D. Especially notable are the varied fingerings, which treat some pitches as either open or covered tones.

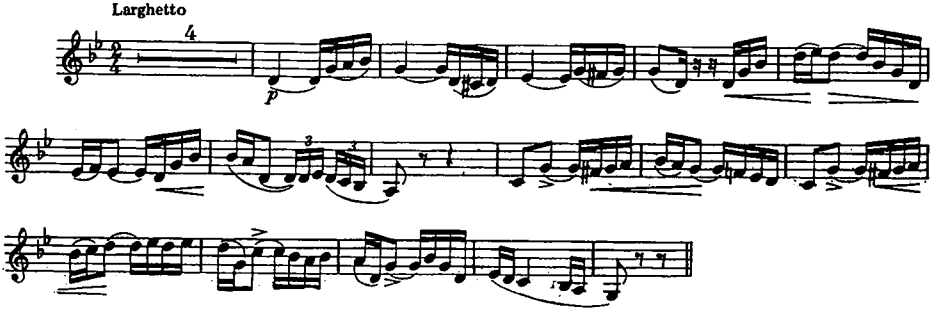
Example 2, Meifred, *Méthode*, p. 84,
(Dauprat, *Marche Funèbre*, Op. 8, mm. 1-14).



In the same period the composer Charles Gounod (1818-1893) also wrote a method for the valve horn. Gounod recommended the same general technique as Meifred.

> We must prevent, as much as possible, the invention of valves from destroying the charm of timbre variations. It's to the skill, care, and taste of the instrumentalist that we entrust the maintaining of this color intrinsic to the horn, never to let it degenerate into sort of a trombone, be it a tenor or baritone.[41]
>
> Around the middle of the century Gounod composed *Six Melodies* for valve horn and piano. The following example from *Melody No. 4*, with its many melodic half steps, is very well suited to the technique presented by Meifred.

Example 3, Gounod, *Melody No. 4*, mm. 1-20.



Meifred worked diligently to promote and develop the valve horn and its technique. Unfortunately, the musical establishment in France was quite biased against the valve horn. This was due in part to the high level of hand-horn technique that had been developed by important teachers such as Dauprat and his successor at the Conservatory, J. F. Gallay (1795-1864). After Meifred retired from the Conservatory, the valve horn was not taught there again until 1896 and was not officially recognized by the Conservatory until 1903.[42]

Meifred's technique was very appropriate for early nineteenth-century French valve-horn music. While seeming not to explore fully the advantages of the valve, this technique retained much of the tone color of the hand horn. Timbre variations were considered inherent to the distinctive horn sound, and thus it was very important to retain them on the new valve horn. In that regard, Meifred's technique fit in well with both the aesthetics and politics of music in nineteenth-century France.

Joseph-Rudolph Lewy

J.-R. Lewy (1804-1881) was the younger of two brothers who were both great early virtuosi of the valve horn. J.-R. Lewy studied primarily with his brother, Eduard-Constantin Lewy (1796-1846), who had studied horn with Heinrich Domnich (1767-1844) at the Paris Conservatory.[43] J.-R. Lewy worked in various locations around Europe and finally settled in Dresden, where he was principal horn in the Royale

Kapelle from 1837 until his retirement in 1851. Both E.-C. and J.-R. Lewy received high praise in contemporary reviews of their playing. The horn obligato in Franz Schubert's (1797-1828) song *Auf Dem Strom* (1828) was written for J.-R. Lewy, who premiered it with Schubert at the piano on March 28, 1828, in Vienna.[44] This work is arguably the first major work written for the valve horn.

J.-R. Lewy left no method book, but he did compose some études that give a fairly clear idea of his technique. His *Douze Etudes pour le Cor chromatique et le Cor simple* with piano accompaniment was published in 1850.[45] A group of ten études, edited from the preceding work, were also published without piano accompaniment.[46] It is evident from these études that Lewy considered fine hand-horn technique essential in playing the valve horn.

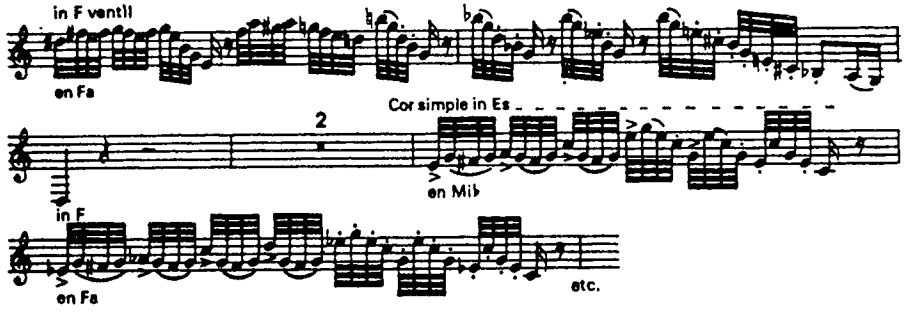
In the preface to these studies Lewy gave the following instructions.

> These studies are to be played on the chromatic F horn, but the valves are to be employed only when the natural horn is inadequate for the bright and distinct emission of the sounds. Moreover, what is written for the simple horn is also to be played on the chromatic horn, the valves being used only for playing in other keys without changing the crook. When the part is marked 'In Es,' the first valve is to be used; when 'In E,' the second; and when 'In D,' the third. In this way alone will the beauty of tone of the natural horn be preserved, and the instrument acquire increased capabilities.[47]

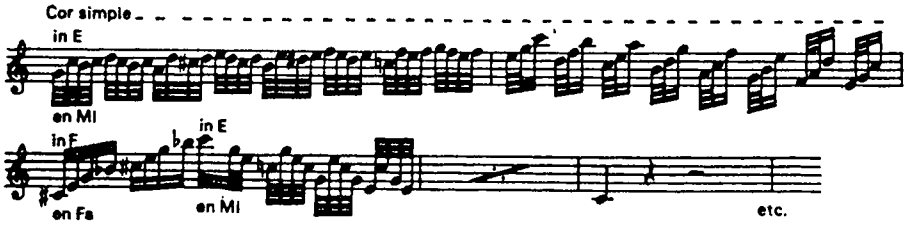
More than half of the studies are simply difficult valve-horn études written in the standard manner with no additional notations. The last few studies, however, feature frequent crook changes. It is to these études that he primarily directs his comments on using the valves to make crook changes.

The following are two typical examples taken from Lewy's études. Note the editorial instructions by Lewy of "Cor simple" and "ventil," which made it clear that the F horn sections were to be performed using the valves, and that the E, E-flat, and D horn sections were to be performed using hand-horn technique.[1]

Example 4A, Lewy, Douze Etudes, Etude no. 11, mm 19-25.



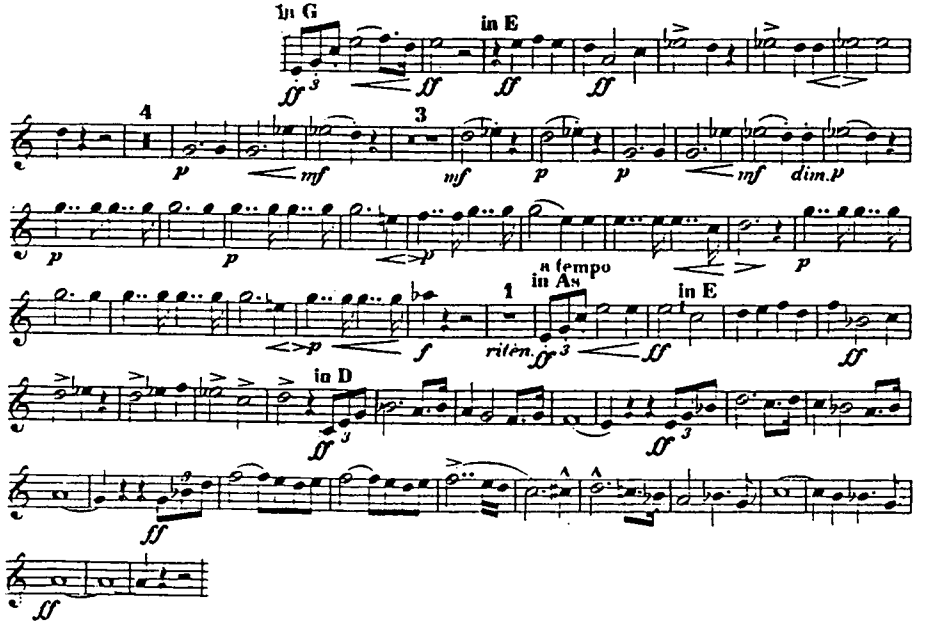
Example 4B, Lewy, Douze Etudes, Etude no. 11, mm. 34-38.



Some forethought on the part of the composer was necessary in order for the music to be performable by this technical approach to playing the valve horn. The hornist must have all the requested crooks available as valve changes, and the music must all be notated in the proper transpositions and technically practical on the requested crook as well. These studies are challenging but highly idiomatic for hand-horn technique and for rapid crook changes with the valves.

These études bear a close resemblance to the horn parts of Richard Wagner (1813-1883), especially those in the opera *Lohengrin* (1848). Wagner composed this work in Dresden while he was Hofkapellmeister and Lewy was principal horn.[49] In *Über das Dirigeren* (1869), Wagner mentions the horn playing of Lewy favorably and certainly would have consulted with him on matters concerning the horn.[50] Note the frequent changes of crooks required to be made with the valves in the following typical example from *Lohengrin*.

Example 5, Wagner, *Prelude* to Act III of *Lohengrin*, mm. 49-114.

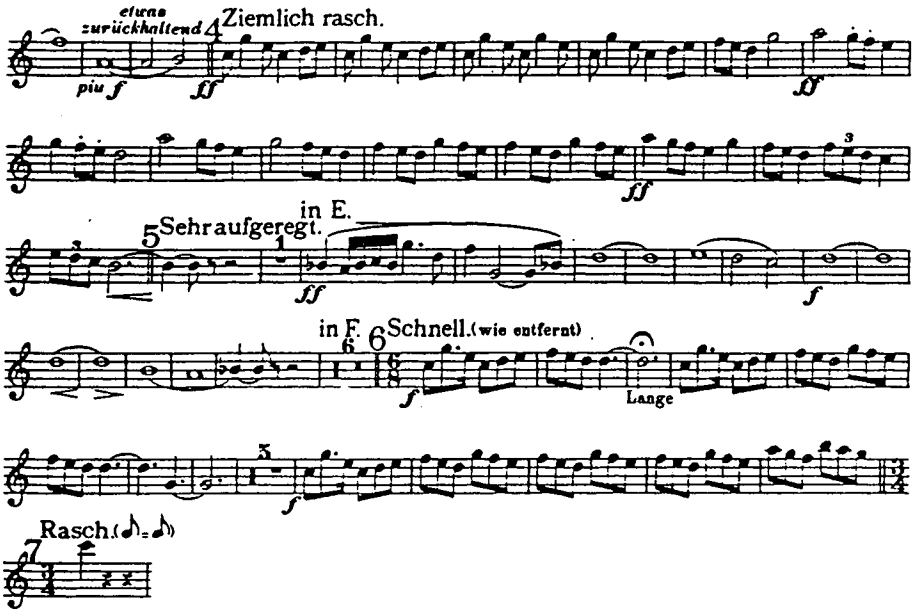


This example can be performed on the A-flat crook, fingering the second valve in the G horn sections, the second and third valves in the E horn sections, and all three valves in the D horn sections, using some right-hand technique. This choice of the A-flat crook is in agreement with Hector Berlioz (1803-1869), who in his *Grand Traite d'Instrumentation et d'Orchestration Modernes* [A Treatise on Modern Instrumentation and Orchestration] (1843) recommends the E, F, G, and A-flat crooks as being the most suitable for the valve horn.[51]

If one were trained in this method of playing the valve horn, Wagner's technical requirements were possible. In practice, however, most performers attempting to use the notated method of playing the valve horn must have found it terribly difficult to change tonal centers so frequently. Therefore, it is doubtful that anyone has ever performed this work using Wagner's exact method of horn notation. His later works, which call for fewer crook changes, may reflect more clearly the realities of performance. The following example from *Götterdämmerung* (1874) typifies his later style.

Example 6, Wagner, *Siegfried's Rheinfahrt*, mm. 50-105.

in Es



Even as late as 1874 it appears that Wagner wanted to give horn players the option of coping with his horn parts in a way oriented toward the natural horn, using the valves to make fast crook changes. The opening E-flat horn section can be performed, if desired, as if on the natural horn by fingering the F horn with the first valve, the E-horn section on the second valve, and so forth.

In the introductory note to the score of *Tristan und Isolde* (1859), Wagner made the following comments on the horn and on his methods of writing for it, shedding some further light on his underlying reasons for using multiple transpositions in his horn parts.

> The composer desires to draw special attention to the treatment of the horns. This instrument has undoubtedly gained so greatly by the introduction of valves as to render it difficult to disregard this extension of its scope, although the horn has thereby indisputably lost some of its beauty of tone and power of producing a smooth *legato*. On account of these grave defects, the composer (who attaches great importance to the retention of the horn's true characteristics) would have felt himself compelled to renounce the use of the valve-horn, if experience had not taught him that capable artists can, by specially careful management, render them almost unnoticeable, so that little difference can be detected either in tone or smoothness.
>
> Pending the inevitable improvement in the valve-horn that is to be desired, the horn players are strongly recommended most carefully to study their respective parts in this score, in order to ascertain the crooks and valves appropriate to all the requirements of its execution. The composer relies implicitly on the use of the E (as well as the F) crook; whether the other changes which frequently occur in the score, for the easier notation of low notes, or obtaining the requisite tone of high notes, are effected by means of crooks or not, is left to the decision of the players themselves; the composer accepts the principle that the low notes, at all events, will usually be obtained by transposition.
>
> Single notes marked + indicate stopped sounds; if they have to be produced in a key in which they are naturally open, the pitch of the horn must be altered by the valves, so that the sound may be heard as a stopped note.[52]

The valve horn was not perfected in Wagner's time. Wagner recognized that the brass instruments were rapidly changing. He intended his notations to provide a starting point for the performers, who he knew would manage the parts in a variety of ways. The notation of the horn parts certainly must have reflected the preferences of the performers in the orchestras he was associated with at the date of composition; that he would go to the trouble of changing transpositions so often in his scores reflects this concern for helping those performers. While Wagner recognized the superior tone and legato of the natural horn compared to that of the valve horn, Wagner was not looking for any variations of tonal color, as had been Gounod, except where specifically marked. Primarily, Wagner simply wanted the parts to be played as well as possible and tried to notate the parts in a way that reflected what horn players were doing technically at that time.

J.-R. Lewy probably never performed *Lohengrin*. Wagner, due to his involvement in the failed 1849 revolution, fled the country and was then banned from returning to Germany.[53] Thus, while originally intended for performance in Dresden, *Lohengrin* was not premiered until 1850 in Weimar under the direction of Franz Liszt.

We can probably never be certain of the actual techniques used by J.-R. Lewy. The system of using valves to make fast crook changes seems quite cumbersome and would not be particularly easy to apply to many works. It would appear from his études that Lewy thought both in terms of fast crook changes and fingerings. Wagner may have carried Lewy's ideas too far in *Lohengrin* and, after making contact with other contemporary performers, moderated his approach to notating crook changes in valve-horn parts in later works. The technique of using the valves to make fast

crook changes in this way may have been a dead end, but it shows a bit more of the experimentation being done by early valve-horn players and composers and illustrates their mutural desire to retain the good qualities of the natural horn.

Henri-Adrien-Louis Kling

Henri Kling (1842-1918) represents a slightly later generation of horn players. He was born in Paris but grew up in Carlsruhe, where he studied with the virtuoso hornist Jacob Dorn. Kling was a man of wide interests, which included composition and conducting. He spent most of his career in Geneva, where he was professor of horn and *solfège* at the Geneva Conservatory from 1865 until his death.[54]

Kling's *Horn-Schule* was first published in 1865.[55] This work is musically progressive, beginning with easy études and moving to difficult études and orchestral excerpts. In general, Kling's commentary is very practical. The most interesting comments for purposes of this study are those intended to set right certain misconceptions about the horn and its technique in his time.

Kling believed strongly that students should begin on the natural horn to develop a true concept of tone.

> In order to obtain a thorough mastery in horn playing, it is extremely advisable to begin with the study of the Natural Horn, for the purpose of acquiring the true quality of tone characteristic of the instrument and which is attained by but a few hornists. They generally treat the instrument as though it were a Cornet à pistons or a trombone, thereby depriving it of its genuine character.[56]

Fingering charts for both the natural and valve horns are not given until pages 21-23 of the method; the opening sections are devoted to the open tones of the natural horn. The majority of the method is playable on the natural horn; only the "Six grand Preludes" are specifically for the valve horn.[57] The fingerings and hand positions given by Kling generally follow standard practices; one interesting exception for the valve horn is that written A-flat in the top two octaves of the horn's range is fingered with the first valve alone (with the fingering using the second and third valves given as an alternate). This fingering tends to be flat, but it avoids the longer second and third combination, which may not be as consistent in tone color and response. This choice could also represent a remnant of the technique of the two-valve horn.

Kling goes to some effort to emphasize the importance of the placement of the hand in the bell. It seems that many hornists, now that they had valves, saw little point to putting a hand in the bell.

> The position of the right hand in the bell of the instrument should be regulated strictly in accordance with the instructions contained in this "School," albeit by the great majority of hornists in the present day this important particular is entirely ignored--one of the reasons, indeed, for the increasing scarcity of competent horn players. . . . The accuracy of tone-production, as well as the proper holding of the hand in the bell of the instrument, impart to the horn its distinctive charm, which consists of a truly melodious and sympathetic tone.[58]

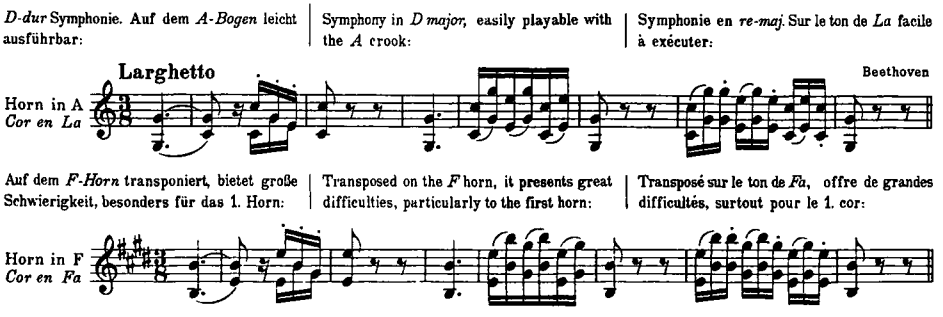
Kling's most interesting points relating to technique involve transposition and crooks. While he did briefly explain transposition, he did not recommend it as a means toward playing everything on the F crook. Kling very much favored using

crooks on the valve horn. For simple transpositions in keys lower than F, Kling showed how one could think in terms of the valves making the crook changes.[59] However, in the following passage he stated very definitely that he favored using the requested crooks in keys higher than F.

The assertion, which has been absurdly made in recent times, that the use of the crooks in connection with the ventil [valve] horn should be discontinued, as being absolutely useless, since everything could be transposed on the F-horn, is not worth serious consideration. Hornists who follow such mischievous advice by attempting to transpose all passages on the F horn will find themselves frequently coming to grief and exposing themselves to the ridicule of the audience. I advise the employment of the G, A, and high B-flat crooks whenever these are indicated by the composer. By their aid, the passages will be rendered with greater ease, more clearly and with truer tone than when they are transposed on the F horn.[60]

Kling then cites several examples from the orchestral literature to prove his point. The following examples are given from the Symphony No. 2 in D major (1802) of Ludwig van Beethoven (1770-1827) with explanatory comments by Kling.

Example 7, Kling, Horn-Schule, p. 77
(Beethoven, Symphony No. 2, mvt. 2, mm. 250-258, abridged)



Kling later wrote a book on orchestration (published in 1902), *Modern Instrumentation and Orchestration*, which explained some of his ideas on crooks in greater depth.

> The Chromatic Horns in F, E, and E-flat sound to best advantage. If employed at all, it is advisable to use only the open or natural tones of those in C, D, . . . G-flat, G, A, B flat, and B high [*sic*], as the notes produced upon these by means of the valves are never absolutely in tune.[61]

While advocating the use of crooks, Kling recognized that the valve slides may not be long or short enough to be properly adjusted for some crooks. The slides can

be adjusted perfectly for F, E, or E-flat. Other crooks should be used if required musically, but the tuning must be carefully monitored.

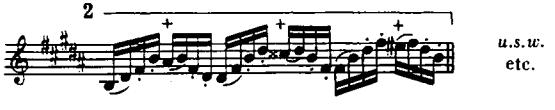
Kling, along with many composers and great teachers of the natural horn, was very concerned with the tone colors of the crooks. This notion of different tone colors due to the use of varied crooks seemed to have been fading in his time, and Kling reacted to it.

> The majority of Horn-players as well as some orchestral conductors are of the opinion that the application of crooks upon the Valve Horns or Trumpets is unnecessary and nonsensical; that this opinion is totally wrong is proven by the great difference in tonal-quality produced by the different crooks, some affecting the instrument so as to sound thin and weak, and others to sound bright and brilliant. In this manner Mozart, in his wonderful G Minor Symphony, has written the two Horn parts for differently pitched instruments; it must not be imagined that their employment in this manner was due to any accident or caprice, but because he wished to produce a specially bright-sounding tonal-quality. . . .
>
> The modern Horn-player who uses nothing but the F Horn naturally fails to produce this peculiar tonal-quality which cannot possibly be produced in as bright and brilliant a manner upon this instrument as upon the originally prescribed B-flat and G Horns.[62]

Another performing technique advocated by Kling is explained in his *Twenty-five Studies and Preludes*, which were published in 1881 and dedicated to Friedrich Gumpert (1841-1906), professor at the Leipzig Conservatory.[63] In twelve of these studies Kling marked sections of the music to be performed using one fingering and some right hand technique, in some cases adding other valves in these passages as well, rather than using the standard valve horn fingerings. This technical idea resembled one advocated by J.-R. Lewy in his études, but it required no special notation using multiple transpositions. The explanation and examples given in the "General Remarks" which preface these studies clearly show his intention.

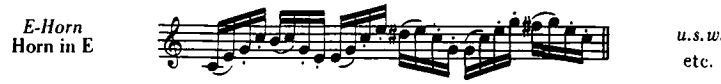
> The passages over which valve numbers are printed (e.g., 1, 2, 3, 1-2, 2-3) should each be played totally on the natural horn that is created by the use of that valve combination, plus the help of the stopped tones where they are shown with the + sign. This way these seemingly difficult passages are easy to play. The following passage:

Example 8A, Kling, Twenty-five Studies and Preludes, p. III.



played completely on the 2nd valve, sounds as if it were written for the E-crook, and played on the natural horn in E. Example:[64]

Example 8B, Kling, Twenty-five Studies and Preludes, p. III.

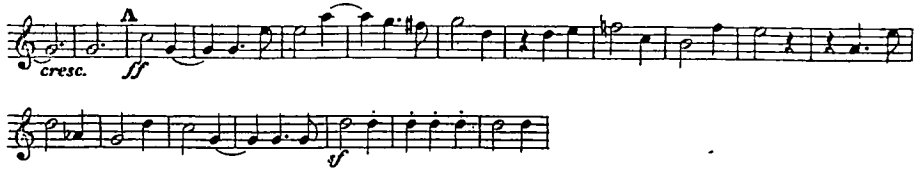


Kling was not merely asking for alternate fingerings here. He wanted the student to use hand-horn technique whenever possible to simplify the execution of difficult passages.

The composer Robert Schumann (1810-1856) was an early champion of the valve horn, and he specified the valve horn in the score of his Symphony No. 3 in E-flat (1850),[65] calling for the F, E-flat, C, and B-natural (or H in the German notation) crooks. A hornist such as Henri Kling almost certainly would have performed this work using the requested crooks. The following first horn passage lies well on the E-flat crook.

Example 9, Schumann, Symphony No. 3, mvt. 1, mm. 56-74.

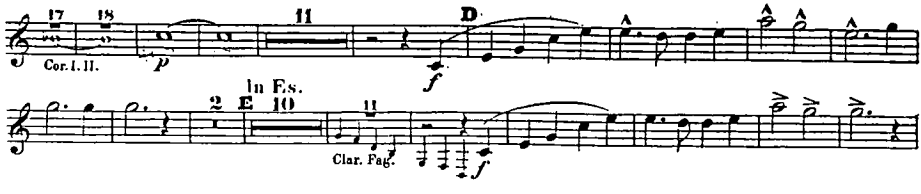
in Es



In the last movement of the same work another technique would have been employed. In the third and fourth horns there is a brief shift of crooks requested from E-flat to B and then back to E-flat. While there is enough time to quickly change crooks conventionally, it is unlikely that a performer would have gone to the trouble. Instead, it would be relatively easy to finger the B horn on the E-flat crook with the second and third valves and play the following passage using hand-horn technique.

Example 10, Schumann, Symphony No. 3, mvt. 5, mm. 117-156.

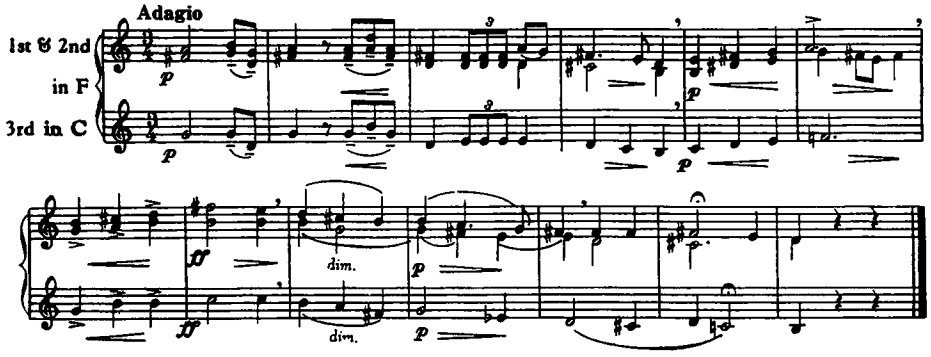
in H



Composers in the late nineteenth century frequently requested the F crook when writing for the valve horn. However, some composers continued to call for crooks other than F in their compositions. One such composer of the same generation as Kling was Antonin Dvorák (1841-1904).

Dvorák's Cello Concerto, Op. 104 (1895) is representative of his style. This work calls for horns crooked in F, E, D, and C. Dvorák generally allows sufficient time to make the requested changes of crooks, if desired.[66] It seems obvious that these parts were written for the valve horn. This theory is supported by the presence of many notes that would require heavy stopping if hand-horn technique were used. The following is a famous example from this work. Note especially the use of the C crook in the third horn; this may be an attempt by Dvorák to capitalize on the full, rich sound of this low crook as the bass voice of this trio.

Example 11, Dvorák, Cello Concerto, mvt. 2, mm. 95-107.



Generally the parts lie well for the chosen crooks. On the whole, Dvorák seemed to be using crooks to aid players trained on the natural horn. Complicated fingering patterns involving many accidentals could be avoided by centering the parts around the open tones of carefully chosen crooks. Also, if necessary, the parts could for the most part be performed on natural instruments if valve horns were not available.

Kling's technique of using crooks on the valve horn has its merits. This technique makes a lot of sense for a player trained on the natural horn, as were most hornists in the nineteenth century, in performing pieces from any period written using crooks other than the F crook on the valve horn. Not all hornists in the period followed Kling's advice, using the F crook and transposing instead of using multiple crooks. Some composers in this period, however, still intended for players to use multiple crooks rather than transpose in performing their compositions. Performers such as Henri Kling held staunchly to their natural-horn roots and clearly retained some aspects of that instrument in their performing and teaching in the late nineteenth century.

Oscar Franz

Oscar Franz (1843-1889) was one of the most prominent teachers and performers of the horn in the late nineteenth century. Franz spent most of his career in Dresden, where he taught at the Dresden Conservatory.[67] Franz was well respected in his time, and it is to him that Richard Strauss (1864-1949) dedicated the orchestral score of his Horn Concerto No. 1, Op. 11 (1883).[68] Franz wrote a number of teaching materials for the horn. His *Grosse theoretisch-practische Waldhorn-Schule* [Complete Theoretical and Practical Horn Method] was first published around 1880.[69] In this method Franz put forth many of his ideas for performing on the horn.

Franz opened his method, as had Kling, with exercises for the open natural horn. The hand horn is introduced soon afterward with the following advice, which hornists of any period would be wise to follow.

> It is extremely important for the beginner to become proficient in "Stopped Horn" playing as soon as possible. Through its practice the player's ear is sharpened and the tone developed to an unusual extent. The player must endeavor to produce these "Stopped Notes" as clearly as possible, and the difference in tonal quality between these and the "Natural Tones" must be equalized as much as possible; the "Stopped Tones" must not sound as though a cloth had been introduced into the instrument. If a player has become proficient in "Stopped Horn" playing, it will be an easy matter for him to keep on playing, even if in case of an accident one of the valves refuse[s] to work; if he has only studied the Valve Horn an accident of this kind would render him helpless and compel him to discontinue.[70]

While Franz's method retained the natural horn for educational purposes, its primary focus was the valve horn. Franz's most significant points on technique relate to transposition.

Franz expressed a more moderate opinion on transposition than Kling, but by no means did he abandon the use of crooks. The section on transposition contains examples showing when to transpose and when to use crooks, and Franz strongly agreed with Kling that the high crooks should be retained whenever composers suggested them. His examples and comments are very similar to Kling's. However, Franz also showed how some transpositions could be made easier by using crooks other than F: A, B-natural and F-sharp transposed on the E crook and A-flat transposed on the E-flat crook. Franz wrote the following in the preface to the section on transposition.

> It cannot be denied that the tone in certain passages will sound better when executed in the original pitch, than when transposed; but on the other hand, it is decidedly wrong to insist, as so many do, that, when a composer has written a passage, say for the E Horn, the same will not sound as well when transposed upon the F Horn; certain passages of course will sound better when played upon the originally-pitched instruments, as the tone of the E flat and C Horn sounds fuller than F. However, as long as a passage is executed perfectly, little notice will be taken whether or not it has been transposed.[71]

Franz favored using crooks, but recognized, however, that the exclusive use of the F crook did not preclude a successful performance. Franz also made the following comments in the section of "General Rules" on tuning when transposing.

> To insure purity of intonation, the valve-slides of the F-Horn should be drawn out (according to necessity) when transposing upon it for the variously pitched

Horns. The intonation upon this instrument being somewhat too high for the lower, and in turn too low for the higher pitched transpositions.[72]

This general rule makes sense only when one considers that crooks would be used in making transpositions; if only the F crook were used, no adjustments of the valve slides would be necessary.

Given the Strauss Concerto dedication, both Richard Strauss and especially his father, Franz Strauss (1822-1905), must have agreed with Oscar Franz on points of horn technique. Franz Strauss was one of the leading horn virtuosi of the nineteenth century. He performed in the Bavarian Court Orchestra and was professor at the Academy of Music in Munich.[73] Franz Strauss left no method, but his son's advice to composers in the annotations to Berlioz's *Instrumentationslehre* [Treatise on Instrumentation] (1905) must certainly reflect some of his father's ideas. These comments reflect the experiences of Richard Strauss as a composer and conductor in the late nineteenth century as well and thus give further insight into the techniques used by horn players such as Oscar Franz in the late nineteenth century.

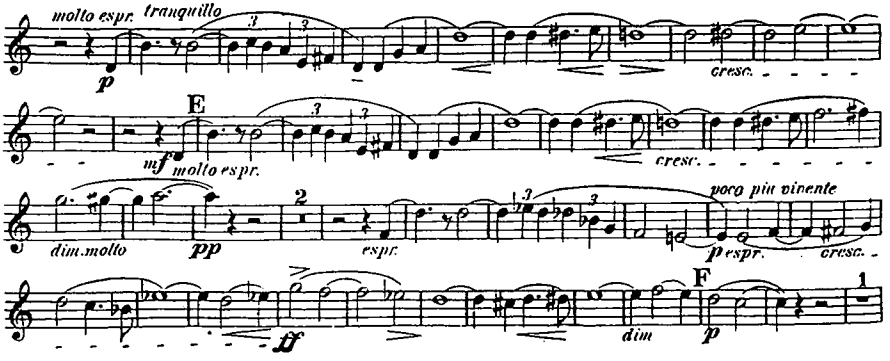
Strauss, in the following passage, makes observations on both his compositional practices and on the choices of equipment by horn players of the period.

> Although horn players now use almost exclusively the horns in E, F, high A and high B-flat (incidentally, it requires practice to change the bright and sharp tone of the horn in B-flat into the soft and noble timbre of the horn in F), it is nevertheless advisable to retain Richard Wagner's method of indicating the key of the horn according to the changes of key in the music. It is true that horn players do not observe these different keys any more; but they are accustomed to transpose any key instantly into the key of the horn they are using, and they much prefer this method to being forced to read all the time in F, for instance, with a great number of accidentals (sharps, double sharps, etc.). Hence, composers should indicate: horn in E-flat, D, D-flat as they see fit. In my opinion, this has the advantage of a clearer appearance of the score. Personally I prefer to read the horns in the different keys and to transpose them (habit may have something to do with this, too). The score is much clearer on first sight, since the staves of the horns and trumpets at once stand out plastically in contrast to the staves of the wood-winds and strings with their transpositions and numerous accidentals.
>
> Except for the above stated difference in softness between the horns in F and high B-flat, all the other differences in timbre between the various valve horns are merely illusory. This is why many horns in different keys are no longer used. Generally, the players of the first and third horns use the horn in high B-flat for almost all pieces in flat keys and the horn in high A for all pieces in sharp keys. The players of the second and fourth horns use horns in E and F.[74]

It is notable that Strauss reported the E and F crooks (along with A and B-flat) were widely used, as he called for these crooks most frequently in his own music. His tone poem *Don Juan*, Op. 20 (1889), is typical of his early writing. In this work Strauss called for both the E and F crooks and, importantly, allowed time to make these changes of crooks if desired.[75] By using the E crook, one could avoid many accidentals and cross fingerings in passages such as the following.

Example 12, Strauss: *Don Juan*, Op. 20, mm. 89-129.

in E



While military bandsmen had used the high B-flat crook for some years, it was in this period that many orchestral high-horn performers began to use it also.[76] Franz Strauss is reported to have used this crook in family performances of his son's Concerto.[77] Horn sections using a mixture of F and B-flat crooks would have had a certain lack of a homogenous sound that must have been striking. This division of equipment between high and low horn players can be considered a remnant of the distinct division between the *cor alto* and *cor basse* of the classical period.[78]

Teachers such as Oscar Franz left students whose teaching and performing careers would last well into the twentieth century. Some of his technical ideas have fallen by the wayside: beginners no longer start on the natural horn, right-hand technique is limited to harsh sounding stopped notes, and crooks are only rarely used on valve horns. These techniques, while no longer generally employed by hornists today, are by no means lost. They can be relearned and applied to appropriate nineteenth-century literature. Some horn players have already begun this study in an attempt to re-create the authentic sounds of that century.

Re-creating Nineteenth-Century Horn Technique

The idea of re-creating the sound of the nineteenth-century orchestra is something that has appeared only in recent times. Modern horns are generally not far removed in design from those constructed around the turn of the century, but they are rather different than those in use around 1840. Performing techniques have also changed significantly in the twentieth century. The techniques employed, instruments used, and the composers' intentions are all important aspects to consider when attempting to recreate an authentic nineteenth-century horn performance style.

One must first consider the natural horn in general, as this is the point of departure

for most horn players in the period. Many musicians in the nineteenth century held a deep respect for the natural horn. One German author went so far as to state in 1853 that to use a valve horn in the performance of the music of Beethoven or Weber was a *vandalismus*.[79] Maintaining the tonal tradition of the natural horn was a major goal, but over time hornists departed from this tradition to meet the technical and physical demands placed on them by composers.

For a twentieth-century example of this situation, consider the English virtuoso Dennis Brain (1921-1957), who changed horns in the early 1950s from a French Raoux horn (originally constructed as a natural horn) with piston valves to a modern German instrument with rotary valves. Reginald Morley-Pegge (1890-1972) commented,

> In the writer's view, the tone lost some of its superlative quality when he changed to a German instrument, but it was the only answer to the ever-increasing difficulties of the music that was being written for him. Indeed one might say without fear of contradiction that it is as impossible for the horn player to cope adequately with present-day demands on the old French horn as it is to play modern trumpet parts on the long F trumpet.[80]

To Morley-Pegge, the modern German instrument did not sound as beautiful as the old French instrument, but he recognized the reasons for abandoning it. Morley-Pegge studied the horn with François Brémond (1857-1921) at the Paris Conservatory. Brémond was the last professor of the natural horn at the Conservatory, teaching there for thirty-one years.[81] Morley-Pegge knew the older French instruments. This was his standard, and he regretted the loss of this tonal color due to the increasing technical demands of the music of the twentieth century.[82]

There were several distinct national "schools" of horn playing in the nineteenth century. These differences can still be seen today in terms of equipment and tonal color but not to the extent that they could be seen even fifty years ago; this must also be considered in attempting an authentic performance. For an example of the strength of these nationalistic feelings in the period, consider the following passage by the English author Cecil Forsyth from his book *Orchestration* (1914).

> The German instruments have very little resemblance to our own. Their tone-quality we should regard as more suitable to the euphonium. It is somewhat coarse, thick and 'open.' In lightness and brilliance they are inferior to the true French horns. The explanation is to be found in the bore and mouthpiece of the German instruments. . . . The Germans appear to be unaware of the instrument's deficiencies both in elegance and lightness. This is perhaps mainly a matter of custom, though it is surprising that in America some of the finest orchestras should deliberately prefer German to French or English players.[83]

Natural horns were used during much of the nineteenth century; in some areas they were used right up to the end of the century. Many orchestral and operatic works, including well known works by Gounod, Wagner, and Camille Saint-Saëns (1835-1921), were written for a section of two valve and two natural horns. That so many such works exist suggests that a satisfactory tonal blend was possible between the two types of horns at the time and place the works were written. One well-known solo work combines both types of horns: *Villanelle* (1906) by Paul Dukas (1865-1935). This work, written as an obligatory competition piece for use at the Paris

Conservatory, opens with the natural horn and continues on valve horn.[84] Period method books emphasize the importance of studying the natural horn. It is thus extremely important to have a strong working knowledge of the performing techniques of the natural horn when attempting to realize an authentic nineteenth-century interpretation.

A major point to consider is the use of crooks. In the nineteenth century, crooks were a point of major concern in terms of tonal color. It can be easily established and proven that there is a noticeable difference of tonal color between crooks as close as F and D. One would not treat this change of crooks lightly if one were trained on the natural horn. Composers knew about the colors of the crooks and wrote with those colors in mind. Undoubtedly, some performers welcomed being crooked into the key of the work or a closely related key, as it would simplify the performance. As more hornists were trained to transpose on the valve horn, crooks began to lose favor. Indeed, for most hornists today, it would be a highly disconcerting experience to play a valve horn crooked in E, for example. Every note sounds "different" than its fingering, as the modern hornist's ear is "tuned" to hear the notes of the F horn.

Right-hand technique is another large issue to consider. The technique of hand stopping faded away as valves became more reliable and performers became more accustomed to using valves. Hearing a performance using both the valves and right-hand technique would be quite striking, however, in the appropriate literature. And clearly there were some strong advocates of this technique.

Choice of fingerings deserves some consideration as well. In the nineteenth century, the valve horn was often introduced only after much natural horn study. Right-hand technique was more familiar than left-hand technique, and valves could be mechanically unreliable. If one used crooks, one could avoid many complicated fingering patterns. Another consideration with fingerings is tonal color. A modern horn player gives little thought to there being much difference of tonal color between fingerings, but to one trained with crooks this could be of major concern. Undoubtedly, many horn players of the nineteenth century would have questioned whether or not a valve horn, with its necessary valve tubes, could ever have a truly consistent tonal color. Nineteenth-century hornists, in general, probably changed fingerings less often than modern hornists do.

The composer's intentions are not always clear. The first step is to try to understand the notation used in the horn parts. It may be necessary to study a number of works by the composer in question. In addition, some composers left writings that might help in clarifying their intentions. This study will often raise other questions, but usually the composer hints at some system of performance in the notation of the parts. However, even if the composer's intentions are clear, it is often difficult to say with certainty how the parts were originally performed. With thoughtful consideration of the problems that the horn players of the period faced and knowledge of the equipment available to them, one can begin to derive some possible answers.

Finding the right equipment is not impossible today. Many period instruments exist in private collections and museums, from which it may be possible to borrow them for use in performance and study. One type of nineteenth-century valve horn, the Vienna horn, is easily available commercially. This instrument is suitable for

many Austrian and Germanic works, and, of course, it is still used by members of the Vienna Philharmonic Orchestra today. For French-style instruments, the best choice is to adapt valves to an appropriate natural horn. In general, for many later nineteenth-century works, smaller bore single horns of the type used in that country are appropriate. It is important to remember that for the most part the horns used in the nineteenth century have smaller bores and bell throats than do modern instruments. Deep, conical mouthpieces are generally appropriate for the nineteenth-century valve horn.

The hardest aspect to reconstruct is the sound of actual nineteenth-century valve horn performers. Some idea of how nineteenth-century players may have sounded can be obtained by listening to early twentieth-century recordings of players such as Aubrey Brain (1893-1955, the father of Dennis Brain) who, while not actually a nineteenth-century performer, retained many of the aspects of the older techniques and used nineteenth century instruments. Another valuable source would be the Viennese players of today. They retain the equipment of the nineteenth century in a modern orchestral setting in an attempt to maintain the tonal and instrumental ideals of the Romantic orchestra.[85]

Period instrument recordings of a number of late Classical compositions have been available for several years and several early Romantic works have also recently become available. Roger Norrington and the London Classical Players have done much work toward this newest frontier of "early music." This trend is to be applauded, as it expands our knowledge of how the music of the nineteenth century might have sounded to the original audiences and to the composers of the period.

Recently, trumpeter Edward Tarr released a recording of Classic and Romantic period trumpet solos on period instruments. The making of this recording required a year and a half of study to learn to play the nineteenth-century trumpet properly.[86] It will take time and effort to relearn the techniques of the nineteenth-century valve horn as well; musically it will be a valuable and rewarding experience.

NOTES

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_____. *Siegfried's Rheinfahrt* [*Götterdämmerung*]. Horn I. Mainz: H. Schott's Söhne, n.d.

1 Herbert Heyde, "Zur Frühgeschichte der Ventile und Ventilinstrumente in Deutschland (1814-1833)." Teil I. *Brass Bulletin* 24 (1978), 11-12, quoting a letter from Heinrich Stölzel to King Frederick William III of Prussia.

2 Heyde, teil I, 31.

3 Figure based on Reginald Morley-Pegge, *The French Horn*, 2nd ed. (London: Ernest Benn, 1973), 34.

4 Figure based on Morley-Pegge, 2nd ed., 33; reproduced from *La Revue Musicale de Fétis*, tome II (1828). The instrument is shown partially disassembled, with an extra crook and two views of each piston.

5 Figure based on Morley-Pegge, 2nd ed., 40.

6 Figure based on Ronald L. Munson, "A Pictoral History of Valve Development in Brass Instruments," [photostat, unpublished paper, Indiana University, Bloomington] n.d., 7.

7 Reine Dahlquist, "Some Notes on the Early Valve," *The Galpin Society Journal*, 33 (March 1980), 111, 114, and 123. Leopold Ulhmann of Vienna also held an 1830 patent on an improved Vienna valve.

8 Dahlquist, 118. Some sources give the year of 1832 for this patent, but this seems to be in error. Heyde and Dahlquist disagree on the origin of the rotary valve design; Heyde, in part 2 of his series [*Brass Bulletin*, 25 (1979), pp. 41-45], puts forth the opinion that Stölzel and Blühmel had designed a rotary valve around 1814 during their work on valve design.

9 Morley-Pegge, 2nd ed., 44.

10 Heyde, teil II, 48.

11 Richard Merewether, "The Vienna-Horn--And Some Thoughts on its Past Fifty Years," *The Horn Call* 15, no. 1 (Oct. 1984), 31.

12 Figure based on Philip Bate, "Valve," in *The New Grove Dictionary of Musical Instruments* (London: Macmillan, 1984), ed. Stanley Sadie, III, 709.

13 Figure based on Anthony Baines, *Brass Instruments* (London: Faber and Faber, 1976), 222.

14 Figure based on Barry Tuckwell, *Horn* (New York: Schirmer, 1983), 46.

15 Figure of a Couesnon horn, 1912, based on Baines, *Brass Instruments*, 222. Note the extra valve and slide to convert the instrument to a descending third valve instrument.

16 Richard Merewether, "A Little on Horn Design," *The Horn Call* 16, no. 2 (April 1986), 44.

17 Measurements courtesy of natural horn maker Richard Seraphinoff. By comparison, the length of modern leadpipe tapers of double horns are generally in a range from 19.5 to 22 inches and open up to a larger bore of around 12 mm.

18 Adam Carse, *Musical Wind Instruments* (London: Macmillan, 1939; reprint, New York: Da Capo, 1965), 221.

19 Reginald Morley-Pegge, Frank Hawkins, and Richard Merewether, "Horn," in *The New Grove Dictionary of Musical Instruments* (London, Macmillan, 1984), ed. Stanley Sadie, II, 246.

20 Morley-Pegge, 2nd ed., 110.

[21] Richard Seraphinoff, "Early Horn Mouthpieces," *Historic Brass Society Journal* 1 (1989), 96.

[22] Birchard Coar, *A Critical Study of the Nineteenth Century Horn Virtuosi in France* (DeKalb, IL: Birchard Coar, 1952), 113.

[23] Henri Kling, *Horn-Schule*, 3rd revised and augmented ed. with German, English, and French texts (Leipzig and New York: Breitkoft & Härtel, 1900; reprint, Rochester NY: Wind Music Inc., 1973), 76.

[24] Morley-Pegge, 2nd ed., 115.

[25] Baines, *Brass Instruments*, 224.

[26] Morley-Pegge, 2nd ed., 32-33.

[27] Coar, *Virtuosi*, 156.

[28] Coar, *Virtuosi*, 114-116; quoting the preface by Raoul Rochette to Pierre-Joseph-Emile Meifred, *Méthode pour le Cor Chromatique, ou à Pistons* (Paris: S. Richault, 1841), I.

[29] Morley-Pegge, 2nd ed., 108.

[30] Coar, *Virtuosi*, 157.

[31] Morley-Pegge, 2nd ed., 109; translation of Meifred, 1.

[32] Coar, *Virtuosi*, 118; quoting Meifred, 5.

[33] Coar, *Virtuosi*, 118; translation of Meifred, 4.

[34] Coar, *Virtuosi*, 72; translation of Louis-François Dauprat, *Méthode de Cor Alto et Cor Basse* (Paris: Zetter, 1824), 5.

[35] Morley-Pegge et. al., *New Grove Instruments*, II, 245.

[36] Meifred, 42.

[37] It should be noted that the Meifred *Méthode* does contain some apparent misprints. The third full bar of the "valve horn" example begins with a written A which is notated to be fingered open. This note should, however, be fingered with both valves, as was the last note of the previous bar.

[38] Coar, *Virtuosi*, 119; translation of Meifred, 4.

[39] Morley-Pegge, 2nd ed., 160.

[40] Coar, *Virtuosi*, 114.

[41] Daniel Bourgue, preface to Charles Gounod, *Six Melodies* (Minneapolis: McCoy's Horn Library, 1982), 2.

[42] Morley-Pegge et. al., *New Grove Instruments*, II, 245.

[43] Morley-Pegge, 2nd ed., 163.

[44] Morley-Pegge, 2nd ed., 106.

[45] Tuckwell, 88.

[46] Lewy, Joseph-Rudolph, *Zehn ausgewählte Etüden für Horn* (Leipzig: Hofmeister, 1969) is one example of this edition (also published by Belwin as *Ten Progressive Studies for Horn*, an incorrect translation of the title; "selected" is a better translation of "ausgewählte"); it is not clear, however, if this version was also published c. 1850 or came out at a later date.

[47] W. F. H. Blandford, "Studies on the Horn. II. Wagner and the Horn Parts of *Lohengrin*," *The Musical Times* 63, no. 956 (Oct. 1, 1921), 694. For a slightly different translation of the same passage see Tuckwell, 89.

[48] The modern Hofmeister and Belwin editions of these etudes lack these editorial markings.

[49] Morley-Pegge, 2nd ed., 107.

[50] Birchard Coar, *The French Horn* (Ann Arbor: Edwards Bros., 1947), 63. Coar apparently misspelled the title of the Wagner source.

[51] Hector Berlioz, *A Treatise on Modern Instrumentation and Orchestration* (London:

Novello, n.d.), translated by Mary Cowden Clarke, 141.

52 Blandford, "Studies . . . Wagner . . .," 694.

53 Uri Toeplitz, "The Two Brothers Lewy," *The Horn Call* 11, no. 1 (October 1980), 75.

54 Morley-Pegge, 2nd ed., 164.

55 Morley-Pegge, 2nd ed., 112.

56 Kling, *Schule*, I.

57 Kling, *Schule*, 81.

58 Kling, *Schule*, 76.

59 Kling, *Schule*, 28.

60 Kling, *Schule*, 77.

61 Henri Kling, *Modern Orchestration and Instrumentation*, 3rd revised and enlarged ed. (New York: Carl Fischer, 1905), translated by Gustav Saenger, 127. The ellipses in this quotation mark the omission of an apparent misprint in this passage.

62 Kling, *Orchestration*, 127.

63 Lee Bracegirdle, "The New York School; Its Development and its Relationship with the Viennese Style," *The Horn Call* 14, no. 2 (April 1984), 23.

64 Henri Kling, *Twenty-five Studies and Preludes* (New York: International, 1985), ed. Lee Bracegirdle, III.

65 Coar, *French Horn*, 59.

66 The quick changes of crook requested in the second movement of this work from E to F could be made more easily with the use of an E valve, which was seen on some horns in this period.

67 Hans Pizka, *Hornisten-Lexicon* (Kirchheim: Hans Pizka Edition, 1986), 134, and Morley-Pegge, 2nd ed., 166. There is a surprising almost total lack of modern biographical information on Oscar Franz.

68 Bruce Chr. Johnson, "Richard Strauss's Horn Concerti: Signposts of a Career," *The Horn Call* 12, no. 1 (Oct. 1981), 59. The original piano reduction, prepared by Richard Strauss, is dedicated to his father, Franz Strauss.

69 Morley-Pegge, 2nd ed., 184.

70 Oscar Franz, *Grosse theoretische-practische Waldhorn-Schule*, revised and enlarged German and English ed. (New York: Carl Fischer, 1906), translated by Gustav Saenger, 35.

71 Franz, 54.

72 Franz, 11. The sentence fragment is in the original English translation.

73 Franz Trenner, "Franz Strauss," *The Horn Call* 2, no. 2 (May 1972), translated by Bernhard Bruechle, 62.

74 Hector Berlioz, *Treatise on Instrumentation* (New York: Kalmus, 1948), enlarged and revised by Richard Strauss, translated by Theodore Front, 279-280.

75 Some horns in this period were manufactured with A and E valves; while useful as stopping valves, these were also used to simplify the fingerings in passages in E by some players, as some continue to do today. This type of horn could be very useful in performing slightly later works of Strauss, such as *Ein Heldenleben* and *Till Eulenspiegel*, where little time is allowed to make the requested changes of crook between F and E. In *Don Juan* it could actually be coincidental that enough time is allowed to make the changes of crooks requested, as the rests and crook changes could occur for unrelated compositional reasons, but even without those rests the crook changes could be easily made with an A or E valve.

76 Baines, *Brass Instruments*, 224.

77 Norman Del Mar, *Richard Strauss* (London: Barrie and Rockliff, 1962), I, 20.

78 This division, in terms of equipment, can be seen in some orchestras today where the

high horn players use single B-flat and descant horns, and the low horn players use standard double horns.

79 Baines, *Brass Instruments*, 220, quoting F. Gleich, *Handbuch der Modernen Instrumentirung für Orchester und Militairmusikorps* (Leipzig: n.p., 1853).

80 Morley-Pegge, 2nd ed., 170.

81 Morley-Pegge, 2nd ed., 165.

82 Perhaps in the twenty-first century, writers will lament the loss of the old double horn as well.

83 Tuckwell, 143.

84 Tuckwell, 99-100.

85 Indeed, given this attitude of the Vienna Philharmonic and Viennese musicians on the whole, while not actually attempting to make true period-instrument recordings, it will probably be a long time before any outside group attempts to produce a period-instrument recording of late nineteenth-century works by such composers as Strauss, Mahler, or Bruckner, as the current performance practices of the Viennese have not strayed far from those of the nineteenth-century.

86 John C. Thomas, "News of the Field," *Historic Brass Society Journal* 1 (1989), 120.

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The Four-Horn Question: Observations on an Eighteenth-Century Horn Performance Practice

by Bertil van Boer

The concept of using more than one pair of horns is virtually as old as the appearance of the horn itself in more traditional music: Francesco Cavalli's putative horn fanfare, the "chiamata [sic] alla caccia" in his opera *Le Nozze de Teti e di Peleo* from 1639, is in five parts.[1] Moreover, it seems to have been a common practice in the hunt for more than two horns to have been used, and it would be logical to assume that Count Franz Anton von Sporck, or someone else at about the same time, would certainly have realized the possibilities of using more than a single pair of horns, given the limitations of pitch and range of the natural parforce instruments. Yet it is not until after 1770 that one finds more than a single pair of horns listed with any degree of frequency in the rosters of the orchestras of the period.[2] Once introduced, however, the four-horn section apparently became almost commonplace in orchestras throughout the continent, and there is considerable documentation on the widespread use of two pairs of horns, often pitched in tonic and dominant (or, in the case of minor mode works, tonic and relative major).

Despite the availability of four, and sometimes more, horns and the resultant increase in brass sonority and compositional possibilities, composers of the eighteenth century appear cautious in their use of this combination. For example, few of the works of Johann Stamitz or Ignaz Holzbauer employ four horns, although Peter Gradenwitz has demonstrated that the famous court orchestra at Mannheim employed five hornists as early as 1750.[3] Even well-documented composers such as Wolfgang Amadeus Mozart and Joseph Haydn had only a cautious and brief flirtation with four-horn sonorities. For instance, of Mozart's fifty-five symphonies[4], only four use two pairs of horns—KV^6 130 (F and C *alto*), KV^6 132 (E-flat and E-flat *alto*[5]), KV^6 173dB (G and B-flat [*alto*]), and KV^6 318 (G and D)—as do only two of his forty-six serenades/divertimenti (KV^6 131 and 370a). Of the sacred works, only the *Kyrie in D minor* KV^6 368a and the oratorio *La betulia liberata* KV^6 74c employ them; moreover, they appear in only three of the operas: *Mitridate, La finta giardiniera,* and *Idomeneo.*

Much has been made of the sudden appearance of the stable of horn players (at times numbering as many as six) at Esterháza beginning in May 1765.[6] Works such as the *Cassatio in D Major* (Hob. Deest), the programmatic "Hornsignal" symphony (Hob. 1:31), and the tension-filled *Symphony in G Minor* (Hob. 1:39) all demonstrate Haydn's initial interest in the sonorities available to him with four horns in his ensemble. But this interest seems not to have been a lasting one, for Haydn appears to have abandoned the use of four horns almost immediately. Why this happened has caused considerable speculation among scholars, especially considering that the orchestra maintained at least four horns on its roster as late as 1790. The most common solution has been to suggest that the redundant horn-players were also proficient on secondary instruments such as the violin, and they actually functioned

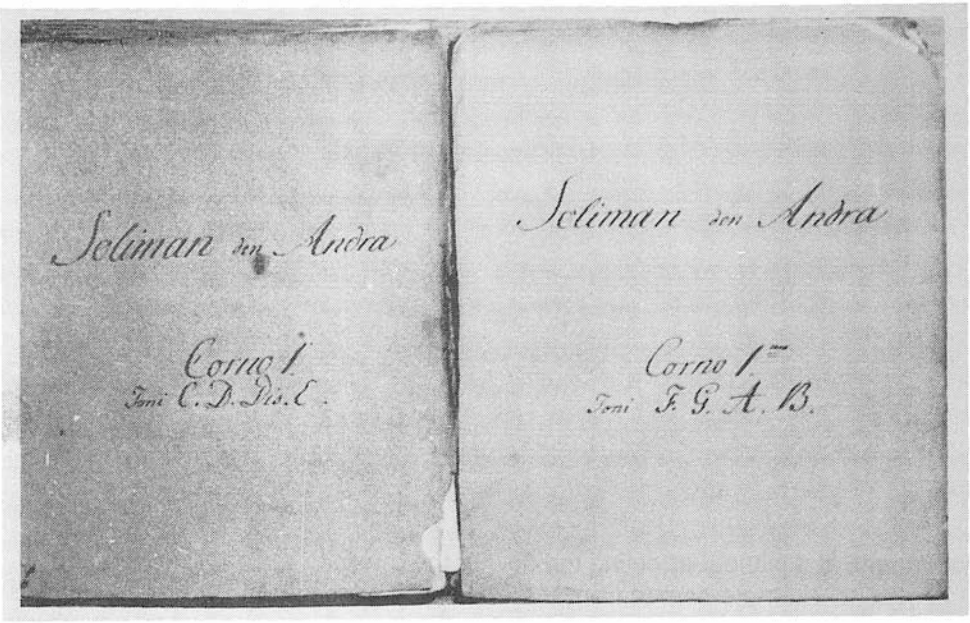
as string players in the Esterháza ensemble, retaining their position on the salary lists as hornists for the higher remuneration that performers on that instrument afforded.[7] This comfortable solution, however, presupposes a situation that might have been unrealistic in terms of the economics of that time; namely, that Prince Esterházy would have turned a blind eye towards the payment of relatively high salaries to musicians who functioned essentially as lower-paid strings.[8] Although there is no doubt that the third and fourth (and later fifth and sixth) horns doubled on other instruments on occasion, it does not seem logical that this would be their main function while drawing salaries as horn-players, even though the evidence provided by the overall lack of four horn parts might suggest such a situation. These circumstances at Esterháza are in fact indicative of a larger problem concerning the use and employment of four horn players. This can be summarized in the following questions: given the relative infrequency of works involving four horns, why would orchestras of that period keep four or more horn-players on their rosters when it would make more economic sense to make do with two, hiring others whenever the individual circumstances required more than two? Or, is there some evidence to suggest that the employment of four horns was more or less necessary, even though all four rarely performed at the same time? Or further, is there some proof that might suggest continuous employment of four horns, even though it might seem that only two were called for in most of the music of the period?

The answers to these questions—if they are even considered at all—are generally consistent with the situation proposed for Esterháza; that is, a minor scam existed in which redundant horn players played other instruments while drawing salaries commensurate with their primary instruments. But such a solution makes little economic sense at courts less wealthy than Esterháza, even if there is good evidence to support the ability of these hornists to perform on other instruments, such as strings, and their occasional use as such. The answer to this puzzle may lie in another, heretofore ignored facet of eighteenth-century horn performance practice. This is succinctly described in Othon Vandenbroeck's treatise on the use of wind instruments, *Traité général des tous les instruments a vent,* published in 1793. Here, Vandenbroeck states: "There are two horns for the playing of the higher tonalities and two others for the playing of the lower."[9] Vandenbroeck's statement, of course, is meant to refer principally to music in Paris and Brussels—though, as a pupil of the celebrated Bohemian horn-players Thomas and Georg Hosa, he was almost certainly familiar with and alluding to Bohemian and German practices—but, there is also some archival evidence to suggest that such a practice was more commonplace, though, to be sure, a general statement valid for Europe as a whole cannot at present be made.

The *prima faciae* evidence comes from the library of the Royal Swedish Opera in Stockholm, which contains one of the largest collections of eighteenth-century scores and parts in Europe.[10] It was the repository for music performed at court and in the opera houses of the Swedish capital during the Gustavian Period (1770-1809). It is the parts that are of particular interest, since these retain their eighteenth-century binding and order. Here, one finds Vandenbroeck's statement verified; all of the music copied after 1784, when a second pair of horns arrived in Stockholm, contains parts for four horns; the first pair take the upper tonalities of F to B-flat (*alto*)

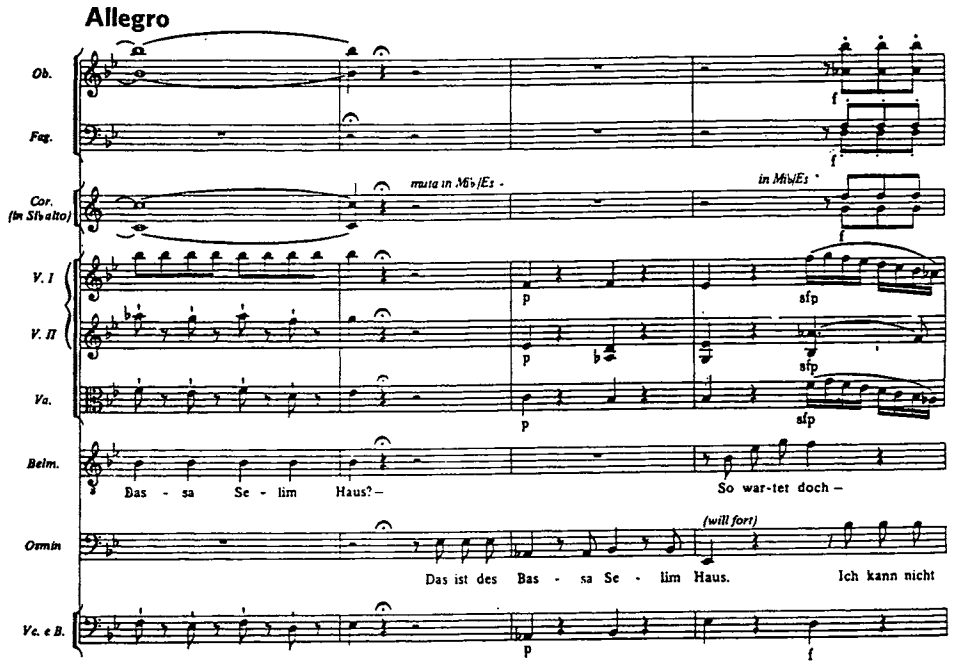
and the second from F down to C.[11] Illustration One contains an example from this collection drawn from the performing parts to the opera *Soliman II* by German-Swedish composer Joseph Martin Kraus that was premièred on 22 September 1789.[12] Here one can clearly see the division of the horn pairs along a median F, indicating that all four horns participated in the performance, despite the fact that the work only calls for two horns throughout.[13] Here, at least, the well-known division of hornists into high (*premier*) and low (*second*) can be extended to encompass pairs of instruments, divided along the same lines according to keys.

Illustration 1. Horn parts from the opera *Soliman II* by Joseph Martin Kraus (Stockholm, Operansbiblioteket, Operor S 8).



There is also musical evidence that would seem to support both Vandenbroeck's assertion and the example shown above. There are numerous works that, on the surface, appear to call for only two horns, though this pair is required to change keys instantaneously or within the space of a few bars at the most. On natural horn, this means changing the crook and retuning the instrument, which under certain circumstances could have caused some concern on the part of the performers. One such instance occurs in the duet between Belmonte and Osmin in the first act of Mozart's *Entführung aus dem Serail* (Example 1). At m. 74, the horns, heretofore in the key of B-flat *alto*, are asked to change to E-flat within the space of two measures. Even given the pause generated by the fermata, this is simply too short to accomplish the mechanical change with any degree of accuracy on the part of the performer. If, however, one applies the four horn high-low division postulated above, then such a change is easily managed; the first pair of horns, in fact, does not even have to change crooks, for Mozart later returns to B-flat *alto*, and the second pair, already tuned and ready to go, is in place to accommodate the modulation to the sub-

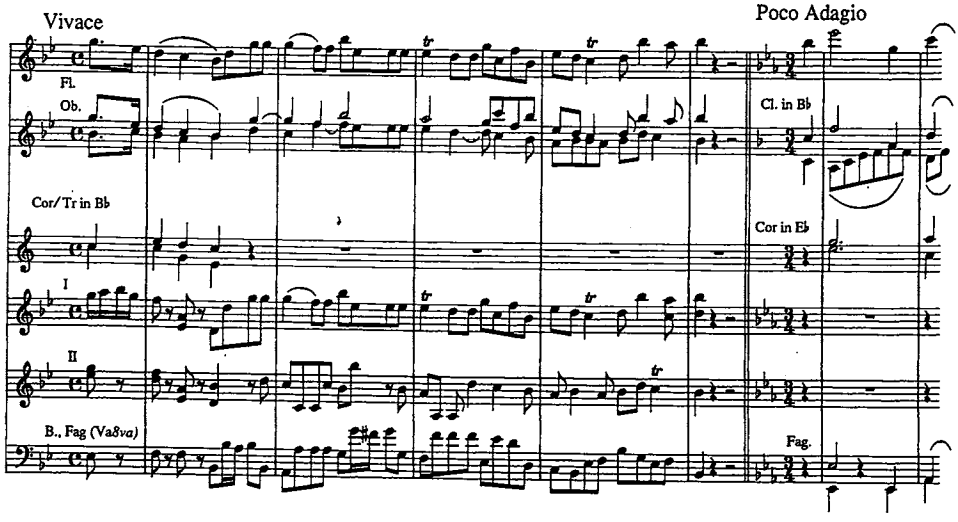
Example 1. Wolfgang A. Mozart, *Die Entführung aus dem Serail*, Act I, No. 2, mm. 73-76.



dominant E-flat without affecting the flow of the music.

A second example comes from the end of the second part of Joseph Haydn's oratorio *Die Schöpfung* composed in 1798. In the final movement, No. 26 "Vollendet ist das große Werk" in B-flat major, the first section, a *Vivace*, begins with a brief thirty-seven-bar grand homophonic chorus before it comes to a sudden halt. Immediately thereafter, the tempo switches to *Adagio* and the key to E-flat major (Example 2), whereupon a trio by the principal soloists (archangels Gabriel, Uriel, and Raphael) intrudes upon the fast-paced movement. The horns, in B-flat (presumably *alto*[14]), are required to switch to E-flat within the space of a short four measures, entering thereafter in conjunction with the other winds. Given the tempo of the chorus, such a switch, while perhaps not impossible, is difficult to accomplish with any accuracy.[15] If, however, the high-low horn pairs were used, then the second pair would have changed crooks and been ready to play at the appropriate time, leaving the first pair to rest until their reappearance (again in B-flat) some hundred bars later. During the premiere of *Die Schöpfung*, Haydn had six horns at his disposal—this number would have easily allowed for the breakdown into pairs, with a third horn (or third pair) available for doubling (or further sharing of the workload).[16] Other easily verifiable examples of the same sort can be seen in the operas *Armide, Incontro*

Example 2. Joseph Haydn, *Die Schöpfung*, Act I, No. 7 March, m. 15-21 and No. 8a, recitative, m. 1-8.



Improviso, and *La fedeltà premiata*, among other of Haydn's works.[17]

Additional implicit evidence for the use of four horns in this manner comes from the tonal succession of the works themselves. Simply put, *if* there seems to be a conscious effort on the part of the composer to choose keys for his movements that would allow for the horn parts to be divided according to high-low pairs, then there is some reason to suggest that this would imply the use of four horns throughout a work, even though the score itself seems to call for only two.

Such a tonal division can be seen in numerous operas of the period. Table One lists three examples; the first two show the keys of the horns in the first acts of Mozart's *Entführung* and Haydn's *Orlando Paladino* Hob. XXV:11, and the third the tonal plan of Mozart's opera *La finta giardiniera* KV[6] 196 written in 1774. The last, composed for the carnival in Munich, calls for only two horns, with the exception of two arias, Arminda's "Vorrei punirti indegno" (No. 13) in the second act and Ramiro's "Va puri ad altri" in the third. These *Sturm und Drang* movements describing the character's extreme emotions require four horns; the first is divided B-flat *alto*/G and the second E-flat/C (presumably *basso*).

In Table One, the alternation of high-low horns is readily apparent throughout *Entführung's* first act; the overture-arietta that opens the work calls for horns in C (presumably *basso*) with the first number, the duet between Osmin and Belmonte "Wer ein Liebchen hat gefunden," having the close alternation between B-flat *alto* and E-flat noted above. The final section of this duet further underscores the point by requiring an additional change to horns in D. If only two horns are used, then the horn-players are required to make no less than four changes of crooks within the space of two movements, three in the second of these alone. Moreover, these changes necessitate removal and insertion of varying sizes of crooks, alternating long (C *basso* and D) and short (b-flat *alto*), which might require extra time for tuning.

This difficulty disappears if two pairs are used, for only one of the pairs is required to change crooks—the first horns remain in B-flat *alto*. With the exception of the aria "Solch hergelauf'ne Laffen," where the horns are pitched in the "neutral" key of F implying performance by either the first or second pair, the remainder of the act proceeds in the alternation of high and low horn pairs.

Orlando Paladino is constructed very much along the same lines; the first half of the act alternates high and low pairs, and there is a central movement in the "neutral" key of F. The second half of the act, however, shows more variety. The aria "Ho viaggiato in Francia" calls for the "high" horn pair (in G), followed by the "low" in the next aria "Non partir" (in D). But then the pattern appears to be broken, for the long accompagnato/aria "Angelica, mio ben" would also seem to use the low pair (this time crooked in E-flat). But here, as in the finale (which alternates two "high" horns in A and B-flat *alto*), there are long stretches of rests during which the requisite crook changes—minimal changes requiring only the next size crook in both instances—and tuning could be easily accomplished without haste. Though the pattern would seem to be broken in this example, the number of rests allotted to the horns, in addition to the fact that the key changes are restricted to neighboring crooks, does not invalidate the overall premise.

The final example, *La finta giardiniera*, which uses four horns in two of the movements, confirms the high-low division of the horn pairs. Mozart alternates high and low horns throughout, though not necessarily between each and every movement. For instance, the first three numbers that have horns require instruments pitched in D, which clearly could be performed by the low pair without change of crooks or with the high horn pair alternating in the Introduzione (No. 1) using a D crook.[18] The rest of the opera seems to proceed with the alternation of high and low pairs, in some instances maintaining a consistency in the use of crooks in each of the horn pairs. For instance, the second horns seem to retain the E-flat crook for most of the second and third acts.[19]

From the standpoint of both critical and musical evidence, it would seem plausible that the use of four horns, one pair taking the higher pitches and the other the lower, could have been a standard during the second half of the eighteenth century in those places that maintained four horns on their roster of musicians, even though a great majority of the music only appears to be written for one pair. While it is true that the third and fourth players may indeed have performed on secondary instruments as the occasion warranted, they were first and foremost hornists and paid to perform as such. Further, the use of four horns alternating according to the practice noted above avoided the problem of overtaxing the players through more or less continual playing, allowing quite probably a higher standard of performance quality throughout an entire opera or concert.

During this age of "authentic" performance practices of eighteenth-century music, the four-horn question has a number of implications for groups seeking to recreate the orchestras of the period. On the positive side, the use of four natural horns, one pair performing keys from F up to C *alto*[20] and the second pair in keys from F down to B-flat *basso*, would mean both a greater degree of specialization and the reinstatement of a practice found in the time of Mozart and Haydn. It would allow for greater flexibility on the part of the performers, in addition to providing a less stressful performance situation by giving the players time to rest, recrook, and

retune. On the negative side, it would mean that orchestras already strapped for funding would have to employ an additional set of players, and would in essence cut the working time of the extant hornists in half. The economic situation, always a concern in today's world, could be worsened, especially since many of the groups do not rely upon a fixed number of permanent performers year around. There is, of course, no easy solution to this dilemma; most likely, as in the eighteenth century, individual circumstances must dictate the course of orchestral complements. But it must be recognized that, in those places fortunate (and wealthy) enough to employ four horns, such a division into high and low pairs would mirror a performance practice of that time and would further enhance the separation of individual players into high and low registers. This in turn can only help to clarify the role of the horn players during the heyday of the natural horn.

(See Table One on the following page)

Table One
High-Low Horn Pairs in Three Selected Works by Haydn and Mozart

I. Mozart, *Die Entführung aus dem Serail* KV[6] 384, Act I.	
Overture and No. 1 Arietta "Hier soll ich dich denn sehen"	C (presumably *basso*)
No. 2 Duet "Wer ein Liebchen hat gefunden"	B-flat *alto*—
	E-flat—
	B-flat *Alto*—
	D
No. 3 Aria "Solche hergelauf'ne Laffen"	F
No. 4 Aria "O wie ängstlich"	A
No. 5 March and Chorus of Jannisaries	C (presumably *basso*)
No. 6 Recitative and Aria "Ach, ich liebte"	B-flat *alto*
No. 7 Trio "Marsch, marsch, marsch"	C (presumably *basso*)
II. Haydn, *Orlando Paladino* (Hob. XXV:11), Act I.	
Overture	B-flat *alto*
No. 1 Introduzioine "Il lavorar l'é pur la brutta cosa"	E-flat
No. 5 Aria "Temerario!"	B-flat *alto*
No. 8 Sinfonia	C (presumably *basso*)
No. 10 Aria "Ad un guardo"	C (presumably *basso*)
No. 12 Aria "Parto, ma, oh dio"	F
No. 16 Aria "Ho viaggiato in Francia"	G
No. 18 Aria "Non partir"	D
No. 20 Recitative and Aria "Angelica, mio ben"	E-flat
No. 23 Finale	A—
	B-flat *alto*—
	A[21]
III. Mozart, *La finta giardinera* KV[6] 196, Tonal Plan of Entire Opera.	
Overture	D
Act I	
No. 1 Introduzione	D
No. 3 Aria "Dentro il mio petto"	D
No. 5 Aria "A forza di martelli"	G
No. 6 Aria "Che beltà"	E-flat
No. 8 Aria "Da scirocco a Tramontana"	C
No. 12 Finale	G—E-flat—D—C—A
Act II	
No. 13 Aria "Vorrei punirti indegno" (4 horns)	B-flat *alto*/G
No. 15 Aria "Care pupille"	F
No. 17 Aria "Una damina"	G
No. 19 Recitative and Aria "Ah, non partir"	E-flat
No. 21 Aria "Crudeli!"	E-flat
No. 23 Finale	E-flat—G—C
Act III	
No. 24 Aria and Duet "Mirate che contrasto"	E-flat
No. 25 Aria "Mio padrone"	C
No. 26 Aria "Va pure ad altri" (4 horns)	E-flat/C
No. 27 Recitative and Duet	E-flat—B-flat *alto*
No. 28 Finale	D

Notes

1. See Hugo Goldschmidt, "Das Orchester der Italienischen Oper im 17. Jahrhundert," *Sämmelbände der Internationalen Musikgesellschaft* 2 (1902): 40. A modern transcription of this passage is found in Reginald Morley-Pegge, *The French Horn*, 2nd ed. (London: Benn, 1973), p. 80. Morley-Pegge notes that the horns are pitched in B-flat *alto*, with the exception of the fifth horn, which, due to a single low d', he states is in B-flat *basso.* See also Horace Fitzpatrick, *The Horn and Horn-Playing 1680-1830* (London: Oxford University Press, 1970), p. 5 and 53[1]; Fitzpatrick disputes the fact that this passage was written for horns at all. He proposes that it may have been intended for strings written to imitate horn calls. This question must remain open at present since contemporaneous performance details of this opera are lacking.
2. See Adam Carse, *The Orchestra in the Eighteenth Century* (Cambridge: Heffer, 1940), p. 23-29; and Neal Zaslaw, "Toward the revival of the Classical Orchestra," *Proceedings of the Royal Musical Association* 104 (1977-78): 171-176. Carse notes (p. 22) that the earliest appearance of an orchestra with four horns seems to have occured in Vienna, where both the Royal Opera and Hofkapelle had two pairs at their disposal in 1721. Other cities mentioned by Carse include Hamburg (1738), Mannheim (1756), and Stuttgart (1757). Zaslaw expands this number to include Ansbach (1782), Bethlehem, PA (1790), Berlin (1787), Bonn (1782), Esterháza (1765), Gotha (1782), Kassel (1783), Koblenz (1782), London (1776), Munich (1778), Naples (1773), Paris (1779), Regensburg (1783), and Turin (1774). His dates for the appearance of four horns in Mannheim (1782), Stuttgart (1789), and Vienna (1781) are based upon extant rosters and do not seem to represent their first appearance. See Note 3. According to Olof Kéxel's *Theater-Almanach* (Stockholm: Kongliga Tryckeriet, 1784) Stockholm hired a second pair of horns, the brothers Steinmüller, in 1784.
3. Peter Gradenwitz, *Johann Stamitz* (Wilhelmshaven: Heinrichshofen, 1984), p. 101. Gradenwitz cites the *Chur-Pfältzischen Hoff- und Staats-Calender* for 1750/51. *Cf.* Carse, *Orchesstra*, 23. The only apparent symphony by Johann Stamitz to use four horns is a now-lost work in C major. See Eugene Wolf, *The Symphonies of Johann Stamitz: A Study in the Formation of the Classical Style* (Utrecht: Bohn, Scheltema & Holkema, 1981), p. 65, 440. According to Barry S. Brook, *Reference Volume: The Symphony 1720-1840* (New York: Garland, 1986), even second-generation Mannheim composer Christian Cannabich composed no symphony with four horns. Although none of Holzbauer's symphonies appear to require four horns, he did use two pairs in his opera *Günther von Schwarzburg* (1774), modern score in *Denkmäler Deutscher Tonkunst* 8/9 (Wiesbaden: Breitkopf und Härtel, 1957).
4. The number is taken from Neal Zaslaw, *Mozart's Symphonies: Context, Performance Practice, Reception* (Oxford: Clarendon Press, 1989), 545-546. It is derived from those in Zaslaw's categories I-III; the remaining categories consisting of unaltered overtures, symphonies extracted from serenades, lost and spurious works have been omitted.
5. Changing to E-flat and B-flat, presumably *alto*, in the second movement.
6. Paul Bryan, "Haydn's Hornists," *Haydn Studien* 3 (1973):53.
7. Bryan, "Haydn's Hornists," 54; H. C. Robbins Landon, *Haydn: Chronicle and Works,* 5 vols. (Bloomington, IN: Indiana University Press, 1976-80), II:91-92. Another frequently mentioned possibility is that the pairs of horns alternated performances, or that one set was used almost exclusively for the hunt.
8. See, for example, the salary list of December 1775 reproduced in H. C. Robbins Landon and David Wyn Jones, *Haydn* (Bloomington, IN: Indiana University Press, 1988), p. 97. The hornists' salaries range from 42Fl 42½Kr (for first horn Joseph Oliva) to 27Fl 30Kr (for Carl Franz), with an average of about 36 Florins. Oliva's salary was higher than that of principal violinist Luigi Tomasini (who earned 40 Fl 12½Kr), and the average of the horn players as a whole was higher than that of the vocalists (about 30Fl) and strings (ca20Fl). This is particularly significant when considering their possible function as string players on the side.
9. Othon Vandenbroeck, *Traité général des tous les instruments a vent a l'usage des*

compositeurs (Paris: Self-publication, 1793; reprint ed., Geneva: Minkoff, 1974), p. 2: "Il y a deux cors pour jouer les tons du haut et deux autres pour jouer les tons d'en bas."

10. This library is now housed in the library of the Royal Swedish Academy of Music, Stockholm.

11. See Åke Edenstrand, "Die Schwedische Hofkapelle in der Zeit von Kraus," in *Kraus und das Gustavianische Stockholm*, ed. by Hans Åstrand and Gunnar Larsson (Stockholm: Kungliga Musikaliska Akademien, 1984), p. 115-116. The new pair of horns were the brothers Steinmüller recruited from Esterháza by Kraus in 1783; they arrived the following year after a lengthy and successful concert tour along the route from Hungary to Sweden. See also Landon, *Chronicle and Works*, II:79-80 and Fredrik Dahlgren, *Antekningar om Stockholms Teatrar* (Stockholm: Norstedt, 1866), 553. Of additional interest in the dispersement of the keys between the two pairs is that the list of keys (read: crooks) available ranges from C *basso* to B-flat *alto*. Missing are C *alto* and B-flat *basso*, which may give some additional evidence towards an eventual resolution of the *alto-basso* controversy.

12. Stockholm, Operansbibliotek, Operor S 1. For further information on this work, see the present author's "Joseph Martin Kraus's *Soliman II*: a Gustavian Turkish opera," *Svensk Tidskrift för Musikforskning* 70 (1988):9-29.

13. See Kraus's autograph score, S St Operor S 8. The score makes no mention of this high-low division—the staff in the score upon which the part is written is labelled simply "Corni"—but the part books make the division distinct. There are only four keys/crooks used in this opera (C *basso*, D, F, and A). The first part book, which is listed on the cover as containing parts for the keys from B-flat [*alto*] to F, has those parts in F and A; the second part book, listed for the lower keys, has those parts in C and D.

14. Haydn's original score and parts require horns in "B fà," which modern scores usually interpret as B-flat *basso* to keep them an octave below the doubling trumpet parts. By eighteenth-century standards, however, "B fà" normally meant B-flat *alto*, which would be in keeping with a high-low alternation of the keys (*vide infra*; the previous number, No. 24, is in C *basso*). The argument that this might "conflict" with the trumpets presupposes that horns and trumpets have the same sound when doubled at the same octave, a presumption that is impossible due to the timbral qualities of the instruments themselves. A more detailed resolution to the *alto-basso* controversy, including the problem of horn-trumpet doublings in Haydn and others, is currently in progress by the present author.

15. A recent performance of *The Creation* using natural instruments, held at the Handel and Haydn Society in Boston, Massachusetts, came up against this problem. The necessary time was found because the conductor, Christopher Hogwood, simply stopped the entire orchestra at m.38 and m.132 until the horns signaled their readiness to proceed after changing to the appropriate crooks. Needless to say, such a grand pause is not indicated in the score. I would like to thank my colleague Prof. A. Peter Brown of Indiana University, who provided the score and technical expertise for the Boston performance, for his description of the event just noted.

16. See A. Peter Brown, *Performing Haydn's The Creation* (Bloomington, IN: Indiana University Press, 1986), 29-30. The placement is for concert performances of the oratorio held on 2-4 March 1799, but Prof. Brown's chart (p. 3) appears to demonstrate that these were precisely the same forces required for the work's premiere the previous year.

17. See Joseph Haydn, *Armida* (Hob. XXVIII:12), ed. by Wilhelm Pfannkuch, *Joseph Haydn Werke* XXV Bd. 12 (Munich: G. Henle, 1965); *idem., La fedeltà premiata* (Hob. XXVIII:10), ed. by Güther Thomas, *Joseph Haydn Werke* XXV Bd. 10 (Munich: Henle, 1968); and *idem., Incontro Improviso* (Hob. XXVIII:6), ed. by Helmut Wirth, *Joseph Haydn Werke* XXV Bd. 6 (Munich: Henle, 1962). In a transition between a march and an accompagnato that leads into the aria "Valorosi compagni" in *Armide*, the horns have six brief measures to change crooks from B-flat *alto* to E-flat. While not entirely impossible, especially if the recitative were to be taken more slowly than implied by the

mood of the text, the need to change crooks quickly by a single pair of horns probably would have been problematic and, one might surmise, perhaps not always accomplished smoothly or accurately. In *La fedeltà premiata*, there is no time allowed to change crooks (from A to D) between the aria "Di questo audace" (No. 36) and the *Coro di cacciatori* "Più la belva" (No. 37), for the horns are part of both the last chord of the first and the first of the latter; moreover, the scene, where the group of hunters leaves while singing and dancing, does not indicate a pause in the action. In *Incontro Improviso*, an example can be seen in the transition between the duet "Son quest' occhi" (No. 38) and Finale (No. 39), where again the horns in the first (in E) have no space to change crooks to G for the first note of the last, given that the dramatic action allows for no pause whatsoever.

18. One should not forget that virtually every professional orchestral horn player of the period had a complete set of crooks for his instrument which encompassed all keys from C (and occasionally B-flat *basso*) to C *alto*. Therefore, even "high" horn pairs would be capable on occasion of performing in the lower keys of F and below. In *Finta*, the finale of the first act (No. 12) seems to demand that the "high" horn pair use a D crook in order to maintain the key alternations, and in the aria "Va pure ad altri" (No. 26) the scoring clearly seems to indicate that the first horn pair is required to use the E-flat or perhaps even the C *basso* crook. Confirmation of this high-low crossing can be found in the authentic score of Joseph Martin Kraus's *Aeneas i Cartago*, S St Operor D 1, where the high pair begins the fifth act in B-flat *basso*, changes to B-flat *alto* and back again over the course of 120 measures.
19. This brings up the question of whether the arias "Mio padrone" and "Va pure ad altri" (No. 25 and 26) might require the first pair of horns to be pitched in C *alto*, instead of C *basso* as it is implied in the present scoring. From a musical standpoint, a case could be made for either; the traditional association of horns in C with C *basso*, the harmonic and timbral position *vis-à-vis* the trumpets (in No. 25) and second pair of horns (No. 26), and the availability of the C *basso* crook to the high horn pair (see Note 18). It is doubtful, however, that a definitive answer could be found at the present time without a final solution to the *alto-basso* controversy with respect to horns in C.
20. Acknowledging, of course, that they might occasionally be asked to crook their instruments in lower keys.
21. There are large numbers of rests between the horn entrances and crook changes; it is, however, not beyond the bounds of reason to suggest that the "low" pair of horns might have performed in B-flat *alto* on this one occasion since their instruments were equipped with a full complement of crooks for all keys.

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The Function of the Horn in the Middle Works of Gustav Mahler

by Edward J. Bostley

The orchestral music of Gustav Mahler reveals his creative inventiveness in extending the technical demands required of each of the instruments to release the deeper musical expressions which lay dormant in the recesses of their traditional idiom. As an orchestral and operatic conductor, Mahler acquired a sensitive understanding of the expressive nature of the orchestral instruments which activated his acute intuitive sense of their untapped expressive potential. Constant and rigorous rehearsals with instrumentalists provided the basis upon which Mahler was able to greatly expand upon the technical and traditionally idiomatic nature of all the instruments.

It was only natural that Mahler expected the public, including the music critics, to respond favorably to the unique musical expressions presented in his symphonies. Surprisingly to Mahler, his innovative musical explorations and orchestral revelations instead elicited confused reaction within all quarters of the musical community. Hardly a premiere of one of his symphonies occurred that did not provoke harsh criticism. Indeed, controversy seems to have been a constant companion of Mahler's symphonic music, at least during his lifetime. Much of the controversy resulted from his bold and imaginative innovations in creating new orchestral sounds.

Musicians, audiences, and especially the professional music critics were very strong in their initial condemnation of his music. Performers failed to appreciate the unique expressiveness resulting from the technical difficulties encountered in Mahler's apparent idiomatic transgressions, and the music critics could not comprehend the new complex sounds that integrally constituted his symphonic form. Michael Kennedy writes that

> It was during a rehearsal for woodwind and brass alone that a remark was made which enabled Mahler, writing to Alma on 10th September [1908], to make a famous analogy:
>
> > One of the trumpeters asked [the conductor] Bodansky in despair: "I'd just like to know what's beautiful about blowing away at a trumpet stopped up to high C sharp." This made me think deeply about the lot of man, who also cannot understand why he must endure being "stopped" to the piercing agony of his own existence, cannot see what it's for, and how his speech is to be attuned to the great harmony of the universal symphony of all creation.[1]

The one redeeming quality of his creative technique recognized even by his harshest contemporaries was his orchestration. Viktor von Herzfeld, the music

critic of the *Neues Pester Journal,* wrote of the premiere of Mahler's First Symphony,

> It goes without saying that a modern conductor like Mahler has a very complete—even too complete—knowledge of all orchestral effects. There is scarcely a single phrase not decorated with brasses, triangles, cymbals, and the big drum, but there are subtle mixtures of timbres such as only a refined ear could invent.[2]

Mahler's "too complete knowledge of all orchestral effects," perceived as musically clever by some, was also considered musically detrimental by others. August Beer, another reviewer admitted that

> He frankly staggers us by his virtuosity in handling the modern orchestra, a master over instrumental resources which would be unthinkable without a thorough absorption in the scores of Berlioz and Wagner and without an innate feeling for colour. He is just as familiar with the sonorities of individual instruments and their combinations as with the managing large masses of sound, yet he is easily led astray by just this technical superiority into using harsh colours and exaggerations of expression, which indeed young, exuberant talents can never have enough of.[3]

Was it Mahler who was "easily led astray" or was it, perhaps, the musical observers of Mahler's era who, inexperienced through a conservative diet of musical tradition, misinterpreted the actual merits of the forward looking score as the sins of youth? Mahler's extreme contrasts of texture and sonorities, the prevailing dualism and exaggerated polarity in his orchestration, and his seemingly excessive use of expression provides the very essence and meaning of his symphonic compositions. Indeed, as he demanded new extremes from his instrumentalists, he also extracted a new level of musical profundity that ultimately redefined the idiomatic nature of the individual instruments.

Richard Strauss, commenting in 1904 on the advanced state of the art of orchestration at the turn of the twentieth century, wrote that

> The practical instrumentalist, through his skill, stimulates the composer to new ideas. Great ideas, on the other hand, which at first do not seem feasible, gradually lift the ambitious instrumentalist to their level. They have the greatest influence on progress in the construction of instruments, on improvements in their technique, and on the enrichment of their expressive possibilities.[4]

Arguably perhaps, Mahler did more than anyone else within his twenty-five years of creative output to emancipate the horn from its 250 year "Waldhorn" tradition into the complex modern instrument of the twentieth century. He accomplished this not by abandoning or destroying that wonderful and cherished "romantic" horn tradition but rather by expanding and adding to it a greater depth of expressive power never before unleashed in the symphonic realm.

The Romantic Horn

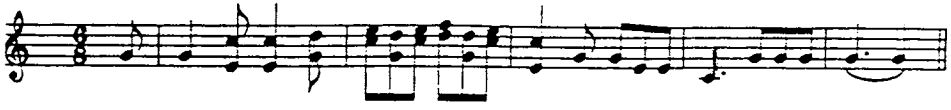
The so-called traditional "romantic" horn style, which was carefully devel-

oped and cultivated by performers and composers well into the latter part of the nineteenth century, evolved from the early *cor-de-chasse* or hunting horn style, which galloped onto the musical scene circa 1650. This instrument of the hunt consisted of a long coil of tubing with fixed length capable of producing only specific notes found in the overtone series in which it was pitched.

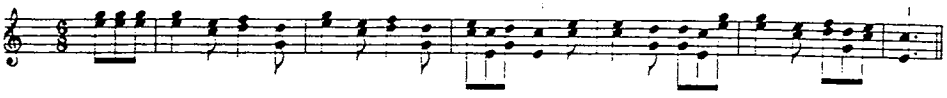
The initial role of the *cor-de-chasse* was that of a signal instrument comprising fanfares and calls signifying the progress of the hunt. The music of the hunt was quickly stylized and ultimately romanticized into concert music. The fanfare style of the hunting-horn tradition, illustrated in Example 1, was typified by the 6/8 meter, arpeggiated melodic contour, and the special harmonic sound of horn-fifths composed for a pair of horns.

Example 1.

The call "Lance" announces that the stag is afoot.[5]



The call "Debuche" announces that the stag has taken to the open country.[6]



Perhaps the most enduring aspect of the horn style was its tone quality and the wide range of tone color unique to the instrument. It was near the middle of the eighteenth century that the tone quality of the hunting horn, which was bright and brassy, was enhanced with the experimental manipulation of the right hand in the bell. This right hand placement produced the desirable muffling effect which transformed the brighter natural tone of the instrument into the more mellow, darker tone which is still desired today. In addition, the opening and closing of the hand in the bell converted the hunting-horn into a diatonic

orchestral instrument. These qualities have made the instrument a natural choice for expressive, lyrical melodies often employing the entire horn section as in the overtures to *Der Freischütz* (1821) of Weber, and *Semiramide* (1823) of Rossini.

The handhorn style of performance became so well accepted by both instrumentalists and composers by the end of the eighteenth century that this technique extended well into the nineteenth century in spite of the availability of a valve system circa 1815[7] which should have eliminated the need for the right-hand technique. In retrospect the contemporary horn player, absorbed exclusively with the modern valve-horn tradition of the twentieth century, may logically see the invention of the valve system as the answer to the perfection of the old and limited handhorn.

Paul Henry Lang attributes the growing concept of the romantic horn in the nineteenth century to the invention of the valves.

> At the beginning of the [nineteenth] century the orchestra changed its whole complexion with the invention of the ventil mechanism for the brass instruments which made trumpets and horns into chromatic instruments capable of playing in any key. The horn tone, which soars over all barriers with which the classic style surrounded it became the symbol of the modern orchestra, which it saturated with its glorious sonority. The composers became intoxicated with its wonderful timbre, ranging from scarcely audible piano to hymnic opulence.[8]

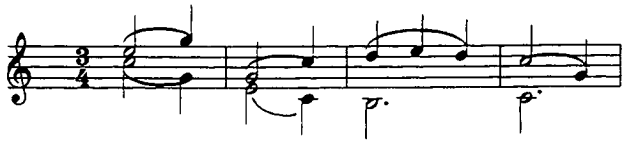
It seems ironic that, in light of the fact that the eighteenth century horn virtuosi were so eager to assimilate the diatonic potential made available through hand-stopping into their performance style, the increased possibilities for chromatic performance, made available by the invention of the valve in the first quarter of the nineteenth century, would be so ignored by the performers and composers for the greater part of that century! The advantages of an instant chromatic horn were outweighed by the established tradition of the horn tone and style. Performers considered the tone of the valve-horn far inferior to the tone of the natural hand-horn. Bessaraboff felt that the

> Horn music changed so much that some hornists thought the character of the instrument was being spoiled. The real objections, therefore, concerned loss of the intimate qualities of the hand-horn; change of tone quality, increasing loudness, and change of the type of music written for the horn.[9]

As the valve instrument gradually gained acceptance after the middle of the nineteenth century, the horn style stubbornly continued to retain its distinct hand-horn nature even to the extent that performers would merely utilize the valves to switch from one overtone series to another and, in disregarding the chromatic possibilities available to them, would proceed to perform as on a hand-horn. Brahms, who had played the natural horn in his youth, continued to treat the valved-horn as a natural horn as can be witnessed by a study of the horn parts in his orchestral works. The following passage is taken from the opening of his Symphony No. 2, composed in the summer of 1877, and clearly illustrates Brahms's adherence to the natural horn tradition.

Example 2.

Brahms, Symphony No. 2 in D Major, Opus 73. First Movement, measures 2-5.



This passage, in utilizing the tonic triad to develop the opening theme, relies mainly on the open pitches of the horn's overtone series. The horn parts of Brahms' later works do require the use of the valved-horn, yet the earlier, traditional style is still in evidence. "The fact that Brahms was writing hand-horn parts as late as 1880 indicates that he had a particular affinity for the natural horn and the style of music associated with it."[10]

Wagner, in scoring difficult parts for the horn section, was also sensitive to the "hand-horn" tradition even as he continually increased the technical demands placed on the horns. In his introductory notes to the score of *Tristan and Isolde* (1857-59), Wagner provides the following remarks:

> The composer desires to draw special attention to the treatment of the horns. This instrument has undoubtedly gained so greatly by the introduction of valves as to render it difficult to disregard this extension of its scope, although the horn has thereby indisputedly lost some of its beauty of tone and power of producing a smooth *legato*. On account of these grave defects, the composer (who attaches importance to the retention of the horn's true characteristics) would have felt himself compelled to renounce the use of the valve-horn, if experience had not taught him that capable artists can, by specially careful management, render them almost unnoticeable, so that little difference can be detected either in tone or smoothness.
>
> Pending the inevitable improvement in the valve-horn that is to be desired, the horn-players are strongly recommended most carefully to study their respective parts in this score, in order to ascertain the crooks and valves appropriate to all the requirements of its execution. The composer relies implicitly on the use of the E (as well as the F) crook; whether the other changes which frequently occur in the score, for the easier notation of low notes, or by obtaining the requisite tone of [the] high notes, are effected by means of the appropriate crooks or not, is left up to the decision of the players themselves; the composer accepts the principle that the low notes, at all events, will usually be obtained by transposition.
>
> Single notes marked + indicate stopped sounds; if they have to be produced in a key in which they are naturally open, the pitch of the horn must be altered by the valves, so that the sound may be heard as a stopped note.[11]

These remarks are revealing for many reasons. Besides an authoritative discussion of the technical nature of playing the horn, it can be noted that stopped pitches are now purposely employed to effect tonal change and obtain a specific musical expression. At one time the players had to resort to stopped

notes merely to produce these missing pitches in the melody. Now composers are requiring this specific tone as a color effect even to the extent of instructing the performers on the necessity of developing their technique to insure the desired contrast in tone color. One other aspect was also mentioned by Wagner, namely the inevitable refinements which would soon become part of the horn-player's technique. Even with the admission that the valved-horn was inferior to the tone quality of the natural horn, the advantages of the valves were recognized and the necessity for mechanical improvements greatly encouraged, even demanded by these advantages.

The famous "Siegfried Horn Call" performed off-stage, from Wagner's *Ring of the Nibelungen*, which is intended to sound like a natural horn in the distance,

> is a passage that demands the valves for its rapid and smooth delivery. And as a matter of fact no player in his senses would dream of playing it on a valveless instrument. In short it is a happy instance of a valve-horn passage preserving almost intact all the characteristic features of the old hand-horn music.[12]

Certainly the horn music, even though at times intentionally reminiscent of an earlier style, was impractical, if not altogether impossible, to perform on anything but a valve-horn. Carse concurs when he states that

> ...during the last twenty or thirty years of the [nineteenth] century the matter was no longer in the balance. The valve-horn was so completely accepted that it was not necessary to use the words "valve," "piston," or "ventile" in scores or parts. The word "horn" implied valve-horn, and although conservative composers and musicians clung to the faith that the horn was essentially a diatonic instrument, its nature was now as chromatic as any other of the wind-instruments, its capabilities and functions as freely melodic as harmonic.[13]

Carse goes on to say,

> ...the composers who in this period began to write for valve-horns were able to make still more free use of these instruments as melodist, and when bold enough to ignore the traditions associated with melodies for the natural instruments, found themselves in possession of what was practically a new set of brass voices, namely, horns and trumpets which were harmonically and melodically flexible, and could be used for melodic parts either expressive or gay, parts which were completely free from the characteristics of the hunting-call or the military trumpet call.[14]

Composers at the forefront of contemporary music during the second half of the twentieth-century, such as Wagner, Richard Strauss in his tone poems and operas, and Mahler in his orchestral music, did approach the horn as a modern chromatic instrument and, although many of their horn parts may have sounded reminiscent of an earlier traditional horn style, were actually impractical on natural horns. Thus the need to adopt the valved-horn was forced upon the performers by the need to facilitate the practical delivery of all styles of music written for the horn.

Not surprisingly, the radical changes in the traditional role of the various

orchestral instruments tended to offend many people, musicians as well as non-musicians.

> Before the end of the [19th] century the horn player found himself faced with the formidable technical problems that abound in the works of Richard Strauss, which not only demand complete mastery of the entire compass of the instrument but very great physical endurance as well. This new and complex writing, if it was to be played successfully by any but a very small elite, called for radical revision of horn technique on the part of player and manufacturer alike...even so distinguished a hornist as Fr. Gumbert [sic] said shortly after his retirement, "composers like Wagner, and those of today like Strauss and Mahler, really require a little motor in the horn to play the parts; therefore I retire."[15]

Without a doubt, the horn-players of the late nineteenth century were greatly concerned not only about retention of a horn tradition, but their ability to cope with the technical and physical demands placed upon them by the new music emerging in the 1880s.

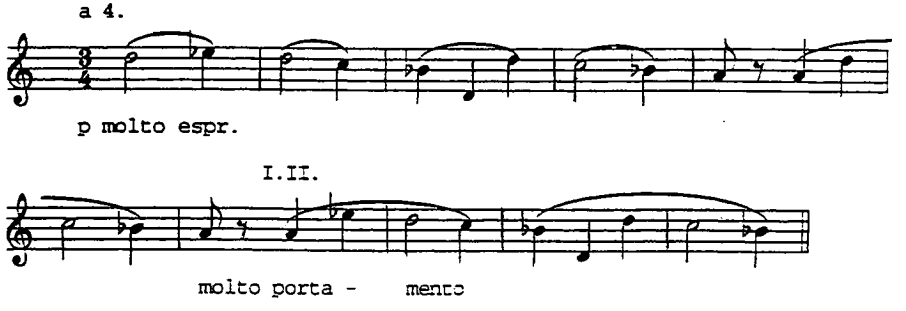
Mahler and the Horn

Neville Cardus, in elaborating on the horn passage illustrated in Example 3, points out that,

> Mahler was the first symphonic composer to make nearly every instrument a protagonist speaking in its own voice. [He]...was able to enlarge his tonal encyclopedia and more and more give the significance he needed to his instrumental *dramatis personae*. Take, for example, the sound of the horn as it intones in the Scherzo of the Fifth Symphony in a sudden silence:

Example 3.

Symphony No. 5, Scherzo, measures 241-250.



The horn here has a colour and suggestiveness hard to define, but it certainly is not the comfortably romantic horn known in Mahler's day. This is at once and the same

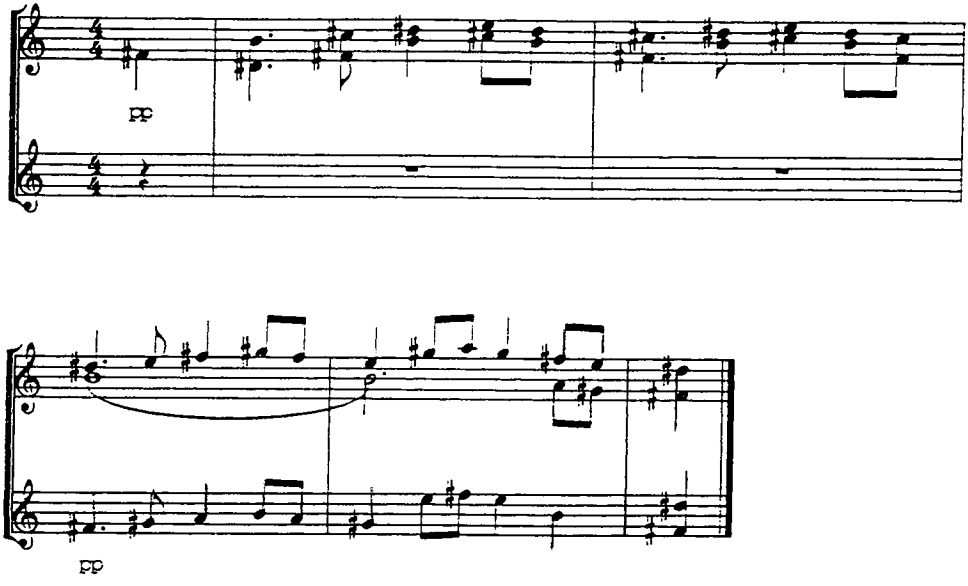
time a horn seductive to the senses yet inimical. At the opposite extreme is the jubilant transformation-scene use of the horn in the Fourth Symphony, opening the gates of the children's paradise.[16]

In the music of Mahler, the orchestral horn, which gradually assumed new and varied functions and powers of expression, was no longer confined to the brass section for identity. The horn becomes an equal partner with the woodwinds and strings, and is often linked with unusual instruments such as the guitar and mandolin. Perhaps the most significant aspect of the nature of the horn in Mahler's symphonies is its emergence as a solo voice, an independent figure which is no longer identified with the hunt or other stereotyped connotations described by many music critics and historians.

Mahler decidedly continued to maintain the "romantic" horn style incorporating the contrasting heroic fanfare and lyric nature of the horn throughout all of his music. In fact, these very qualities are particularly obvious in his first three symphonies, even to the extent of explicitly quoting horn-fifths as illustrated in Example 4.

Example 4.

Symphony No. 2, first movement, measures 139-147.

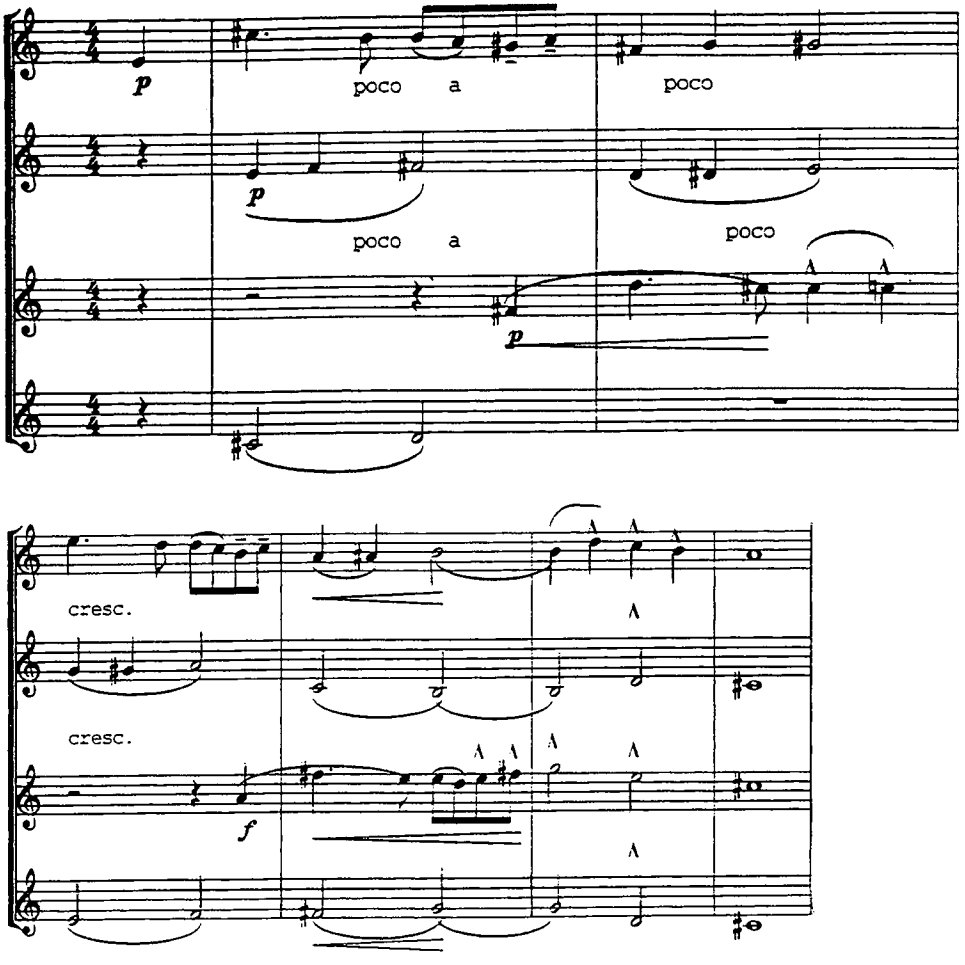


This adherence to the horn tradition acquires a more subtle nature from the Third Symphony onwards in which the texture shifts from a chordal nature to

the imitative, polyphonic style illustrated in Example 5.

Example 5.

Symphony No. 3, sixth movement, measures 276-281.



In spite of the furor provoked by his first three symphonies, these early works were essentially traditional (as was his scoring for the horn) although there were many ways in which Mahler expanded upon this tradition. Adherence to a traditionally romantic horn style not withstanding, Mahler's horn parts in his early works required the chromatic instrument for effective delivery. As he increased the size of the orchestra, he often doubled the number of horns (ten horns are actually scored in the Second Symphony) often requiring several horn players to perform in unison and octaves on soft as well as loud passages both

off-stage as well as on-stage.

Mahler also called upon the high register more often than generally found throughout nineteenth century orchestral horn parts, and the horn appeared more often as a solo or prominent instrument in his orchestral works. These characteristics become more obvious from the Fourth Symphony through his Ninth Symphony.

Mahler's Middle Works

The Fourth Symphony is generally listed with Mahler's first creative period which includes the *Lieder eines fahrenden Gesellen* and *Des Knaben Wunderhorn* as well as the first three symphonies. All four symphonies are influenced by songs from the two early song cycles providing a natural grouping because of this relationship. Consequently his middle period is usually considered to consist of the strictly instrumental Fifth, Sixth, and Seventh Symphonies, as well as the *Kindertotenlieder* (a vocal work more influenced by the symphony than the reverse).

Nonetheless it is Mahler's Fourth Symphony that makes a dramatic departure in orchestral texture and technique from the first three symphonies. This work, which bridges the nineteenth and twentieth centuries, serves as a significant transition from Mahler's early to later symphonic works and also presents the transformation of the traditional horn to the modern horn at the turn of the new century. Indeed, even the public recognized this symphony as a radical change from its predecessors as witness the provocation of "fisticuffs"[17] which actually occurred among different factions of the audience at one of the first open rehearsals of this work.

In the Fourth Symphony the horn appears often as a solo instrument in a florid and virtuoso style more typical of a woodwind instrument. This unusual characteristic for the horn was influenced by the unique approach to orchestration that Mahler described as "the thousand little pieces of mosaic that make up the picture."[18]

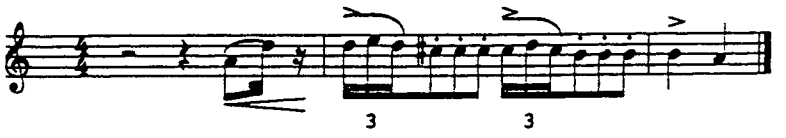
The essence of this "mosaic" orchestration requires the grouping together of several isolated motivic fragments, many of which may be complete and capable of standing alone, that constitute the long unfolding melodic theme but have been distributed among several different instruments. Typically in such a setting the horn may emerge momentarily as the solo instrument only to submerge as a secondary force in a contrapuntal line. When the horn does emerge with a distinct melodic contour, it is often difficult to categorize its function as purely solo; i.e., the prominent instrument delivering the main line, and even delivering it in its entirety, because quite often two or more melodic lines of equal weight and importance appear simultaneously.

The first illustration in Example 6, which is the initial horn entrance in the Fourth Symphony, is a solo consisting of an ornamental mordant figure in its melodic treatment.

Example 6

Symphony No. 4, first movement, measures 9-11.

First Illustration.



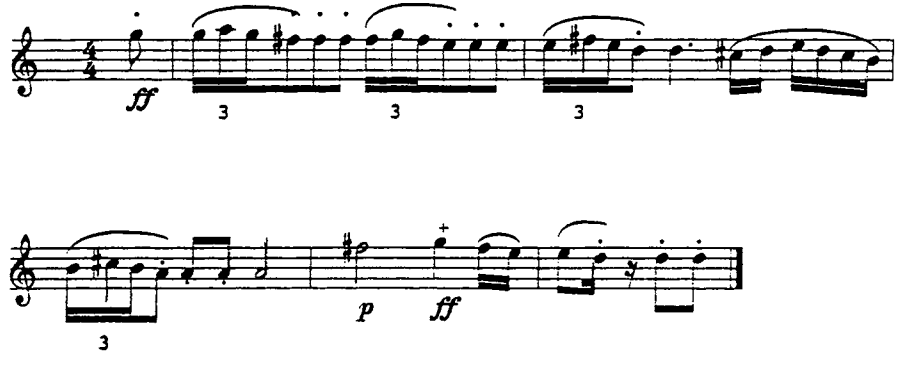
Second Illustration.

Although the line is more characteristic of a clarinet melody, it is easily handled on the modern valve-horn. Stripped of the triplet ornamental figure as it appears as the second illustration, it more closely resembles a horn figure of traditional nature. This short horn melody is but a segment of the mosaic texture of the opening theme but, complete as a distinctive motive, appears often throughout the movement.

Its appearance again in measures 109-115 (Example 7) provides a difficult and flamboyant horn passage which easily emerges through the orchestral texture. With a high entrance, "ff" dynamic marking, and the retention of the triplet ornamentation (from measure 10), a more vibrant, virtuoso passage is in evidence.

Example 7.

Symphony No. 4, first movement, measures 109-111.

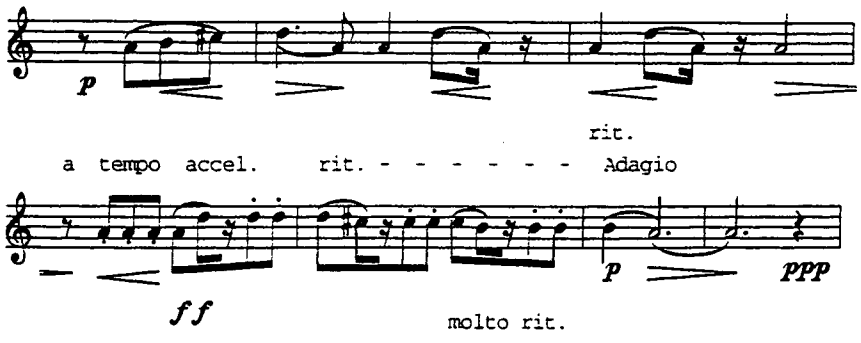


This apparent shift from the traditional orchestral brass idiom of the past two centuries, to the more florid woodwind chamber music style, does not indicate an abandonment of the rich heritage of horn tradition, but emphasizes the necessity for orchestral horn players of that era to develop the technical mastery (available throughout most of the century but generally not exploited) required to perform the virtuoso passages which are becoming standard in the orchestral literature at the turn of the century. This new identity remains apparent throughout the Fourth Symphony and becomes more complex, demanding even greater powers of virtuosity in the Fifth, Sixth, and Seventh Symphonies.

A passage which may come closest to an extended solo for horn in the Fourth Symphony—and perhaps one of the most dramatic episodes in the first movement—occurs toward the end of the movement (Example 8).

Example 8.

Symphony No. 4, first movement, measures 336-341.

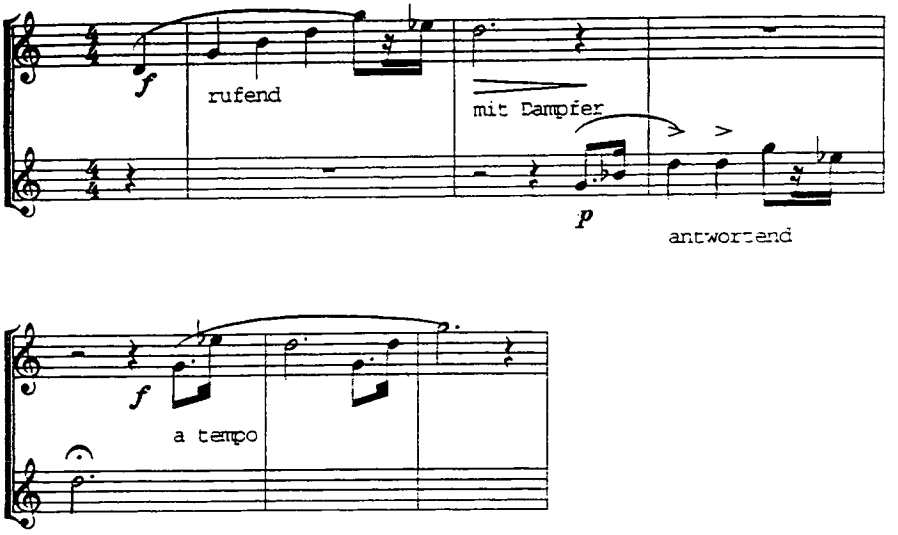


Very reminiscent of a recitative as it emerges in measure 336, the horn intones its original melody (from measures 9-11) although now in contrast lacking the triplet ornamentation. In an expressive, rubato manner carefully dictated by the composer, the horn emerges from the orchestral texture as a plaintive voice "calling forth" unlike any of the traditional "horn-calls" of the past. This atmosphere also exists in the *Scherzo* of the Fifth Symphony in which all five horns answer each other with imitative, sustained calls until the solo horn emerges with a recitative-type summons. This process recurs later in the movement and conjures up the imagery of Alpine horns calling forth in the distance.

The second movement of the Seventh Symphony opens with a passage for Alpine-type horn-calls (Example 9). Mahler actually titled the first horn entrance "refend" (literally "calling"), which is played open, while the muted horn imitates the answering call, "antewortend" (literally "answering"), as if in the distance.

Example 9.

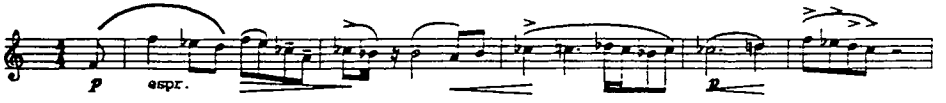
Symphony No. 7, second movement, opening measures.



Perhaps the most obvious and effective means of maintaining the horn tradition is through the many lyrical solos provided for the horn in all of his works. In Example 10 such a passage from the third movement of the Sixth Symphony reveals a voice-like quality of melodic progression well within the most sonorous compass of the instrument.

Example 10.

Symphony No. 6, third movement, measures 28-32.



This vocal quality becomes particularly obvious in the *Kindertotenlieder*, which was composed between 1901 and 1904 while Mahler worked on his Fifth and Sixth Symphonies. Unlike the horn passages contained in the *Lieder eines fahrenden Gesellen* and *Des Knaben Wunderhorn*, which tended to be short fanfares and other melodic motives expressive of the text, the horn emerges as a lyrical vocal soloist in its own right in this later song cycle. The opening of the first song, " nun will die Sonn' so hell aufgeh'n," combines two contrasting timbres, with the oboe and horn providing an unaccompanied solo duet. The two distinct melodies are in stark contrast to each other and, because of the nature of their respective timbres, enjoy equal prominence. Typical of the opening measures, the orchestration tends to be stark and linear, lacking the obvious

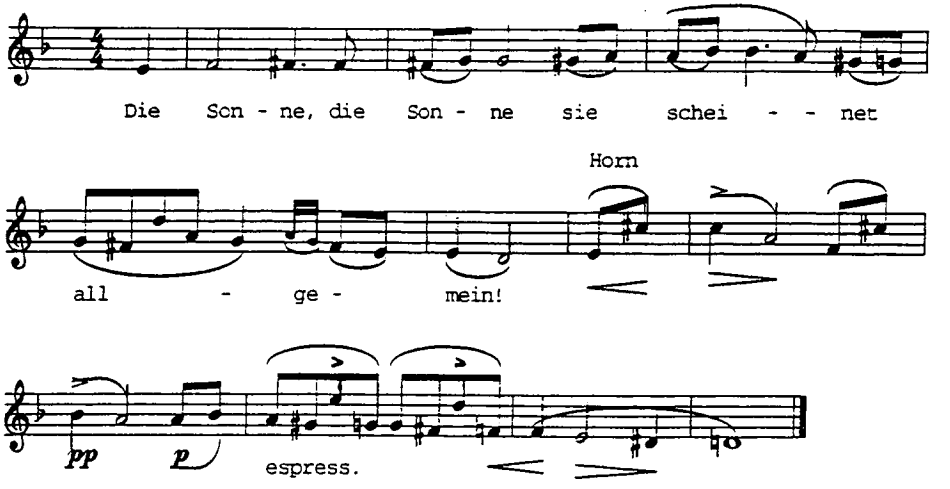
tone-painting found in the earlier songs, although there is little doubt as to the programmatic intent of the orchestra in the storm scene of the fourth song of the *Kindertotenlieder.*

The instrumental voices are expressive and emerge in a lyrical manner equal to the voice, which actually tends to become another timbre of the ensemble rather than an exclusive soloist supported by the orchestra. The instrumental and vocal melodies are closely woven in an interlocking mosaic texture[19]; nonetheless instrumental clarity is insured in the *Kindertotenlieder* in the same manner as in the symphonies.

Unlike the first four symphonies which were influenced by the song, it is Mahler's evolving symphonic style of composition that influences the *Kindertotenlieder* song-cycle. Even though the Fifth, Sixth, and Seventh Symphonies lack a text or specific influence by the song, the instruments are supplied with long, lyrical melodies in which the horn often emerges as if in place of the voice. Example 11 illustrates this singing quality as well as the relationship of the horn to the vocal line which precedes it.

Example 11.

Kindertotenlieder, "Nun will die Sonn' so hell aufgeh'n," measures 32-41.

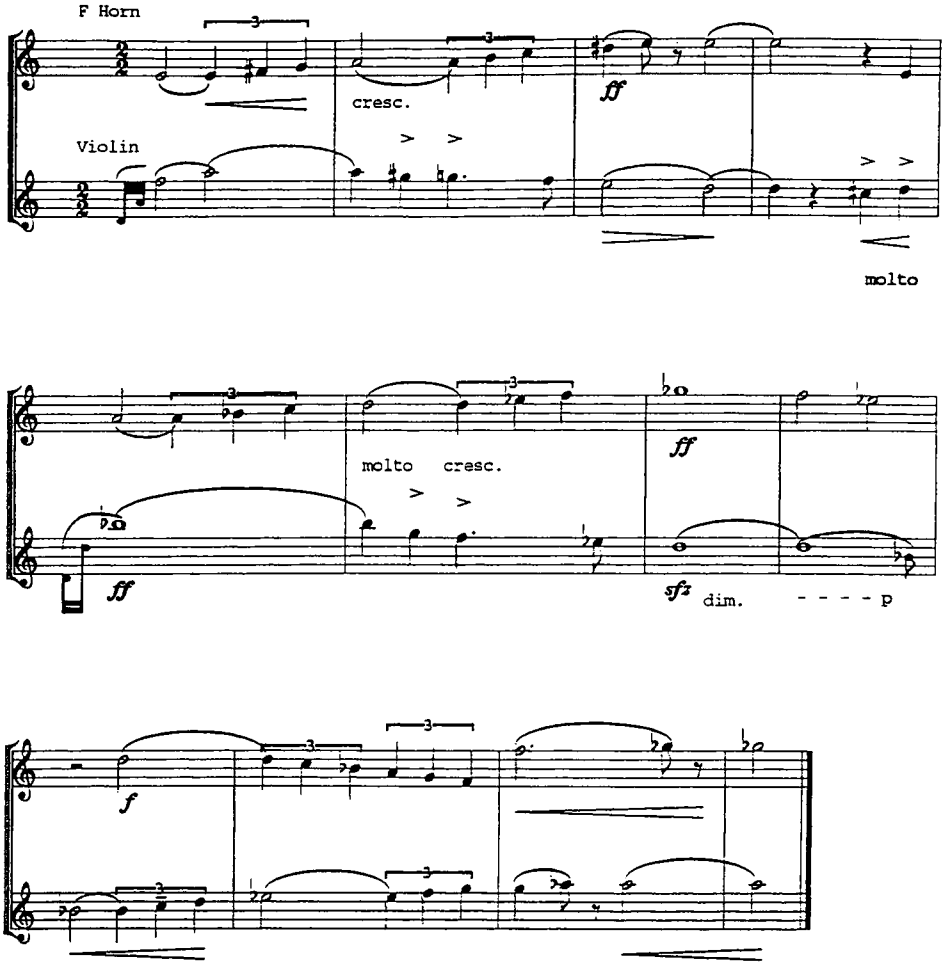


The length of the solos is expanded in the middle symphonies with the accompanying texture reduced to isolate the horn as the predominant voice in the music. Mahler was fond of unusual instrumental pairings especially combining the horn with a woodwind or string instrument. Two instances of a violin-horn duet from the Fifth and Sixth Symphonies are illustrated in Example 12.

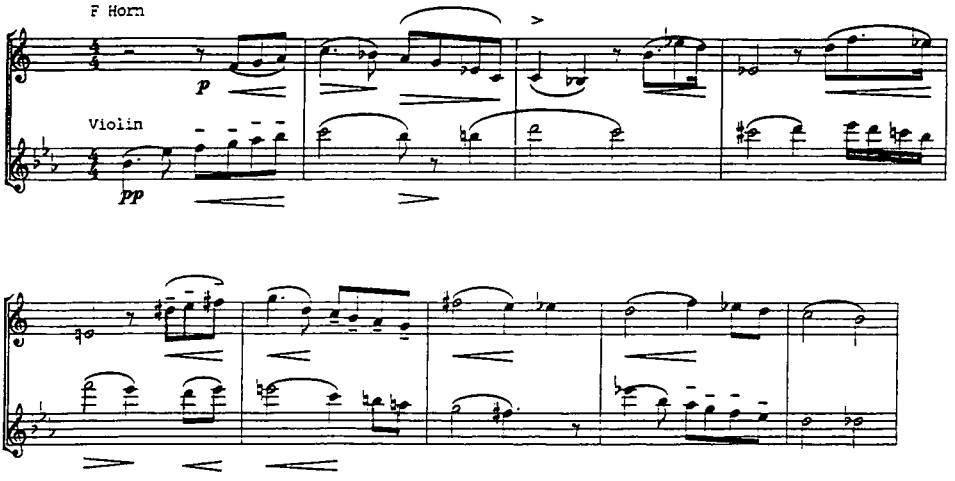
In both examples the horn is able to remain in its middle register and still maintain prominence due to the fact that both instruments tend to move independently.

Example 12.

Symphony No. 5, first movement, measures 337-348.



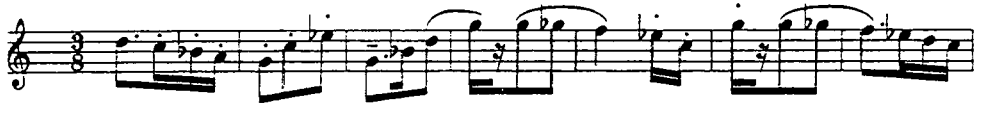
Symphony No. 6, first movement, measures 225-233.



Unlike the conservative function of the horn in much of the symphonic music of the nineteenth century, Mahler required the horn to appear more often as a solo instrument. This prominent nature of the horn, begun in the earliest of his works, assumes a new identity replete with greater technical demands especially obvious in the *Scherzo* of the Fourth Symphony (Example 13) in which the horn often appears *as an obligato instrument.*

Example 13.

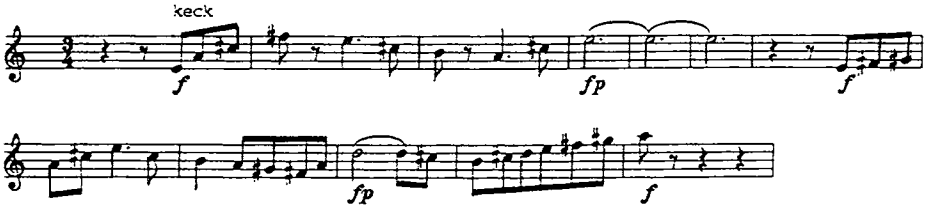
Symphony No. 4, second movement, measures 161-167.



This tendency becomes explicit and well exploited in the *Scherzo* of the Fifth Symphony where Mahler actually designates the horn as "corno obligato" providing the instrument with many long and intricate passages. The movement is scored for the regular four horns as well as the additional solo horn, and throughout the movement the horns are treated as a concertante section of the orchestra. The *Scherzo* opens with a unison passage for the four horns, preparing the solo entrance of the solo horn obligato which subtly emerges from the four-horn passage. The solo horn continues with a passage illustrated in Example 14 which is typical of this new image.

Example 14.

Symphony No. 5, third movement, measures 15-26.



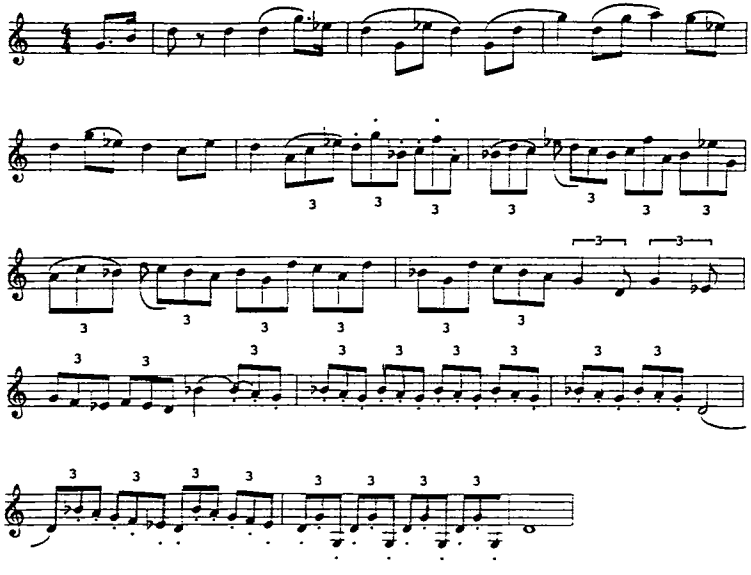
The obligato passage is light and frolicsome in nature and reminiscent of the character of the *Scherzo* of the Fourth Symphony. This obligato horn melody is the main theme of the movement and recurs often, at times in unison with the other four horns. The requirement of the entire horn section to occasionally deliver a virtuoso passage vividly underscores Mahler's own admission that

> the individual parts...are so difficult to play that they all really need soloists. Some pretty bold passages and figures escaped me here, just because I do know the orchestra and its instruments so well.[20]

The *Scherzo* of the Fifth Symphony is the only instance in which Mahler actually designates the horn as the featured instrument, but other occasions of the horn functioning in a solo obligato manner appear often throughout the middle symphonies. One such instance, illustrated in Example 15, is found in the second movement of the Seventh Symphony.

Example 15.

Symphony No. 7, second movement, measures 318-335.

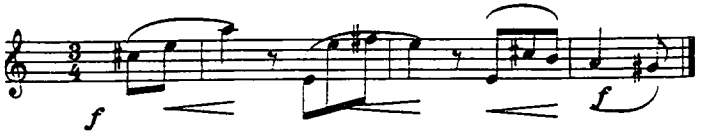


The horn has an unusual passage, not only in regard to the dexterity required of the performer, but also the length, which is in excess of fourteen continuous measures of intricate performance without any musical rests provided in the part for a convenient breath. The passage begins with the horn-call motive (Example 9) at the beginning of the movement. This solo immediately moves to a long series of triplets, with grace-note ornamentation, identical to the woodwind figures which accompanied the opening horn-calls. These three examples (Examples 13, 14, and 15) vividly demonstrate the instrumental metamorphosis the horn underwent in the middle scores of Mahler and, owing to its capacity as a valved instrument with a wide playing range, it absorbed many of the characteristics of the woodwind family while retaining its traditionally expressive tone quality.

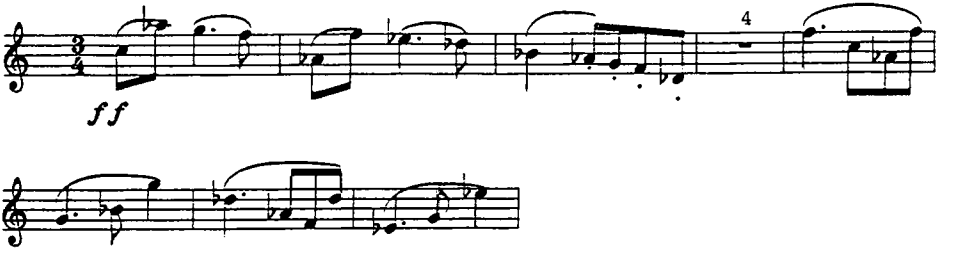
There is a dual aspect to the continued growth or shift of the horn function, as revealed in the middle works of Mahler, which endows the lyrical, singing nature of the horn passages with an increased virtuoso demand begun in the earlier works. This virtuoso aspect of the lyrical passages, which is directly influenced by the vocal melody in his songs, involves the expansion of the melodic intervals beyond seconds and thirds. The interval of the sixth adds an element of expressiveness to the melody (as illustrated in Example 11) and is eventually expanded beyond the octave for both the voice and horn in *Das Lied von der Erde.* Its significance as an element of virtuoso consideration is best viewed in Example 16 with the two passages illustrated for comparison.

Example 16.

Symphony No. 5, third movement, measures 505-507.



Symphony No. 5, third movement, measures 469-479.

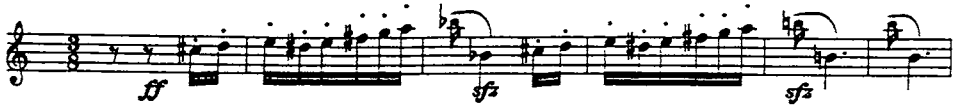


In the two illustrations, it is the slurred interval of a sixth (in the first illustration the first three notes provide a span of a sixth) that requires three horns in unison to leap smoothly and quickly into, and out of the high register in a lyrical motion. The fact that more than one player is expected to execute such intricate passages

places additional pressure on the horn section. In this sense the combination of lyricism with virtuosity becomes a standard feature in these middle works of Mahler. The increased level of virtuosity, begun in the Fourth Symphony, is realized through additional demands upon extreme register playing. A greater degree of dexterity in the high register is expected of the performers in these later works. In Example 17 the difficulty factor of playing in the extreme high register increases with the addition of grace notes.

Example 17.

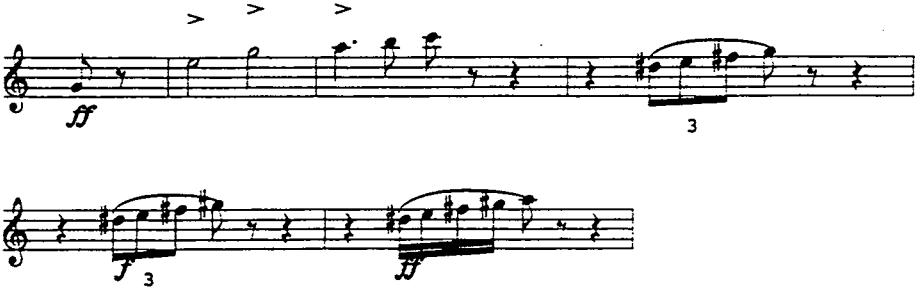
Symphony No. 6, second movement, measures 373-378.



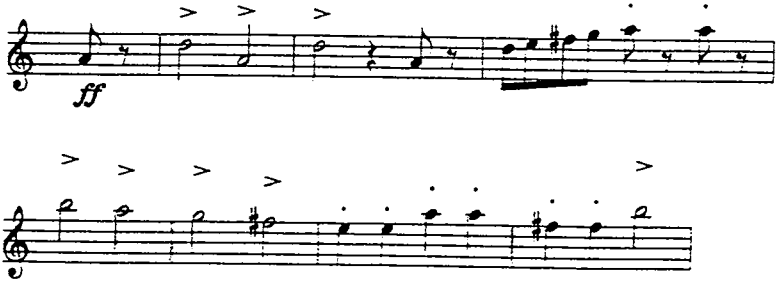
The entire passage is reminiscent of horn passages in the scherzo movements of the First and Second Symphonies, but in this instance the grace notes span the interval of an octave rather than the more conventional interval of a second. In a similar manner the Fifth and Seventh Symphonies make parallel demands on the horn, incorporating triplets and fast runs to the top of the high register, as illustrated in Example 18.

Example 18.

Symphony No. 5, second movement, measures 16-20.



Symphony No. 5, fifth movement, measures 543-549.

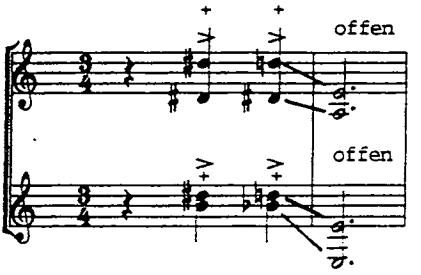


Mahler's fondness for unusual sound effects from the various instruments may be documented in the special demands placed upon the horn. As was true in the Fourth Symphony, he again resorted to the glissando in the *Scherzo* of the Seventh Symphony, as illustrated in Examples 19.

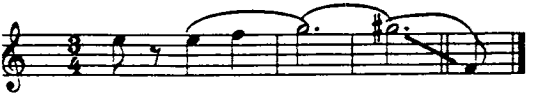
Example 19.

Symphony No. 7, third movement,

Measures 69-71.



Measures 151-152.



The unusual aspect of both illustrations is the fact that the descending glissando exceeds the span of the octave in some instances. In the second illustration the first two notes are handstopped as the passage culminates on an open pitch at the bottom of the glissando.

The interval of the octave has been an influential span for the horn in regard to emotional as well as technical content. Horace Fitzpatrick, in relating the concept of *Tugend* to the horn passage from the "Quoniam" of Bach's B Minor Mass states,

> "Tugend," implied rather a more complex mixture of bravery, industry, honesty, and chivalry. Tugend occupies a prominent place in German lyrics from the time of the Minnesänger down to the early eighteenth century, when it came to represent a continuation of medieval courtly ideals in the face of a changing system.21

The "Quoniam" opens with stately octaves in the horn which leap to the top of the register followed with a series of sixteenth-note passages as if an obligato part. It is the octaves which establish this elegantly heroic nature which Fitzpatrick refers to when he mentions that "in the 'Quoniam' of the B Minor Mass the horn's affective connotation of worldly Tugend underscores the image of God marching into the world."[22]

Even virtuoso horn concertos rarely violated the apparent limitation of the octave in regard to melodic intervals, especially in slurred passages. Intervals exceeding the octave were typically found in string and woodwind music, and less often in brass writing. The few examples of orchestral writing of such wide intervals for the horn were usually found in the low horn part with a descending leap to the bottom of the register, generally to the root of the arpeggiated chord

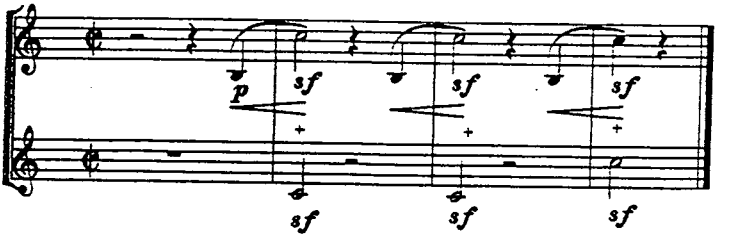
(the second horn part of Haydn's "Hornsignal" Symphony is an excellent example). There are instances which require the horn player to negotiate a wide interval in excess of the octave, but these occurrences tend to be in concertos (Beethoven's Horn Sonata In F, 1800) rather than orchestral music, and are rare appearances demonstrating obvious virtuoso ability on the part of the performer rather than necessarily contributing to the musicality of the piece.

One of the first instances in a Mahler symphony of a melodic interval for the horn which exceeds the octave was in the Fourth Symphony with the use of a *gestopft* glissando in a descent of a tenth. The previous example cited two other such examples, and in all of these instances, negotiating the wide span has been simplified by means of both the glissando and the downward direction of the interval. There are other examples of far greater technical and expressive challenge in which Mahler requires the horns to execute intervals in excess of the octave.

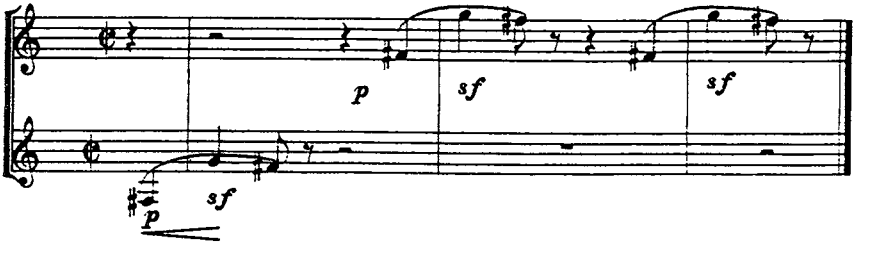
One of the most dramatic instances for the horn appears in the Fifth Symphony. In the first illustration in Example 20 is the first instance of an upward slur in excess of the octave for horn in a Mahler Symphony.

Example 20.

Symphony No. 5, second movement, measures 32-35.



Symphony No. 5, second movement, measures 353-355.



The extreme crescendo mixed with a sforzando and gestopft lower octave add to the drama and urgency of the passage. A similar passage occurs later in the movement, as demonstrated in the second illustration of Example 20. The interval of the ninth incorporates the interval of the octave plus a second. The significance of the interval of the second relates to the death motive (from *Lieder eines fahrenden Gesellen*), and the second illustration of Example 20 clarifies Mahler's intent of the interval of the ninth in the horn passage with the resolution

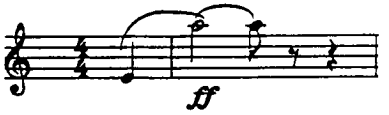
of the ninth to the octave, thus providing a more dramatic descending second (the actual death motive) as a result of the preparatory wide leap. The reference to the death motive is dramatically emphasized by the presence of the ninth, and the slur requires the horns to negotiate this unusual demand to provide a certain urgency and anxiety in keeping with the overall atmosphere of the symphony.

In Example 21, even wider intervals are illustrated from the Sixth Symphony. In all of the illustrations, two or more horns are required to deliver the wide intervallic ascent into the high register.

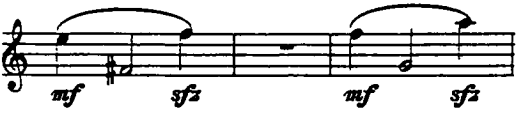
Example 21.

Symphony No. 6, first movement,

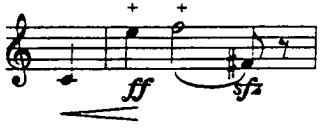
Measure 11.



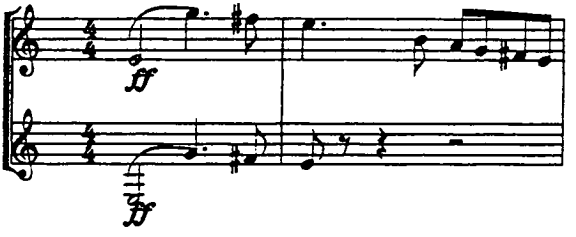
Measures 310-312.



Measure 407.



Measures 25-26.



Ironically, the loud dynamic level called for, rather than a hindrance, actually assists the performers in this difficult task. The third illustration (Measure 407) requires stopped playing on the top two notes, adding to the difficulty of the maneuver, although the passage is confined to a more comfortable register than the previous illustrations.

Mahler was aware of the difficulties involved, because he admitted the need for soloists on all parts in his Fifth Symphony, and he felt the need to "take his trusted first-horn player with him to assure the transcendentally difficult passages he had allotted that instrument an adequate performance."[23] The significance is the realization that Mahler understood the demands he was placing on the horn players, and that he had musical reasons to make the demands. String and woodwind instruments could easily negotiate the horn passages illustrated in this paper and throughout his works (especially the wide intervals in excess of the octave) but the results would have been tremendously different and totally lacking Mahler's musically expressive intentions.

Mahler seemed compelled to push all of the instruments to the very limits of their capabilities and beyond, not necessarily to exploit the potentials of the

instrument or to make new discoveries. The instruments existed to serve the needs of the music, and this was often best served by pushing beyond standard understanding of traditional limitations. Egon Gartenberg states:

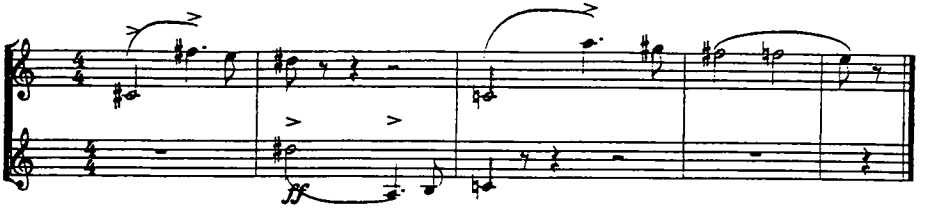
> Mahler went even further. To achieve his musical aims he revolutionized orchestral sound and introduced what he termed a "ruthless contrapuntal technique." Until then composers had confined themselves to the ordinary range of each instrument. Mahler was among the first to create new timbres and textures by using instruments beyond their accustomed ranges, creating sounds of screeching and rasping or of ghostly whispering, intimating the grotesque and bizarre—creating, in a word, new worlds of musical experience, destined to lead into Schoenberg's polytonality and tone-row concept.[24]

Apropos, in Mahler's own words; "When I wanted a tortured and suppressed sound, I produced it not with an instrument that plays it easily, but with one that can produce it only with considerable strain, by transgressing its natural limits."[25]

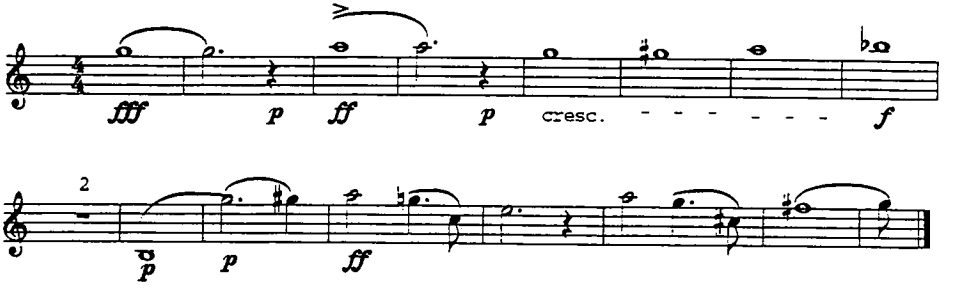
Perhaps a fitting conclusion, therefore, as supported by the music illustrated in the previous example and the following Example 22, is that Mahler desired a combination of effects to be sensed by the listener such as a sweeping grandeur affected by the wide intervals soaring into the high register, with the sense of urgency, longing, even anxiety which may subtly (or not so subtly) be generated through the strain and anxiety of the performers as they attempt to push their instruments and themselves beyond their traditional limits.

Example 22.

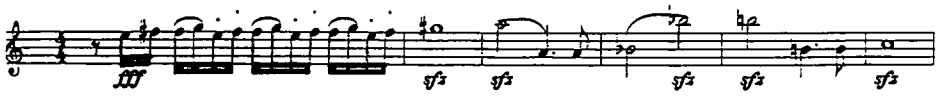
Symphony No. 6, fourth movement, measures 220-223.



Symphony No. 6, fourth movement, measures 622-637.



Symphony No. 6, fourth movement, measures 707-712.



Mahler succeeded in extracting a far greater palette of color and expression from the horn than any composer before him, and within the canvas of his scores is found a continually searching process of horn evolution and metamorphosis for the instrument from the earliest works up to the symphonies of the middle period. To extract such a great range of musical expression from the horn necessitated the expansion of the traditional limits and function of the instrument.

END NOTES

1. Michael Kennedy, *Mahler* (London: J. M. Dent & Sons LTD, 1974), p. 69.
2. Henry-Louis de La Grange, *Mahler*, (Garden City, N.Y.: Doubleday, 1973) p. 205.
3. Donald Mitchell, *Gustav Mahler: The Wunderhorn Years* (Boulder, Colorado: Westview Press, 1975), p. 152.
4. Hector Berlioz, *Treatise on Instrumentation,* enl. and rev. by Richard Strauss; trans. by J. Front (New York: E. F. Kalmus, 1948), P. 1.
5. J. Murray Barbour, *Trumpets, Horns and Music*, (Michigan State University Press, 1964), pp. 119-120.
6. *Ibid.*
7. Horace Fitzpatrick, *The Horn & Horn Playing and the Austro-Bohemian Tradition 1680-1830* (London: Oxford Press, 1970), Plate 12, p. 138.
8. Paul Henry Lang, *Music in Western Civilization* (New York: W. W. Norton and Col, Inc., 1941), p. 966.
9. N. Bessaraboff, *Ancient and European Musical Instruments* (Boston, Harvard Press, 1941), p. 144.
10. Stephen Seiffert, "Johannes Brahms and the Horn" (Ph.D. dissertation, University of Rochester, Eastman School of Music, 1969), p. 170.
11. W.F.H. Blandford, "Wagner and the Horn Parts of Lohengrin," The Musical Times, October, 1922, p. 694.
12. Cecil Forsyth, *Orchestration,* 2nd ed. (London: The MacMillan Co., 1935), p. 128.
13. Carse, *History of Orchestration*, p. 213.
14. *Ibid.,* p. 248.
15. R. Morley-Pegge, *The French Horn,* p. 117.
16. Neville Cardus, *Gustav Mahler: His Mind and His Music* (New York: St. Martin's Press, 1965), p. 31.
17. Bruno Walter, *Gustav Mahler,* (New York: Schocken Books, 1974), p. 54.
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19. René Leibowitz and Jan Maguire, *Thinking For Orchestra* (New York: G. Schirmer, Inc., 1960), p. 182.
20. Kurt Blaukopf, *Gustav Mahler*, trans. Inge Goodwin (New York: Praeger Publishers, 1973), p. 183.
21. Fitzpatrick, *The Horn & Horn Playing*, p. 20.
22. *Ibid.*, p. 21.
23. Gabriel Engel, *Gustav Mahler Song-Symphonist* (David Lewis, New York), p. 114.
24. Egon Gartenberg, *Mahler: The Man and His Music* (New York: Schirmer Books, MacMillan Publishing Co., Inc., 1978), p. 299.
25. de La Grange, *Mahler*, p. 755.

Edward J. Bostley

Dr. Bostley began teaching at California State University, San Bernardino in 1988. He earned Bachelor's and Master's degrees at the Eastman School of Music and his Doctorate from the University of Missouri-Kansas City Conservatory of Music. He has studied with, among others, Morris Secon, Verne Reynolds, and Milan Yancich. He plays with the CSU Faculty Brass Trio and is active as a soloist and clinician.

Correspondence

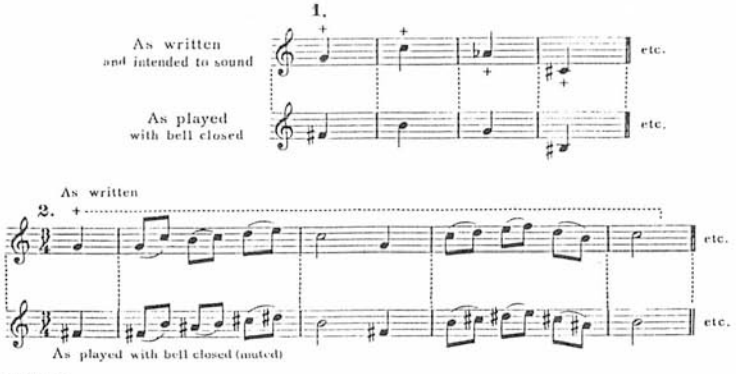
I am replying to a question you brought up in issue No. 3, 1991, of the *HORN CALL ANNUAL*. I have a copy of the Eric Hauser book *circa* 1927. I acquired this study some time before World War II. I can not find any mention about the "Echo Horn;" only a page on muting.

I retired from the Minneapolis Symphony/Minnesota Orchestra horn section in September 1990 after 34 years. In my collection of studies I have an Otto Langey book that has a mention of "Echo Horn." I also have two different editions of Oscar Franz. The 1942 book seems to be the earlier of the two because it contains twice as much material. (Excerpts, Duos, etc.)

In my early training I was always told that on the single Bb horn with four valves, the fourth valve was a "muting valve" or "echo valve." During my years in the Orchestra under Skrowaczewski, the horns were invariably "too loud!" In the accompaniment of concerti, especially the violin, I used the Echo routine many times in self defense. With the help of horn club member Wilfred Lind and his copying machine, I have copied from the four books in question. *(In regard to muting-Ed.)*

Hope this helps and adds some light to your query.

Sincerely,
Bruce A. Rardin
5300 34th Ave. S
Minneapolis, MN 55417



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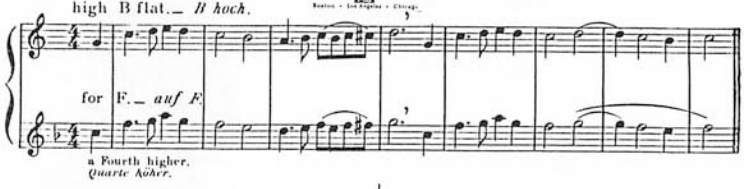
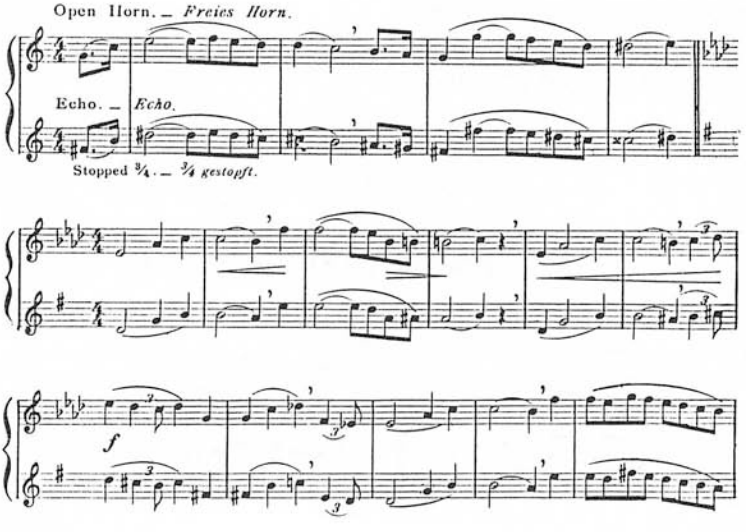


THE ECHO

The echo is one of the most charming effects which a skilled Horn Player can employ. It is produced by means of the right hand stopping the instrument ¾; in doing this, the pitch of the instrument is raised one-half tone, but this, in turn, is counteracted by the use of the valves and by transposing one-half tone lower. For instance:

DAS ECHO.

Einer der reizendsten Effecte des Waldhorns, den geschickte Bläser gern anwenden, ist das „Echo", erzeugt wird dasselbe, indem man mit der rechten Hand ¾ stopft; dadurch wird das Instrument ½ Ton höher, diese Erhöhung gleicht man durch die Ventile wieder aus, indem man ½ Ton transponirt; zum Beispiel:



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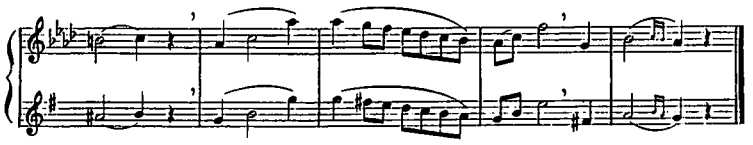

Mutes made of wood or paste-board, are also employed by placing them inside the bell, but their use is not very convenient as they must be held in place by the hand. In these Echo effects the purity of intonation must be carefully considered, especially as some intervals become higher and others lower. As this impurity is detrimental to the effectiveness of the Echo, the lips must force those notes which are too low, and relax upon those which are too high.

Man hat auch Dämpfer von Holz und Pappe, mit denen man die Stürze deckt, doch ist deren Anwendung umständlicher, weil man den Dämpfer mit der Hand halten muss. Beim Echo achte man ganz besonders auf Reinheit, da manche Töne höher, manche tiefer werden, durch diese Unreinheit aber die Wirkung beeinträchtigt wird; man treibe daher mit der Lippe die zu tiefen Töne, die zu hohen lasse man sinken.

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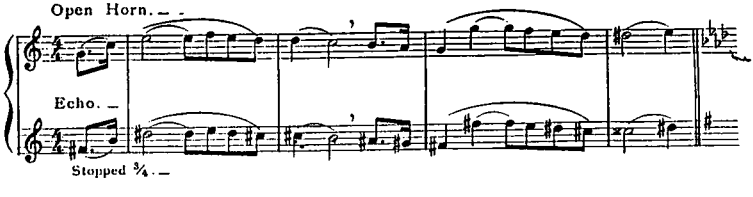
THE ECHO

The echo is one of the most charming effects which a skilled Horn Player can employ. It is produced by means of the right hand stopping the instrument ¾; in doing this, the pitch of the instrument is raised one-half tone, but this, in turn, is counteracted by the use of the valves and by transposing one-half tone lower. For instance:

Mutes made of wood or paste-board, are also employed by placing them inside the bell, but their use is not very convenient as they must be held in place by the hand. In these Echo effects the purity of intonation must be carefully considered, especially as some intervals become higher and others lower. As this impurity is detrimental to the effectiveness of the Echo, the lips must force those notes which are too low, and relax upon those which are too high.



(Continues as in example above)

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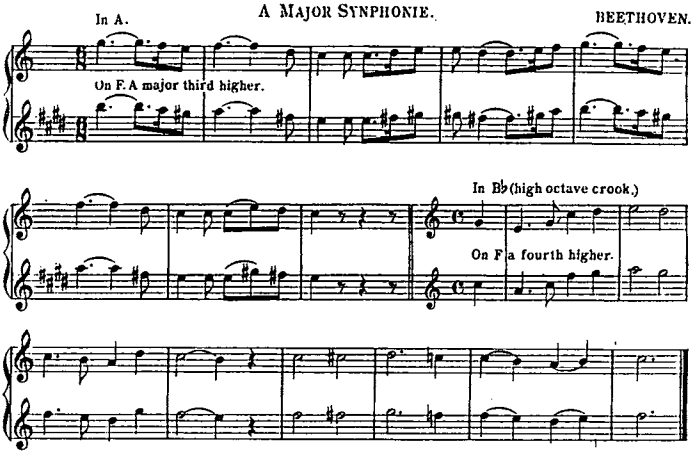
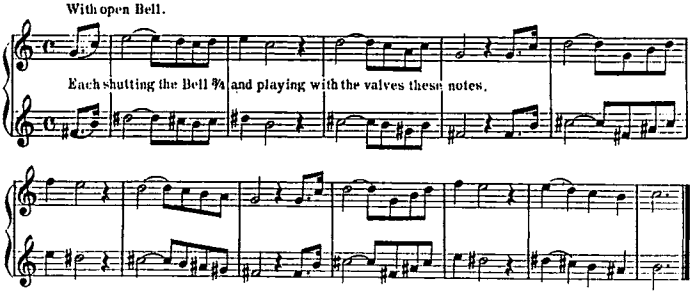
For the following passage it would be preferable to use the original A crook, at it is much easier on it than on the F crook..

A MAJOR SYNPHONIE. BEETHOVEN.



THE ECHO.

A charming effect called the "Echo" can be produced by a clever player on the French Horn, by shutting the Bell ¾ with the right hand and at the same time transposing the notes half a tone lower. By shutting the Bell ¾, the sound is raised a half tone, this the transposition produces the original pitch.



The enclosed photocopy is in response to your note in the 1991 *ANNUAL* regarding instructions on stopping and "echo horn." I thought you might get a real kick out of it. It's from the Rubank *Intermediate Method for French* (sic) *Horn, Eb Alto or Mellophone* by J. E. Skornicka and R. Erdman (Voxman's name doesn't appear on this one!). It has been a great annoyance to me for so very many years that such a frequently used method could remain so screwed up for so long! (Of course, I myself haven't ever bothered to make a formal complaint to Rubank!) I always show this to my students to illustrate how confused the beginners will get, and *why*. Its description of "echo horn" isn't as terrible as it could be, but it is too bad they call it "muting."

Sincerely,
Virginia Thompson
Division of Music
West Virginia University
Morgantown, WV 26506-6111

Muting and Stopping

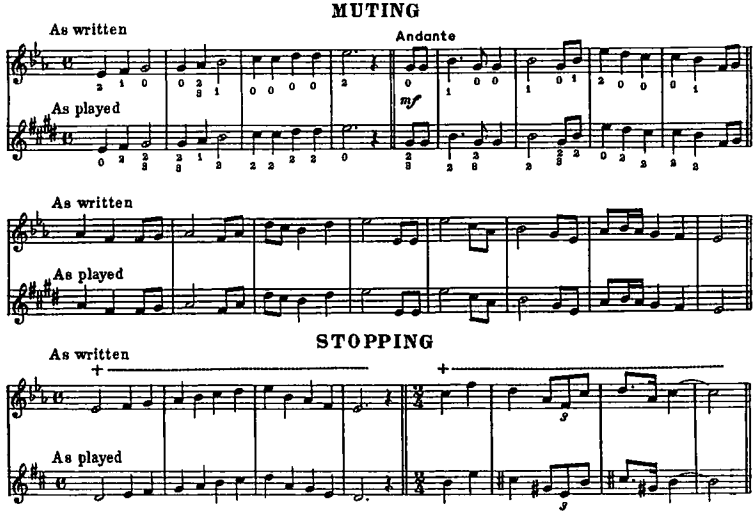
For the player whose desire it is to understand the complete resources of the French Horn, it is necessary to obtain the best possible muting effect. At the outset, there should be no confusing of the terms "muting" and "stopping".

"Muting" is produced by placing the palm of the hand across the opening of the bell, thus lowering the pitch of the instrument one half step and somewhat muffling the tone. This process is rather uncertain, since "playing out of tune" will result if the ear is uncertain. However, when short passages or phrases in the middle register call for muted horn or "gedämft" this method of playing may be employed without disasterous results. It is possible to purchase transposing or non-transposing mutes but the fact still remains that a good horn player uses the hand methods exclusively.

"Stopping" the horn is used particularly in obtaining distant or echo effects and for passages such as are used in "Til Eulenspiegel" by Strauss. The hand is straightened and pushed into the bell of the instrument, thus shortening the tubing and causing the pitch to rise one half step by virtue of over-blowing the tones. Thus, a thin brassy tone is obtained and all notes so indicated (+) must be transposed one half step lower.

Muting lowers the pitch of the horn one half step therefore it is necessary to read muted passages one step higher than written.

Stopping raises the pitch of the horn one half step and therefore it is necessary to read stopped passages one half step lower than written.



My most sincere thanks to Rardin and Thompson for their responses and for sending the examples reproduced above.

Virginia Thompson found the text that I remember from my high school days. I was working in both the Rubank and Hauser methods at the same time; thus my confusion. It was a number of years later before I learned of the existence of horn mutes for "muted" passages. I had learned early on that "stopping" and "muting" were not the same thing.

It is quite interesting to note that both Hauser's and Franz's descriptions for "muting" are actually for "stopped" playing, including the notation and directions for correct transposition. The same nomenclature and descriptive language are also evident in the revised and augmented edition of Franz prepared by William Gebhardt as well as in the Otto Langey Method.

Rather than being "screwed up" directions for these techniques, as Thompson put it, there seems to have been some serious changes in word meanings during the last sixty or so years. Then, as now, "Echo Horn" was so rare that few people knew of it or how to do it. Likewise, mutes were also seldom seen and the usual procedure for a muted passage was likely just to play it as hand stopped. Nicholas Smith's article in HORN CALL ANNUAL NO. 2, 1990 *lends considerable credence to this view. He indicates most players used hand techniques or transposing stop mutes until after the first set of Parduba mutes were prepared for the New York Philharmonic horn section in the 1920s. (pp. 85-86)*

Those who get "screwed up" about muting, stopping, and Echo Horn are the students and teachers of today who fail to "translate" the vernacular of the nineteenth and early twentieth centuries into modern usage of these same terms. The old term of "Muting" now means "Echo Horn" to us and the old terminology of "Echo Horn" described by Langey and Franz now means to us: "stopped." It is that simple, to be sure. But the actual usage of these techniques still remains a point of difficulty for us. Echo Horn is still delicate; and quite precarious and treacherous to master!

Are any still confused? In that case, I would advise a consultation and demonstration with our new IHS President, Barry Tuckwell. He handles both rather well!

Paul Mansur
Editor

The ANNUAL is in need of scholarly article for future issues. We urge that readers, and others, submit significant research papers for editorial consideration. ***The Editor***

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