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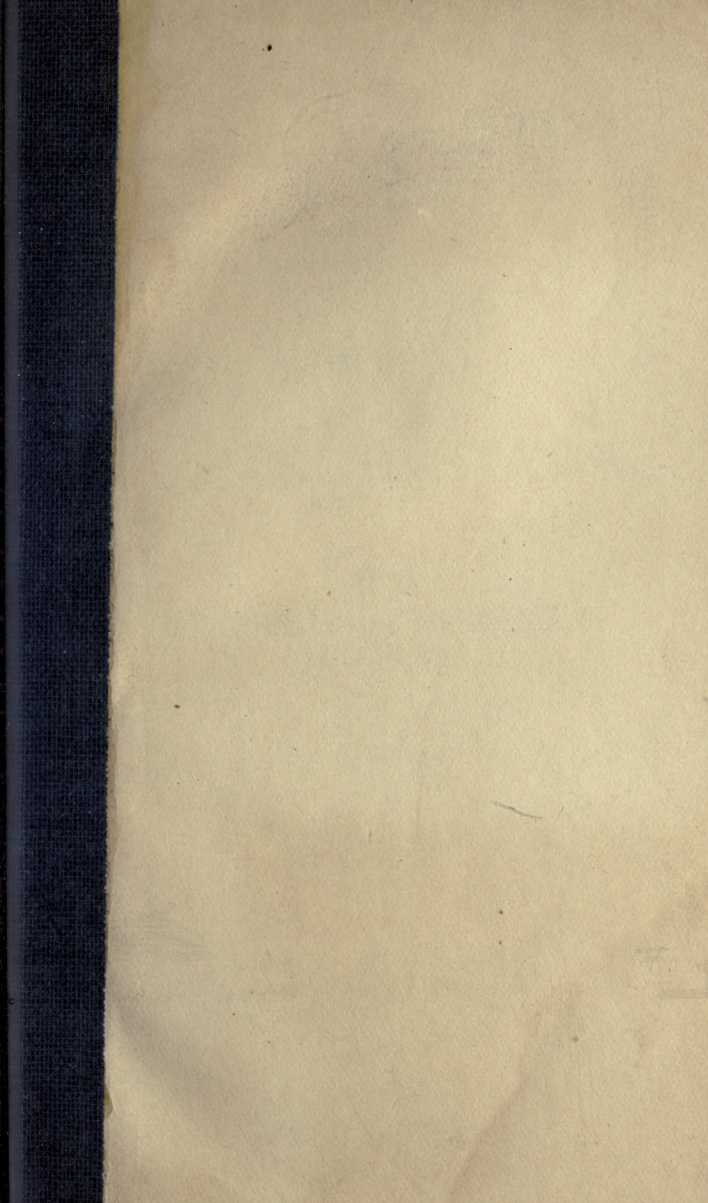


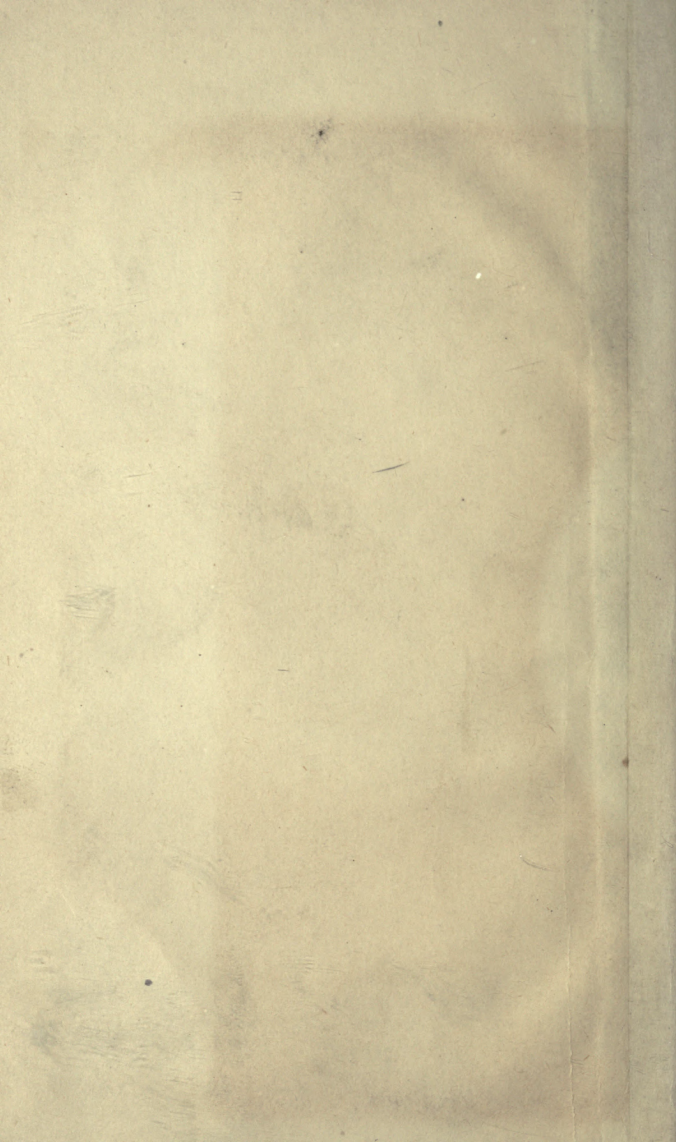
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Vincent, Charles John
Scoring for an orchestra
6th ed.

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SCORING

FOR AN

ORCHESTRA,

BY *John 1852*

CHARLES VINCENT,

MUS. DOC. OXON.

SIXTH EDITION

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PREFACE.

THE following papers on "Scoring for an Orchestra" were written for and appeared in *The Organist and Choirmaster*. They are now printed in book form at the request of many readers of that magazine, who expressed a desire to have them so collated.

They were written to give young musicians certain information in as simple and direct a manner as possible and not with any idea of writing an exhaustive text book on the subject.

CHARLES VINCENT.

July 13, 1897.

CONTENTS.



	Page
Introduction	1
The Full Orchestra	2
Flutes	3
Piccolo	6
Oboe	6
Clarinet	8
Bassoon (Fagotto)	14
Less frequently used Instruments	15
Horns	17
Cornet à Piston	22
Trumpet	26
Trombones	30
Euphonium	35
Tuba	36
Triangle and Cymbals	37
Drums	38
Strings	40
Violins	40
Viola or Tenor	44
Violoncello	45
Double Bass	46
Methods of Scoring	47
Small or Incomplete Orchestras...	51
Organ and Orchestra	54
Conclusion	54

SCORING FOR AN ORCHESTRA,

BY

CHARLES VINCENT,

Mus. Doc., OXON.

INTRODUCTION.



HERE is a movement at present amongst those who have the direction of the music in our schools and churches, to introduce, more frequently than hitherto, orchestral accompaniments to vocal music.

Organists or choirmasters are thus frequently called upon to arrange accompaniments for certain combinations of strings, wood, and brass, sometimes in conjunction with the organ.

This being the case, it has been considered desirable to issue a series of papers on Scoring for an Orchestra, or rather on the instruments in general use in the orchestra, with some hints and recommendations as to their combinations, effects and general characteristics.

There is no other branch of musical study which allows so much play to the fancy and imagination and such exercise of taste and ingenuity. Frequently, music which is exceedingly difficult for performance upon the pianoforte or organ, can be effectively scored so that it shall be quite easy for an orchestra, while, on the other hand, the converse of this is often to be met with.

Though a composer must have a certain practical acquaintance with the various orchestral instruments in ordinary use, to be able to bring

out their best effects, it is possible to score with correctness, and with a certain amount of effect, with merely a theoretical knowledge of the instruments and their characteristics.

This can best be gained by an acquaintance with the scores of good composers; frequently hearing such works performed by an orchestra; and the study of the various standard books on the subject of instrumentation.



THE FULL ORCHESTRA.

The complete orchestra employed in most classical works consists of four groups—(1) wood-wind, (2) brass-wind, (3) instruments of percussion, and (4) strings.

The wood, brass, and strings, like voices, are arranged in families consisting of trebles, altos, tenors, and basses. Those who can write well for voices ought to experience but little difficulty in arranging, with a fair measure of success, accompaniments, originally composed for the organ or pianoforte, for an orchestra.

A full score is generally laid out in the following order—wood, brass, instruments of percussion, and strings; if voices are employed, it is usual to insert them between the viola and bass parts, an organ part would be placed immediately below the voices. The following is the usual order of instruments in a full score.

Flutes	...	...	1, 2	} Wood-wind.
Oboes	...	...	1, 2	
Clarionets	...	...	1, 2	
Bassoons	...	...	1, 2	
Horns	...	1, 2, (3, 4)	} Brass-wind.	
Trumpets	...	...		1, 2
Trombones	...	1, 2, 3		
Tuba	...	...
Drums, &c.	...	...		Instruments of percussion.

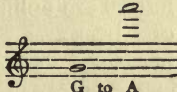
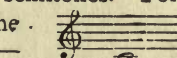
Violins	1	}	Strings.
do.	...	...	2
Violas		}	Voices.
Trebles	...	...	
Altos	...	...	
Tenors	...	...	
Basses	...	...	
Organ or Pianoforte					
Cellos		}	Strings.
Basses	...	...	

Smaller orchestras can be arranged by selecting from the wood and brass, certain instruments to combine with the strings; it is, however, most desirable that the string family should always be complete. Strings can be effectively combined with the organ, for it must be borne in mind that the organ is itself a combination of wind instruments, and, though it undoubtedly possesses a distinct character of its own, many of its effects are imitations of wood and brass orchestral instruments. In accompanying a large body of voices, a quartett of brass instruments and drums (tympani), in combination with the organ, are very effective.

WOOD WIND.

FLUTES.

The part for the Flutes is generally written on the top line of a score, so this instrument will be considered first.

The compass of the flute, for practical purposes, extends from:—  and includes all the intermediate semitones. For solo work or *pp* accompaniment, the flute may be used down to C:— 

The music for this instrument is written as it sounds, in the G clef

Dr. Turpin thus summarizes the principles by which wind instruments are played, in an excellent paper entitled, "Some observations on the manipulation of modern wind instruments," which he has most kindly allowed me to quote from.

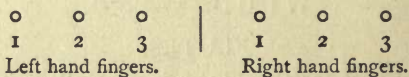
"1st. The formation of a hexachord of notes, produced in two octaves.

2nd. The production of several notes of the hexachord by means of keys acting conversely, so closing instead of opening apertures, and thus extending the scale downwards to the complete speaking length of the tube in each case.

3rd. The extension of the compass by exceptional and cross fingering beyond the two standard octaves of each instrument.

4th. The formation of the complete chromatic scale, by means of keys making openings in the tube between the holes forming the fingering of the standard scale of each individual instrument.

The holes forming the hexachord notes of each wood instrument are placed in two divisions, three to each joint or partition of the instrument, starting from the player's lips, thus :—



As the primary scale of the instrument ascends, the fingers are uplifted from the 3rd of the right hand one by one. Some notes are produced by cross fingering, by which the current of air is turned and checked in given directions. In this way the minor 7th from the keynote of the foundation scale may be produced by closing the three holes assigned to the right hand, and the second hole controlled by the left hand; the major 7th or leading note, completing the primary scale, is produced by the



closing of the three holes covered by the right hand fingers, and leaving open the three under the government of the fingers of the left hand.

By lifting the first finger of the left hand, the effect known to the organist in the construction of the pipe of a so-called harmonic stop is produced, the low keynote of the scale is made to rise to its octave in the flute."

The compass of the flute is increased above the octave of its standard scale by more compressed blowing.

The quality of tone in the flute (in fact, in most wood instruments) changes somewhat at each octave, caused chiefly by the different pressures of air required. The lower octave of the flute is mellow and soft; the second octave, however, is fairly brilliant, and the notes become more penetrating as they ascend to the full extent of its compass.

The flute is able to execute with comparative ease almost any rapid passage or shake. The normal scale of the flute is D. Shakes should be

avoided below  and above .

These two are not easy to execute:—

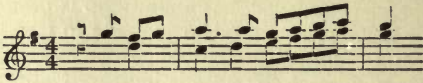


Sustained melodies, staccato notes, rapid passages, skips and shakes are practical and effective.

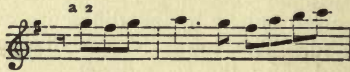
A practical flute player made the following observation to me, "How is it that in looking over scores written by organists, one comes across such an inordinate number of shakes for the flute? Do they think that that instrument cannot play sustained notes?"

An effective kind of staccato is produced by "double-tongueing," *i.e.*, a rapid movement of the tongue against the roof of the mouth, as in the quick repetition of the syllables, too-tle, too-tle.

It is usual to write for two flutes on one staff:—



and when it is required for both flutes to play the same notes in unison, the sign "a 2" is generally added:—



THE PICCOLO.

For certain special effects, an octave flute, called a piccolo, is written for. This instrument is a small flute sounding an octave above the flute, and is usually played by the second flute player.

It is chiefly employed in descriptive music of the storm character, or with trumpets and horns; excepting for special effects, it should be used very sparingly as its shrillness is apt to vulgarize.

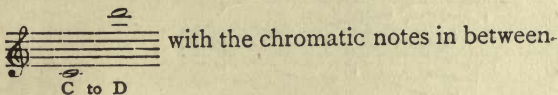


THE HAUTBOY (OBOE).

The tone of the Oboe is produced by means of a double reed; in other respects it has many

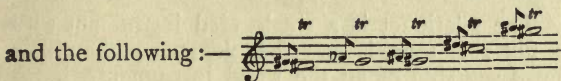
features in common with the flute. Both instruments are constructed upon the primary scale of D, and their general mechanism is very similar; the remarks, therefore, which were made in reference to the flute will hold good as regards the oboe.

The compass, however, is not so extended as the flute, being limited for practical purposes from:—



The music for this instrument is written as it sounds, in the G clef.

The shakes which are to be avoided as very difficult or impracticable are all below:—



The character of music best suited to this instrument can easily be determined by an organist, for most organs possess an Oboe stop in the Swell, which generally is a good imitation of its orchestral prototype, and such passages as are effective on the organ oboe are suitable for the hautboy in the orchestra.

The *tessitura* (i.e., the prevailing position or general "lie" of the music) of the oboe is similar to a well developed high soprano voice; it is a melodic instrument of great expression, of which tenderness is a marked characteristic, though it need not always be confined to the melancholy style.

The oboe and the flute are easy of execution in keys which have not more than three sharps or flats in the signature.

The following example will show a passage which might be effectively performed by the oboes :—

Andante.

THE CLARINET.

The Clarinet is a single reed instrument with a full rich tone, is very flexible, and, perhaps, the most valuable of all the wood instruments, being useful in accompaniment as well as in solo work. For practical purposes its compass is from :—

and includes all the intermediate semitones.

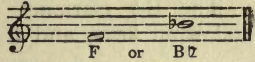
E to D

All shakes are possible between :—

excepting these three :—

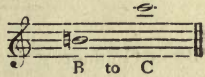
which are very easily remembered. All shakes are difficult which contain two sharp or two flat notes.

The lower notes of the clarionet, up to :—



are very soft, and are called the *chalumeau* part of the clarionet ; it is frequently employed in arpeggios, and, in order to avoid the many leger lines, may be written an octave higher, with the word *chal.* or *chalumeau* added.

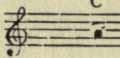
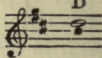
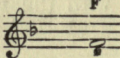
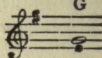
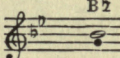
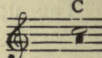
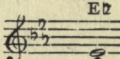
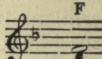
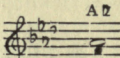
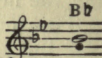
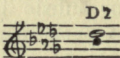
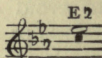
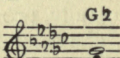
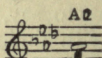
The upper notes, from :—




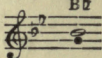
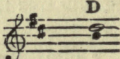
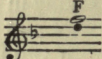
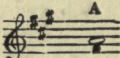
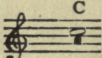

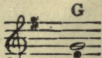
are sonorous, and have, as it were, a rich, liquid, brilliant tone of a very distinctive character ; it is possible to produce an octave above this compass, but the notes are harsh and shrieking.


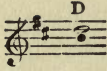
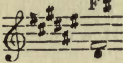
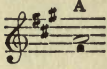
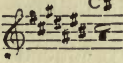
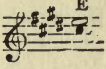
The music for the clarionet is written in the G clef, but seldom sounds as it is written. In order to avoid extreme keys, for music beyond three sharps or flats is difficult to perform, several kinds of clarionets are employed in an orchestra. That is to say, a performer generally provides himself with three instruments—a clarionet in C, one in B \flat , and one in A. Clarionets in C sound the notes exactly as they are written. Clarionets in B \flat sound the notes exactly a major second lower than they are written. Clarionets in A sound the notes exactly a minor third lower than they are written. The tone of the C clarionet is not so good as the B \flat and A instruments, therefore composers, writing in the key of C, generally use the B \flat instrument and write the music in the key of D major, with two sharps. As the B \flat clarionet sounds the notes exactly a major second lower than they are written, the effect is the same as if the part were written in C and played with a C clarionet. This explanation, if thoroughly understood, will serve to show why, when certain clarionets are used, the signature differs from the key of the piece.

The B \flat clarinet is generally used for the following keys, and their relative minors:—

Key of	C	the part being written a tone above, in the key of:—	D
C or A minor			
F or D minor		" "	
B \flat or G minor		" "	
E \flat or C minor		" "	
A \flat or F minor		" "	
D \flat or B \flat min.		" "	
G \flat or E \flat min.		" "	

The A clarinet is generally used for the following keys and their relative minors:—

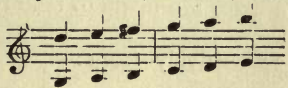
Key of	G	the part being written a minor 3rd above, in the key of:—	B \flat
G or E minor			
D or B minor		" "	
A or F \sharp minor		" "	
E or C \sharp minor		" "	

B or G \sharp minor		” ”	
F \sharp or D \sharp min.		” ”	
C \sharp or A \sharp min.		” ”	

The C clarionet might be used for the keys of F, C and G, and their relative minors, in which case it would be written for in those keys ; but this clarionet is practically obsolete, and if written for in a score, the players would transpose the part on to the B \natural or A instrument, so it is not advisable to write for it.

The following explanation of the clarionet, by Dr. Turpin, taken from the paper previously named, cannot fail to be useful and instructive to all students in instrumentation.

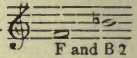
“The clarionet is a curiously constructed instrument, and it differs, as of course, do all members of its family, in one essential respect:—it is played upon two hexachords formed from the foundation note and its twelfth, passing over a scale series as found in other wood instruments, starting from the octave of the foundation tone. The two hexachords of the clarionet as played by the first, second, and third fingers of the two hands, run thus:—




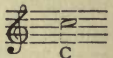
The keys acting conversely, and played by the extreme fingers of the right and left hands, extend the lower hexachord down to E, and likewise bring the upper hexachord downwards a corresponding distance thus:—



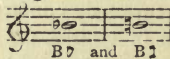
In consequence of the increased distance of a twelfth between the two scales on the clarinet, as compared with the flute and oboe, there is a sort of a made up, defective series of notes on the clarinet to join the two scales together, these notes being found between and including:—



Most of these notes are produced by side keys close to the player's lips,  being sounded without covering any of the holes or using any keys.


The modern clarionets have keys to carry any passage on in the intermediate compass,  C

for shaking purposes for instance; still the composer should, in shaping passages for the instrument, take care to remember that a great line of demarcation, both as regards tone and mechanism, occurs

between:—  B7 and B2 because the B2 is

produced by a small key under the player's lips, and the B2 is the first full sounding note of the second compass.

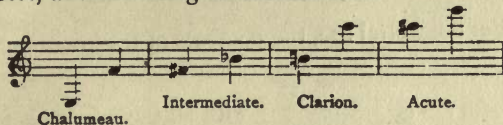
The peculiar rise to the third harmonic, that is, from the unison to the twelfth, by which the same fingers are made to take two series of notes starting

respectively from:—  is mechanically

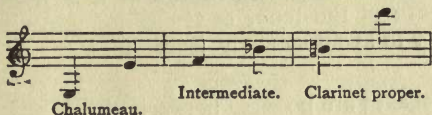
secured by a key at the back, played by the thumb of the left hand, which opens a hole towards the mouthpiece, at such a length of tubing as to help in the formation of a series of harmonic twelfths (instead of, as in the other wood instruments, lower down the speaking length of the tubing, and so

inclining to the formation of a succession of harmonic octaves to a given range).

The different compasses of the clarionet, are, according to the French divisions, giving external notes, and including all semitones :—



The simplest plan, especially remembering that it is well not to employ, save very exceptionally, the upper notes, is to divide the instrument thus into three divisions, including all semitones :—



A beautiful effect is produced by using the clarionets as a bass to the flutes. However, more will be said on the subject of combinations after the instruments have been separately dealt with.

The following is an example of suitable parts for the clarionets :—

Clarionets in B \flat .

1 mo. *Allegretto.*

2 mo.

&c.

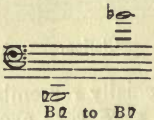
The musical notation shows two staves for Clarionets in B \flat . The first staff is marked '1 mo. Allegretto.' and the second '2 mo.'. Both staves are in 4/4 time and contain rhythmic patterns of eighth and sixteenth notes. The notation continues with '&c.' below the second staff.

The upper part of this example might with advantage have been allotted to the flute.

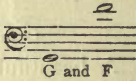
THE BASSOON (FAGOTTO).

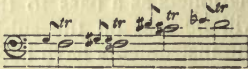
The bassoon is virtually a bass oboe, and like it has a double reed. It forms the bass of the wood-wind family.

For orchestral use, the compass of the instrument

is from :—  with all the intermediate semitones.

The part for the bassoon is written as it sounds on the bass or F clef, though it is advisable to make use of the tenor or C clef for upper notes, in order to avoid so many leger lines.

All shakes are possible between :—  G and F

excepting the following :— 

The bassoon is to the wood-wind, what the violoncello is to the strings (it is frequently used to double violoncello parts), and is capable of much variety in tone, and flexibility in execution.

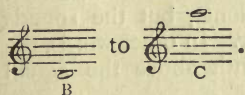
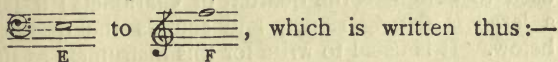
This instrument has been called "the clown of the orchestra," but in my opinion this is a libel on its great expressive and emotional powers. Certainly it has been used in a humorous way by the great masters, but so have other instruments. I therefore venture to make a protest against the objectionable plan of libelling one of the most valuable instruments in the whole orchestra, in this unfair way.

LESS FREQUENTLY USED WOOD INSTRUMENTS.

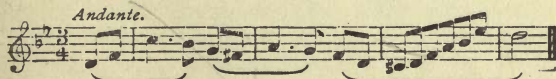
The consideration of the wood-wind would be incomplete if some reference were not made to two most beautiful instruments, though unfortunately rarely to be met with; these are the Cor Anglais or Tenor Oboe and the Corno di Bassetto or Tenor Clarionet.

The Cor Anglais, sometimes called the Corno Inglese, has a mechanism similar to the Oboe, but is constructed longer, and produces its sounds a fifth lower than that instrument, consequently it must be written for a fifth higher than the sounds required.

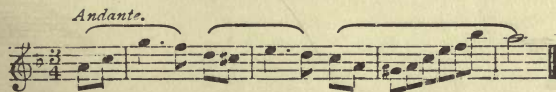
Its compass, for practical purposes, is from



If it were desired to score the following passage for the Cor Anglais—





it would have to be written a perfect fifth above in the key of F, thus:—

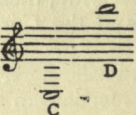


The Corno di Bassetto, sometimes called the Basset-Horn, has a like transposition to the Cor Anglais, being a perfect fifth lower than the C

Clarionet, so that music for this instrument must be written a fifth higher than the required sounds.

Its available compass, for practical purposes, is

from  to , which would be written

a fifth higher, thus:—  In order to

avoid leger lines the Bass clefs may be used, but the music should then be written an octave lower than would otherwise be necessary.

There is also a Bass Clarionet which is sometimes used to complete the quartett of Clarionets; it is a large B flat Clarionet, and sounds the octave below. It is usual to write for this instrument as if for an ordinary B flat Clarionet, but the sounds produced are an octave lower. In other words, the part is written a major ninth above the actual sounds produced.

BRASS WIND.


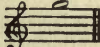
THE HORNS.

FOLLOWING the plan I have adopted, *viz.*, dealing with each instrument according to its position in a score, we now come to the Horns.

It will have been noticed that in the wood wind, the instrument occupying the top line of the score, the flute, is the treble voice of the wood family, and to it are generally given the highest notes. The same plan is followed in the strings and voices; however in the Brass wind it is otherwise, and some little explanation is necessary to account for this, before proceeding to explain in detail the method of scoring for this instrument.

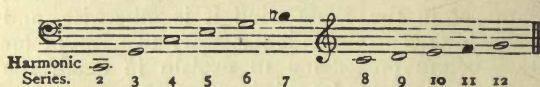
The beautiful quality of tone produced by the horns (I use the plural, because it is always desirable to have at least two in every orchestra) is of such a character that it blends equally with wood, strings, brass, or voices, and its position in the score is accounted for, owing to its frequent employment with the wood wind; in fact, it is more often used in conjunction with the wood wind and strings than with the brass, of which family it is so important a member; it is, perhaps, less frequently employed with the trumpet than with any other instrument.

As the viola is to the strings, so is the horn to the wood wind; in fact, it blends most deliciously with all instruments, and can be employed equally well in breathing forth charming melodies of an appropriate character, in sustaining important notes of the harmony, or even in reinforcing the repeated notes of an accompaniment, though that is not what may be called a legitimate use of the horns.

For practical purposes, the compass of the horn is from  to  and as most players

now use the three valve horn, a perfect chromatic scale can be produced between those notes, so there is really little or no reason to restrict its use to merely the open notes of the harmonic series, or those which can be made by a partial closing of the bell by the right hand.

The open notes of the harmonic series in general use form the basis of the scale of the horn, and would sound as follows if played on the Horn in C:—



Numbers 7 and 11 being slightly out of tune require tempering with the hand or lip on a natural horn, but can be used freely on the valve instrument.

Horn parts are written in the treble clef, excepting for very low notes, when the bass clef is employed, in which case it is usual to write an octave lower.

Horn parts are most effective when they contain many open notes.

Horns possess a number of movable crooks, a crook being a piece of metal tube which increases or decreases the length of the instrument.

There are a large number of crooks, but the following five are found sufficient for all practical purposes:—*

* It is well known that many players use only the Horn in F, transposing when the part is written for other horns. Many modern composers write only for that instrument, when of course the parts bristle with sharps or flats if the key of the piece is far removed from F.

This method of writing is not approved by Horn players generally, even those who transpose preferring to read from parts written in the ordinary manner.

HORN
in
G.

Written.

Sounds produced.

The part is written a perfect 4th higher than the sounds required, excepting the first two notes in the bass clef, which are written a 5th lower.

HORN
in
F.

Written.

Sounds produced.

The most frequently used horn. The part is written a perfect 5th higher than the sounds required, excepting the first two notes in the bass clef, which are written a 4th lower.

HORN
in
E.

Written.

Sounds produced.

The part is written a minor 6th higher than the sounds required, excepting the first two notes in the bass clef, which are written a major 3rd lower.

HORN
in
E ♯.

Written.

Sounds produced.

The part is written a major 6th higher than the sounds required, excepting the first two notes in the bass clef, which are written a minor 3rd lower.

HORN
in
D.

Written.

Sounds produced.

The part is written a minor 7th higher than the sounds required, excepting the first two notes in the bass clef, which are written a major 2nd lower.

It will be observed, by a consideration of these examples, that when the bass clef is used in writing horn parts, the part is always lower than the sound, and when the treble clef is used, the part is always higher than the sound.

The five horns enumerated above will be found sufficient for all practical purposes. The horn in E will be found convenient for keys with more than four sharps, while the horn in E \flat will answer for keys with more than three flats; of course, with the addition of the necessary accidentals in the part.

The following table may be of use in selecting horns for any particular key, though the matter is really of more importance than would appear at first sight, the special effects required must be taken into consideration and preference given to the horn which can produce those effects in the best manner. Study of the instrument itself can alone give this knowledge:—

KEYS WITH SHARPS.

KEY OF COMPOSITION.	HORN SUITABLE.
C major.	Horn in F or G.
G "	" G
D "	" D
A "	" D or E.
E "	" E
B "	" E
F \sharp "	" E

KEYS WITH FLATS.

F major.	Horn in F
B♭ „	„ F
E♭ „	„ E♭
A♭ „	„ E♭
D♭ „	„ E♭
G♭ „	„ E♭

In minor keys, generally select one horn as if for the relative major, and the other as if for the tonic major.

The following example will illustrate how the necessary accidentals are introduced. If this passage had to be written for horns:—



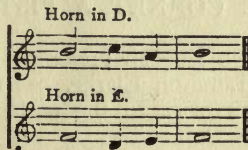
it could be played by the horns in D, and written thus:—



the accidental F♯ being necessary to produce the G♯, which is not in the scale of D.

(G♯ being the raised 4th in the scale of D, it is necessary to raise the 4th in the scale of C, in which key all horn parts are written).

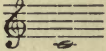
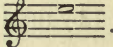
The passage might be written so as to avoid any accidental by using the Horn in D for the upper part, and the Horn in E for the under part, thus:—



It is desirable to use as few accidentals as possible.

A pair of horns should always be written for, but in large orchestras it is usual to find four, (two pairs); when only two are included in a score they may both be in the same key, or one may be crooked in an adjacent key in order to obtain more open notes. Suppose E minor were the key of the piece, one horn, or one pair, might be in G, while the other horn or pair would be in E.

When it is found necessary to change the horn during the course of a piece, sufficient time must be given to the player to make the necessary alteration to his instrument. To spare the player fatigue, rests should be frequently employed.

Horn parts are written for 1st and 2nd horn; it is not good to take the 1st lower than  or the 2nd higher than .

Quick, jerky passages are not appropriate for the horns, though music of the hunting character is exceedingly effective; the horn as a melodic instrument is delightful, and when employed in sustaining inner parts of the harmony is invaluable.



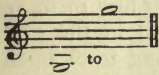
THE CORNET Á PISTONS.

A well-known English orchestral composer and writer, Mr. Hamilton Clarke, has remarked, that "the trumpet's place in the orchestra has been usurped by the Cornet."

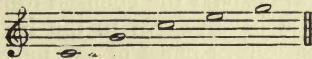
The fact is, that trumpet players are exceedingly scarce, the trumpet being a very difficult instrument

to play, while performers on the cornet can be obtained in nearly every town. Almost any trumpet passage can be played upon the cornet, and though the tone is inferior, if the cornet be a good one and is well played, there are very few in an ordinary audience who are able to distinguish the difference. As my series of papers on "Scoring for an Orchestra" is intended to be of practical help to those who have to score for such instruments as *are* obtainable, I will endeavour to show how the cornet may be employed in place of the trumpet with the least possible loss of dignity and effect.

The cornet is to the brass, what the violin is to the strings and the flute to the wood-wind: it plays the highest notes, and for practical purposes has a chromatic scale between the following notes:—

, though all players of any repute make no difficulty of getting up a fourth higher.

It is written for in the G clef, and has the following open notes:—

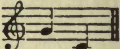


The additional and intervening notes of the chromatic scale are produced by the use of valves or pistons, of which the cornet has three.

Dr. Turpin, in his valuable paper, before quoted from, gives the following lucid explanation of the pistons. "The pistons or valves, when pressed down, extend the speaking length, to the extent, respectively, of a full tone, or semitone, and a minor third; the tone valve is nearest the player, the semitone is in the centre and the minor third beyond.

These valves are pressed down by the first,

second, and third fingers of the right hand. The valves have internally two apertures each, which permit the wind to enter sufficient additional tubing to lower the pitch the above mentioned respective intervals, from any one of the notes of the harmonic series as formed by the player's lips.

The longest distance occurs between 

as the foundation or lowest C is not used. To denote the method of forming the semitones between the notes just given, will suffice to explain the principle upon which, indeed, all brass instruments with valves are played.

F # is produced by the second piston, F ♯ by the first; E by the first and second together (these two pistons are, as being nearer the player and of more direct wind communication, preferred in the production of all minor thirds descending from open sounds*); E ♮ by the second and third valves; D by the first and third valves; and D ♮ by the use of all three pistons. A similar application of the pistons will extend the compass from C on the first ledger line below, down to the F # below that note. In the upper range of the modern cornet, where the open notes lie closer together, the first and second pistons suffice to produce most of the chromatic notes. The notes produced when two or three pistons are used together, are not always as satisfactory, or as well in tune, as the notes played by single valves; so the cornet is heard to most advantage in the keys nearest to, and more largely employing, the open harmonic range of the instrument."

* As a matter of fact, the third valve is never used for these notes excepting for shakes, or for facility of execution in awkward passages.

There are only two cornets now in general use, viz., the Cornet in B♭, and the Cornet in A. The Cornet in B♭ is used for the key of C and for all flat keys, while the Cornet in A is used for all keys with sharps.

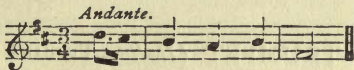
On paper, and in pitch, the Cornets in B♭ and A correspond with the Clarionets in these keys.

In writing for transposing instruments such as the cornets, clarionets, horns, &c., the following rule may be of service:—

SO MUCH BELOW C SO MUCH ABOVE THE KEY.

As an illustration of the above, we will imagine the composition to be in the key of E♭. The cornet to use would be the Cornet in B♭. Now B♭, being a major second below C, the part will be written a major second above E♭, the key of the piece, viz., F. Again, if the piece were in G, the cornet selected would be the Cornet in A. Now A, being a minor third below C, the part for the cornet will be written in B♭, which is a minor third above the key of G, the key of the piece.

If this theme had to be played on the cornet:—



it would be written as follows:—



Observations.—Always indicate a less degree of loudness for the cornets than for other instruments. Thus, if the piece is to be soft, write *ppp* for the cornets, and insist upon having it played so; you will then get rid of one of the chief objections to this otherwise useful instrument, viz., “blatant vulgarity.”

Should the composition be of a classical style, then write for the cornets as if you were scoring for trumpets, keeping as much as possible to open notes. In lighter music, the cornets may have snatches of the melody, or occasionally an entire melody, as a relief to the trumpet part.

In brass band music, the 2nd and 3rd cornets are used as are the second violins in accompaniments; in this method they blend well with the horns.

Cornets, when played softly, will blend well with any instrument.

Like the horns, cornets are best used in pairs.

Almost all shakes can be executed on the cornet. The following are the most difficult, and should be avoided:—



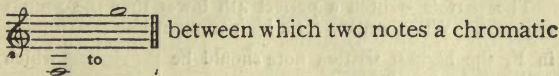
TRUMPET (*Italian TROMBA.*)

When writing of the Cornet, I quoted the remark by Mr. Hamilton Clarke that "the trumpet's place in the orchestra has been usurped by the cornet." This must not be taken to mean that the cornet is as good, or, as might possibly be inferred, better than the trumpet, far from it: the trumpet has a brilliancy, a power of attack, and pure quality of tone which is characteristically its own, and when necessary, can, by its extraordinary penetrating quality, easily be heard above the whole orchestra, though it is also effective in soft passages. When

scoring always write for trumpets, if there is the slightest chance of having trumpets to play the part.

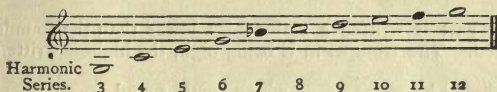
There are three varieties in common use, the natural, the slide, and the valve trumpet.

The compass of the valve trumpet is from



between which two notes a chromatic scale can be produced. Many players, more especially in Germany, invariably use this instrument.

The natural Trumpet produces the following open notes:—



Number 7 being a little flat, has consequently to be forced somewhat to blow it in tune, it is therefore unwise to write this note in a soft passage, number 11 being a little sharp, should be used only as a short passing note between G and E downwards.


The Slide Trumpet is an instrument having a slide which lengthens the tube, and enables the performer, by using the slide, to depress the open notes a semitone; it is of special use in the upper octave, and is perhaps the best toned trumpet of the three. The part for this instrument is always written for on the treble stave, and in the key of C.

There are eight or nine keys in which it is possible for trumpets to play, but the following are sufficient for practical purposes:—

TRUMPET
in
F.

Written.

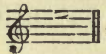
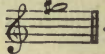
Sounds produced

The part is written a perfect 4th lower than the sounds required. When writing for a high trumpet like the trumpet in F, the highest written note should be  which will sound a fourth higher.

TRUMPET
in
E.

Written.

Sounds produced.

The part is written a major third lower than the sounds required. The trumpet in E being high, the highest written note should be , which would sound .

TRUMPET
in
E \flat .

Written.

Sounds produced.

The part is written a minor third lower than the sounds required. On this instrument the top notes may occasionally be written.

TRUMPET
in
D.

Written.

Sounds produced.

The part is written a major second lower than the sounds required.

Written and sounds.

TRUMPET
in
C.

The musical notation shows a single staff in treble clef. The notes are written on the staff, and below the staff, the corresponding sounds are indicated by short horizontal lines. The notes are: C4 (below staff), C4, D4, E4, F4, G4, A4, B4, C5.

The part is written as it sounds.

Written.

TRUMPET
in
B \flat .


The musical notation shows two staves in treble clef. The top staff is labeled 'Written.' and contains notes: B \flat 4, C5, D5, E5, F5, G5, A5, B5. The bottom staff is labeled 'Sounds produced.' and contains notes: C5, C5, D5, E5, F5, G5, A5, B5.

The part is written a major second higher than the sounds required.

The six trumpets enumerated above will be found sufficient for all practical purposes.

If a key be required for which there is no crook, the trumpet in a nearly related key must be selected: thus for the key of G, use the trumpet in D; this trumpet is also frequently used for the key of A.

In minor keys it is often convenient to use the trumpet of the tonic major, though the real matter to be considered is, which notes of the scale require to be employed most frequently.

Soft passages below  are exceedingly effective.

The Trumpets are used in pairs, and are always effective in passages of the fanfare type:—

f *Maestoso.*

The musical notation shows a single staff in treble clef with a 4/4 time signature. It begins with a dynamic marking of *f* and a tempo marking of *Maestoso.* The passage consists of a series of eighth and sixteenth notes, followed by chords. The notes are: C4, D4, E4, F4, G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6. The passage ends with '&c.'

THE TROMBONES.

THE Trombones are to the Trumpet, as the Cor Anglais and the Bassoon are to the Oboe; they are the tenor and bass members of the Trumpet family.

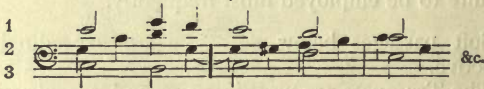
The versatile qualities of the instrument, its enormous power, and yet extreme delicacy, combined with its perfect intonation, render it one of the most useful and valuable members of the orchestra.

The part for this instrument is always written as it sounds; like the bassoon, it can play in every key without transposition.

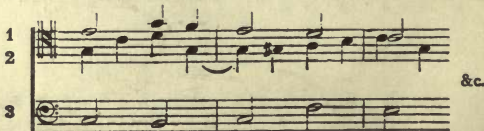
There are three trombones in general use in a complete orchestra, viz. : the alto, tenor, and bass, though frequently the alto instrument is omitted, an additional tenor trombone taking its place.

The music for the trombones is written in several ways, different composers adopting different systems. The following three methods are chiefly adopted:—

1. Writing the parts for the three instruments on one line in the bass clef, thus:—



2. Writing the part for the alto and tenor instruments on one line, using the tenor or bass clef, according to the position of the music, and giving the bass a staff to itself:—



3. Writing the part for each instrument on a separate line, using the alto, tenor and bass clefs respectively :—

The second way will be found convenient for most scores.

The trombone consists of a long tube curved into a convenient shape from which can be produced the following numbers of the harmonic series, 2, 3, 4, 5, 6, and 8 (No. 7 being out of tune). The straight part of the tube is double, and can be lengthened by the player by means of a slide. This slide can be moved into seven positions, each position producing a new generator with its harmonic series.

The alto trombone is in E \flat , and has a compass, for *practical purposes*, from to B \flat .

The tenor trombone is in B \flat , and has a compass, for *practical purposes*, from to F.

The bass trombone is in G, and has a compass, for *practical purposes*, from to C.

The first position has the slide closed, and gives the normal sound of the instrument and its series

of harmonics. The slide being drawn out about three inches, the tube is lengthened, and a new series of notes is made, a semitone lower. This is called the second position; the remaining positions are made in the same manner.

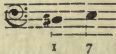
ALTO TROMBONE.

The following are the notes produced from the seven positions on the alto trombone in E ♭ :—

Pos. 1st. 2nd. 3rd. 4th. *5th. 6th. 7th.

CHROMATIC SCALE. (The figures denote the positions.)

It will be seen from the above that some of the notes may be taken in two positions; the player selects the position most convenient to the passage in which the notes occur. A rapid change from the extreme positions of the slide must be avoided.

Thus, on the alto trombone,  is difficult, and can only be performed slowly.

TENOR TROMBONE.

The following are the notes produced from the seven positions of the tenor trombone in B \flat .

Pos. 1st. 2nd. 3rd. 4th. *5th. 6th. 7th.

CHROMATIC SCALE. (The figures denote the positions).

1 7 1

This passage to be avoided for the reasons already given.

BASS TROMBONE.

The following are the notes produced from the seven positions of the bass trombone in G:—

Pos 1st. 2nd 3rd. 4th *5th. 6th. 7th.

* The notes in small type should be avoided.

CHROMATIC SCALE. (The figures denote the positions).

The first staff shows a chromatic scale starting on G4, moving up to G5. The fingering numbers below the notes are: 4, 2, 1, 7, 6, 5, 4, 3, 2, 1, 5, 4. There is a '7' and '6' written below the notes for the 9th and 10th positions respectively.

The second staff shows a chromatic scale starting on G3, moving up to G4. The fingering numbers below the notes are: 3, 2, 1, 7, 6, 5, 4, 3, 2, 1, 5, 4, 3. There is a '7' and '6' written below the notes for the 9th and 10th positions respectively.

The third staff shows a chromatic scale starting on G2, moving up to G3. The fingering numbers below the notes are: 1, 7, 1, 7.

This passage to be avoided for reasons already given.

For certain effects composers may write an octave below the lowest note given in the 1st, 2nd, and 3rd positions: these are called pedal notes, and sound the fundamental note of the harmonic series. When these are used, time must be allowed for the player to prepare his lips. The fundamental notes on the tenor trombone have a fine sonorous effect.

Harmony in extended position is always effective on the trombones, especially when used in combination with trumpets, cornets, or horns. Harmony in close position should be avoided, excepting in the upper part of the compass. Long notes should be sparingly used, being fatiguing to the player. Quick passages for the trombone are not effective, and should be avoided. Rests should be frequently employed.

Trombones in octaves and in unison can be noble and heroic when judiciously written.

A valve trombone is sometimes used in military bands, especially on the Continent, but it is much inferior to the slide trombone.

A writer in "The British Musician" thus ingeniously compares the trombone with the violin:—"It is a common saying that there are only two perfect instruments—the violin and the trombone

—but it is not everyone who understands why they are so. On every other instrument, more especially keyboard instruments, the notes are made for the performer, and though, by a skilful use of the lips, a wind instrumentalist can improve a note that is not perfectly in tune, a pianist or an organist is powerless to make any note flatter or sharper.

But the violin or the trombone, like the voice, is completely under the control of the performer. The notes are not fixed, though there are certain positions indicated whence to produce certain sounds, but the accuracy of those positions is determined by the ear and judgment of the player.

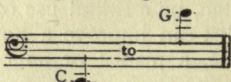
The parallel between the trombone and the violin may be carried yet further, for whereas the former has seven ‘positions,’ the latter has seven ‘shifts’; again, the compass of the trombone is two octaves and a sixth, which is practically the same as the ordinary work for the violin, though another octave is included in solos and extraordinary compositions.*

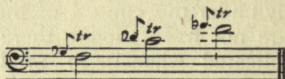


THE EUPHONIUM.

THE Euphonium is a bass cornet, with similar mechanism to that instrument. It combines well with the cornets, wood-wind, and the strings. Though frequently employed as a bass to the trombones it is not effective as such; in lighter styles of music it is often used with considerable effect in what may be termed the tenor solo parts. It is an easy instrument to play, and capable of much expression.

The Euphonium is written for as a non-transposing instrument, in the same manner as the bassoon, and has a compass for practical purposes extending

from :—  Shakes should be avoided in the lower octave and the following :—



In Military Band Music the Euphonium part is more frequently written in the treble clef.

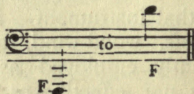


THE TUBA OR BASS-TUBA.

THE Bass Trombone is the best bass to the brass wind family; however, it is found necessary sometimes to introduce the Bass-Tuba, often called the Bombardon, as an adjunct, or to form a fourth part to the three trombones.

In *forte* passages the Tuba plays in unison with, or an octave lower than, the bass trombone.

It may be called a double bass cornet; is written for as a non-transposing instrument, and has a compass for practical purposes from :—



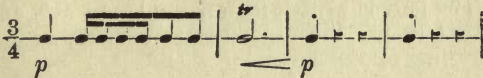
INSTRUMENTS OF PERCUSSION.

THE TRIANGLE AND CYMBALS.

THE TRIANGLE is so well-known that any description would be superfluous, suffice to say that it has its legitimate place in the orchestra, and is capable of enhancing the effect and colouring of a tone picture, when introduced with judgment.

Passages of the *Bizzárro* or fantastic style would lose much by the absence of the triangle (the same may also be said of the tamborine).

The triangle part is usually written on a single line:—



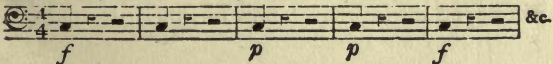
THE CYMBALS (*Piatti*) are the two circular discs of brass which are clashed together, generally at the same time as the strokes of the bass drum, (*Gran Cassa*), to which one cymbal is frequently attached. If not used too much the effect of their clang is exceedingly fine; for a special gong-like effect a cymbal may be struck with the drum stick. Cymbals are usually written for in the same staff as the bass drum, but the composer must be careful to indicate when he wishes the cymbals to play or to be silent. The following example will show how this is done:—

Bass Drum & Cymbals,

or

Gran Cassa e Piatta.

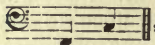
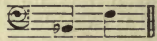
G.C. Soli. Piatti Soli. Tutti.



THE DRUMS.

TYMPANI.

THE most important members of the drum family are the Kettle Drums (*Tympani*), two of which are usually found in every orchestra, the larger of the two can be tuned to any note between

, while the smaller instrument can be made to play any sound between 


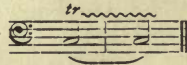
Kettle Drums are usually tuned to the tonic and dominant of the key, but composers must be careful to indicate exactly which notes they require, and when an alteration of note or notes is necessary during the performance of a piece, plenty of time should be given to the performer to accomplish this.

The part is written for on the bass staff, and it is best to use the exact notes required, as in the following example:—

p Lento.

Tympani in 
E7 & B7.

Drums are always effective where employed to mark the rhythm, but the roll of the drum, when judiciously introduced to enhance a *crescendo*, illustrate a peal of thunder, or to inspire awe and mystery, is wonderful in its intensity and power of characteristic expression. The roll is indicated as follows:—

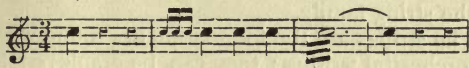
 or 

As far as possible the tympani should only be employed during harmonies in which the notes to which they are tuned occur.

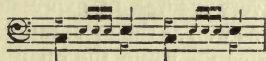
THE SIDE DRUM.

This is an instrument usually employed in military music, but it has its place in the orchestra to produce certain descriptive effects, and is always used in conjunction with the Tympani or Bass Drum.

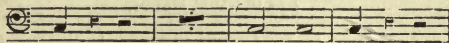
It has catgut strings, called snares, stretched across the under side, which give a peculiar rattle effect, and is beaten with wooden sticks on the upper side. As the name indicates, it is suspended at the side of the player. It is written for in the Treble Stave as follows:—



though, when played in connection with the bass drum by one performer, a single staff is used, thus

THE BASS DRUM (*Gran Cassa*).

A rhythmic instrument frequently employed with the Cymbals (see Cymbals), and written for as follows:—



when muffled it has an awe inspiring and sombre effect.



THE STRINGS.

By "Strings" we understand the stringed instruments in an orchestra played with a bow, these are the Violin, Viola, Violoncello and Double-Bass.

Every composer of orchestral music should have a practical acquaintance with at least one member of the string family.

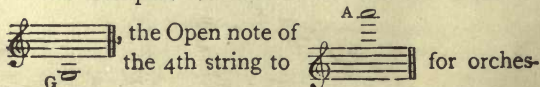
The strings are the foundation or ground-work of all orchestral writing; they can be employed for a considerable time without fatigue to the performers, and the tone does not become tiresome to the listeners. Every degree of expression—long sustained notes, as well as the most rapid passages—are readily performable, while the quality of tone produced by several stringed instruments well played is the most beautiful in the whole domain of musical sounds, and blends admirably with all other instruments and equally well with voices.

THE VIOLIN.

THE VIOLIN is the instrument in the string family which plays the highest part, it has four strings which are tuned in fifths to the following notes:—



The compass of the violin extends from:—



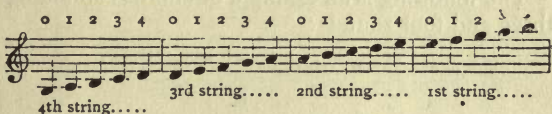
tral purposes, though occasionally even higher notes are written, but these are somewhat risky, even the high G and A should be approached in passages of scale character.

Chromatic scales, though possible, are difficult, and should be avoided, unless scoring for very efficient performers.

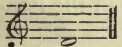
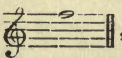
The strings, when caused to vibrate their entire length, produce what are called open notes.

Stopped notes are made by pressing the strings with the fingers of the left hand firmly against the finger-board.

The Open notes of the three strings can also be produced as stopped notes on the three lower strings respectively, as a consideration of the following example will show: it represents the notes which are produced by, what is called, the First Position of the hand on the violin, that is, the position in which the first finger plays the note which immediately follows the open note:—

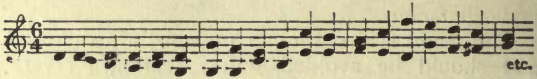


The Second Position is that in which the first finger presses the second note from the open sound, and so on. There are seven positions possible, though orchestral players are never required to play higher than the fifth.

Double notes are not possible if both are lower than , and it is not advisable to introduce them when both are above , with these exceptions any two notes may be combined together which can be played on adjacent strings within the compass of an octave, and when the lower of the

two notes is one of the open strings, G, D, or A, an interval greater than an octave is possible.

The following is an example in double notes:—



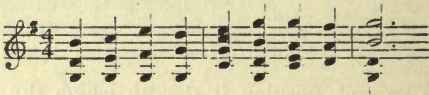
Double stopping, excepting for special effects, is best avoided in orchestral scoring, and no one should introduce it who has not a *certain* knowledge that the notes can be played.

Many chords of three and even four sounds are possible, those are best which contain one or two open notes.

A practical acquaintance with the instrument is almost indispensable before writing chords freely.

As a general rule the notes comprising a chord should be at least a fifth apart from each other, and the compass of the fifth position should not be exceeded.

The following is an example of chords containing three and four sounds:—



When chords are written for strings, and it is intended that some players should take the upper notes and some the lower, the word *divisi*, or *a 2*, must be added.

Chords as opened arpeggios can be introduced with good effect in soft passages, as in the following example:—


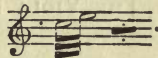


Orchestral writers should always be most **careful** to indicate the phrasing they require, not only for the violin, but for every instrument.

When a composer has not indicated the bowing or phrasing he requires, players will each probably perform the music in different ways, with a most unsatisfactory result. A study of the best scores will show how carefully the great masters considered this matter, how every little *nuance* is indicated. When phrasing and expression marks are carefully added, conductors have a chance of giving a work as the composer intended it.

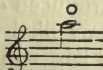
The Strings are capable of every degree of expression, from the softest whisper of a summer breeze, to the wildest shriek of winter storm.

Legato, and every degree of staccato, is at the command of a player who understands how to use his bow properly.

The *Tremolo* is a legitimate effect produced by a rapid reiteration of a  or  note or two notes:—

A distant ethereal effect can be produced by adding a mute to the bridge. It must be indicated by the words *Con Sordino*. *Senza Sordino* signifies the removal of the mute.

In addition to the notes which can be produced on the Violin by pressing the finger firmly on a string in the ordinary manner, are certain sounds soft and flute-like in quality which are obtained by simply touching the string lightly instead of pressing it on to the finger-board, they are called Harmonics, and are indicated by \circ being placed above the

notes:— 

In Orchestral writing, the Harmonics produced

by touching one half or the third of a string will be found sufficient.

Instead of playing with the bow it is possible for the player to use the finger to twang the string, or strings in chords, thereby producing a guitar-like effect, this effect is called *pizzicato*.

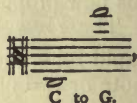
The word *arco* signifies that the bow is to again be used.

In scoring for an orchestra it is usual to divide the Violins into firsts and seconds ; their respective parts are always written on separate staves.

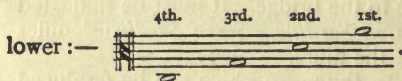


VIOLA OR TENOR.

THE VIOLA has a compass from



and is in reality a large sized violin, tuned a fifth

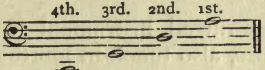


To avoid leger lines, the part of the Viola is always written in the alto clef, though should the part be very high the treble clef is used.

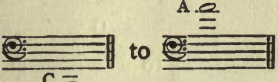
All that has been written respecting the Violin applies equally to the Viola, bearing in mind the fact that it is tuned a fifth lower. A very beautiful variety of *Viola* is now being introduced called the *Viola Alta*, the instrument appears likely, in time, to supersede the old Viola. It is larger in size, and more difficult to play, but the quality of tone more than compensates for these drawbacks.

THE VIOLONCELLO.

THE VIOLONCELLO, or "'Cello," as it is frequently called, has four strings tuned in fifths, an octave lower

than the Viola :— .

It has a compass for Orchestral purposes from

, though as a solo instru-

ment it may be taken several notes higher than this.

The part for this instrument is written in the bass clef, though, to avoid leger lines in the higher register, the tenor or treble clef may be employed. The latter clef should indicate the true pitch of the notes required; formerly, it was the custom to write the part an octave higher when using the treble clef.

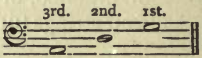
The 'Cello is the true bass of the string family (the 8 ft. tone), and should the composer give to this instrument a solo part or passage other than the bass, he must take care to supply its place with the bassoon or other instrument of 8 ft. tone.

Double stopping and chords must be very sparingly employed, and require most careful consideration. Octaves can only be used when the lower of the two notes is on an open string.

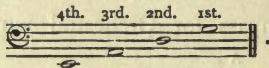
The melodic and expressive quality of tone obtained from the upper part of the 'Cello makes it one of the most valuable and popular members of the string family.

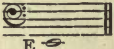
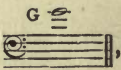
THE DOUBLE-BASS.

THE DOUBLE-BASS had formerly only three strings, usually tuned in fourths:—



, but the four stringed instrument is now coming into general use, also tuned in fourths:—



It has a compass from  to ,

and is always written for in the bass clef.

This instrument sounds an octave lower than the written notes, and is consequently to the 'Cello as a 16 ft. pedal stop is to an 8 ft. stop on the organ.

As a rule it doubles the 'Cello, the part then being indicated for '*Cello e Basso*. When the two instruments are thus written for on one staff, and it is necessary to allow the double basses to be silent, the word *Celli* is indicated, the word *tutti* will show when they are to resume playing.

When the 'Cello has an independent part they each have a separate staff.

The *Pizzicato* is very effective.

Rapid passages are not frequent, and seldom effective; double notes are but rarely used.

The double-bass being the instrument which sounds the lowest notes, is the bass of the whole orchestra, and consequently is a most important instrument and must be written for with judgment and consideration.

METHODS OF SCORING

THERE is no one method or plan, so far as the writer knows, which may be called the usual or correct way of transferring musical ideas to paper.

Every composer is a law unto himself; many make a very skeleton sketch of their work in short score, here and there indicating instrumental effects, and adding figures under the bass part to denote any special or even ordinary harmonies they intend to employ when filling in the accompaniments or inner parts. With this bare outline before them, they proceed to write out the finished score of their work.

Composers who follow this method successfully are usually quick workers, very sure of their ideas and possessing a certain knowledge of the resources of harmony, counterpoint, and the orchestra.

There are some composers so gifted as to be able to dispense with a sketch. Such a *rara avis*, however, is to be met with but seldom, and when found is not, as a rule, a prolific writer, but one who meditates deeply over a movement before committing a note to paper; when he has considered his form, themes, harmonic treatment, and orchestral effects, and feels satisfied with the result, he transfers the finished composition to paper, without any sketch or experimental searchings upon an instrument.

Every composer finds out by experience the plan which is most convenient for himself.

The question is often asked, is it right to use the piano when composing? Without in any way

presuming to dictate or even to answer this question authoritatively, some remarks on the subject may not be considered out of place.

Anyone who *depends* entirely upon an instrument for his inspiration, I should unhesitatingly say was no composer, and would advise him to turn his attention to other branches of the art; his work will be laborious in the extreme, and I should question whether the results so obtained would possess originality or individuality.

On the other hand we know of gifted composers who have produced really admirable work, who have used the instrument freely when working out their ideas, but it must be borne in mind, that they did in no way *depend* upon the instrument for their inspirations, they merely employed it probably to enable them more rapidly to decide which of several ideas that occurred to them was the most attractive, or to test with the outward ear the effectiveness of certain harmonies. Some of the best writers I have known have worked in this manner.

Undoubtedly it must be an immense advantage to a composer, if his imagination is so vivid, his internal ear so strong, and his memory so good, that he is able to work entirely away from an instrument, but unless he possesses the gifts I have enumerated highly developed, his work when so composed is usually stiff and unemotional.

The habit of composing away from an instrument can to a great extent be acquired, if the ear and imagination are good.

Some composers use the piano merely to save themselves the trouble of thinking, these are lazy folk who will never bother the publishers or the public much.

A vivid imagination, good taste, an accurate ear, ability to immediately conceive appropriate

melodies almost without reflection, together with a thorough musical and general education, are the necessary qualifications for a composer.

I feel convinced that many more persons possess the natural qualifications than is generally supposed; but we all know those who have all the powers education can give, yet lack the indefinable something which is indispensable for a successful musical composer.

A writer of music is only a *composer* if his work is original; it must be *his* work, *his* creation, it must embody *his* feelings expressed in sounds, and convey to others the emotions excited in his own breast. When listening to and enjoying such a work, who thinks of how it is written? does it matter whether the composer isolated himself in a lighthouse, or every now and again employed a piano to stimulate his imagination or to test by his external ear the music he was writing; if the *result* is attained and a work of art is created, then the writer is a composer, "for by their works ye shall know them."

Students who have not already adopted a method of making the sketch of an orchestral work, may find the following plan to be of practical assistance.

Obtain manuscript paper containing 14 staves, this will allow two scores of seven staves on each page.

Seven staves are required to arrange the sketch in the manner I suggest.

Portion out the seven staves as follows:—

Two for the wood-wind, as a short score in the treble and bass clefs.

Two for the brass-wind, as a short score in the treble and bass clefs.

Two for the strings, as a short score in the treble and bass clefs.

One for the drums, &c., probably in the bass clef.

The following example will make the idea clear.

Moderato.

Wood.

Fl. *mf.*

Cl.

Cl. 2.

p

Basn.

Horns.

p

Trombones.

f

f

Strings.

f

Triangle.

p

Tympani, &c.

Moderato.

p

From such a sketch it is a very easy matter to make the complete orchestral score in the necessary clefs and keys.

Rests need only be used in incomplete bars.

Always use a pencil, and preferably with a good rubber top, when making a sketch; much time is thereby saved.



SMALL OR INCOMPLETE ORCHESTRAS.

A BAND, consisting of the strings and a selection from the wood and brass wind, is usually called a small or incomplete orchestra.

Obviously, it will be impossible to designate all the various possible combinations which might be arranged under such a heading, however general principles and accepted combinations may be touched upon, and suggestions made, for the consideration of those who may find it necessary to employ an orchestra of this character. In many instances composers only desire certain instruments to carry out their ideas, and therefore select those they require, omitting several of the important members of the complete orchestra from choice. In other cases, and they are by far the most frequent, the reasons are very different; either the instruments left out are not obtainable, economical considerations, or want of space prevent their employment, or the class of work being scored is never performed where a complete orchestra is to be had. To those who are limited by force of circumstances, such as I have indicated, the following reflections may be useful.

No conductor should ever permit the abomination so often heard in some of our smaller theatres, &c., viz., little else than treble and bass. The other evening I had to sit through a performance and listen to a band of eight persons, consisting of the following:—Flute, Cornet, 1st Violin, 2nd Violin, Cello, Bass, Drums and Conductor.

If this conductor had any musical feeling and ability he must be a most miserable man ; if he could play an instrument why did he not have a piano, harmonium, or viola, and fill in some of the inner parts, thereby permitting himself and others to obtain *some* enjoyment out of the music.

This band performed as follows :—the 1st Violin, Flute, and Cornet played the “air,” though it must be recorded that the Flute and Cornet took turns in playing with the Violin, and only in *forte* passages did the three play together ; once, or perhaps twice, I heard the cornet play a few notes in harmony (I think it was extemporaneous) ; the 'Cello and Bass always played the same bass notes, and the poor 2nd Violin had to do all the filling in.

Reflecting on this miserable band determined me to add this chapter to my series on “Scoring for an Orchestra,” feeling that some good might be done by a consideration of the subject.

A complete orchestra is generally understood to consist of the combination of three separate bands, viz. : Wood, Brass, and Strings, each containing Treble, Alto, Tenor and Bass instruments.

In arranging for a small orchestra, one of these bands, preferably the strings, should be represented by its complete family, and additions made to it from the other two bands according to taste or requirements.

If an orchestral work has to be played by a small orchestra, it is absolutely necessary that the conductor should study the work, and then conscientiously arrange it for his own band, above all things respecting as much as possible the composer's orchestral intentions, for nothing is so unsatisfactory or inartistic as for an instrument, say a trombone, whenever it has a few bars rest, to be made to play the part written for a bassoon.

Conductors who are able to arrange for the

orchestra should be held up to reproach if they permit such vandalism, when, with the expenditure of a little time and labour, an arrangement could have been made, that would at least have respected the composer's orchestral instincts and intentions.

The following are a few specifications (to use a word familiar to all organists) of small orchestras which could render effectively music specially composed or scored for them.

Consisting of 10 performers :—

1 Flute (and Piccolo).	1 Trombone.
1 Clarionet (a 2nd).	Tympani or Drums, and
1 Cornet.	5 Strings.

In arranging for the above combination write for the Clarionet as if it were a 2nd Clarionet, treat it not so much as a melodic as a harmonic instrument.

Consisting of 12 performers. To the above 10 instruments add a 2nd Cornet and another 1st Violin. Employ the cornets frequently as horns.

Consisting of 14 performers. To the above add a 1st Clarionet and another 2nd Violin (7 Strings).

Consisting of 15 performers. To the above add an Oboe.

Consisting of 16 performers the following combination of 16 performers would be very effective for music of a romantic, poetical or classical character :—

1 Flute (and Piccolo).	1 Cornet.
1 Oboe.	2 Horns.
2 Clarionets.	Tympani or Drums, and
1 Bassoon.	7 Strings.

The above is capable of expansion, as possibilities allow, till the full orchestra is reached.



ORGAN AND ORCHESTRA.

In composing or arranging music for the organ and orchestra it must be remembered that it is not desirable, excepting for very special effects, to so write your score that the imitative stops on the organ, such as the Flute, Hautboy, Clarionet, Bassoon, Trumpet and String Gambas, are, so to speak, held up to comparison with their orchestral originals.

In combination with the organ, the brass and tympani are capable of fine effects.

Owing to tuning difficulties, the organ will never be a popular adjunct to an orchestra.



CONCLUSION.

I have now reached the end of my series of articles on "Scoring for an Orchestra," but cannot close without expressing a hope that they have not been found too elementary for my readers.

I should perhaps explain that my object in writing the articles, was not in any way to compile an exhaustive text book on the subject, but simply to give to my readers just such information as I desired myself when making my first attempt at an orchestral score, and which information I found somewhat difficult to obtain.

The student who has followed me, should now seek further information from my friend Professor Prout, (whose new work on the subject will be most comprehensive and exhaustive), and other authorities. He must also make himself familiar with the scores of the Great Masters, and neglect no opportunity of hearing good orchestras, or of taking a part himself as a performer whenever possible.

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