An Introduction to the Orchestra

What is an orchestra?

An orchestra is a group of musicians, men and women, who play instruments together from all four families: strings, woodwinds, brass and percussion. 300 years ago, orchestras were small with perhaps 20+ musicians. Through the years, as cities grew and life-styles began to change, an overall impulse to "think big" developed. Composers also began to think bigger, using larger musical forms and demanding grander sounds. Today a symphony orchestra can vary in size, but usually has between 65 and 110 members.

Does each musician play a different part?

No. About two-thirds of the orchestra consists of the string players who are divided into five sections: First Violins, Second Violins, Violas, Cellos and String Basses. Each string section plays one part as a group most of the time. The woodwind, brass and percussion players each have individual parts, as does the harpist.

What gave rise to the modern symphony orchestra as we know it?

Before 1600 in the western European cultures, singing was considered the most important kind of music, so composers wrote mostly vocal music. The instruments of the time were unrefined- they made crude sounds compared to man's built-in-instrument, the voice. During the 1600's instruments were improved to make better sounds: Composers began writing music especially for 'instrumental groups. From the late 1600's to the present, the orchestra has changed from a small group to a large one, with strings remaining in the majority. The variety of woodwind, brass and percussion instruments has increased; composers have chosen those which fit the musical style and taste of their own time.

How does a band differ from an orchestra?

A band consists of woodwind, brass and percussion instruments with no strings. Sometimes a string bass is included in a band.

About Concert Manners~

We go to a concert partly to see the performers, but especially to hear the music they perform for us. Almost anything that helps us listen to the music would be good concert manners. Unlike rock concerts that have music that is usually quite loud all the time, orchestras play music that can be loud one minute and very soft and delicate the next. If you are not sure what would be good concert manners, just ask yourself: "Am I keeping someone else from listening to the music?"

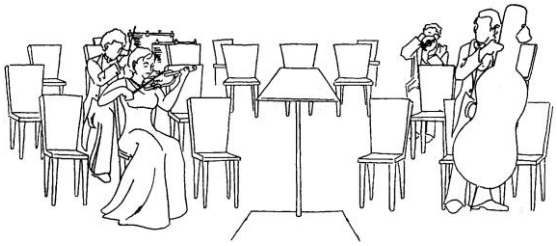
It is very important to arrive at the concert early enough to be seated well before the program begins. Since there is very little time between pieces and often no intermission, coming in late would be very disturbing to others, even if we waited for that piece to be finished.

How do I know when to applaud?

Sometimes an orchestra plays short pieces and sometimes, longer ones. Silence in music (rests) is an important part of a composition also. Sometimes a piece will end so quietly it seems to just fade away. If you're not sure whether or not a piece is finished, just watch the conductor.

WHAT HAPPENS AT AN ORCHESTRA CONCERT?

The Warm-Up

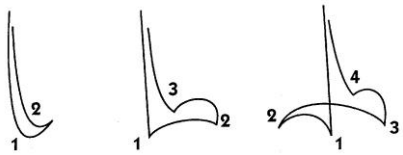


As you enter the auditorium and QUIETLY take your seat, the musicians will begin to enter the stage, sit down and play their instruments. The musicians are not playing together at this point. Instead they are individually warming-up, just as players warm up before a basketball game.

Tuning

Just before the concert begins, one final violinist enters the stage and stands beside the empty chair in the front. This important person, **the concertmaster,** is like a team captain. The concertmaster asks the oboe to sound the note "A" so the whole orchestra can tune. By matching the sound of the oboe, they tune their own instruments by shortening or lengthening parts of their instruments or by changing the tightness of a string. The audience should clap as the concertmaster enters, and then be VERY QUIET using concert manners during the tuning process.

The Conductor



Once the orchestra has tuned and is quiet, the conductor appears. The audience should give welcoming applause as the conductor enters the stage. The conductor is like the coach of a team and has very great responsibilities. He or she:

1. Chooses the music for all concerts and studies everyone's part.
2. Shows the players how fast, slow, loud, and soft the music should be with arm and body movements.
3. Shows the patterns for conducting different meters. -> 4. "Cues" or points to certain musicians who have special parts.

Applause

Applause at the end of a piece is how the audience says thank you to the orchestra. Sometimes an orchestra plays short pieces and sometimes longer ones. Sometimes a piece will end so quietly it seems to just fade away. Silence in music (the rests) is an also an important part of a composition. If you're not sure whether a piece is finished, just wait until the conductor turns to the crowd, then applaud.

Instruments of the Orchestra

The symphony orchestra is divided into four families: strings, woodwinds, brass, and percussion. The instruments used in a symphony orchestra fall easily into three categories. Sound is produced by: 1: **striking** a solid object to make it vibrate (percussion); 2: **plucking or bowing** a string to make it vibrate (strings) or 3: making the **air in a tube vibrate** (winds). The wind instruments are divided into two groups: brass and woodwinds. Thus we have four groups, or choirs of instruments in a symphony orchestra.

The Strings

All Strings produce their tone by the vibration of stretched strings. Normally the player draws a bow of horsehair over the strings. Other techniques, such as **pizzicato** (plucking), **col legno** (playing with the wood of the bow), **double stopping** (bowing two strings at once), **muting** (using a mute to produce a muffled, veiled sound), and **tremolo** (rapid bow movement back and forth in short strokes) are used for special effects. The string orchestra has five sections: **1st violin, 2nd violins, violas, violoncellos, and double basses.** There are approximately six octaves covered from the lowest note of the double bass to the highest note of the violins. The strings normally perform like a choir: subdivided into four voices which correspond to the human voice ranges.

The Brasses

The Brass section comprises wind instruments in which the vibration is made by the players' lips pressed into a cup-shaped **mouthpiece**. Change of pitch is effected both by lip pressure and the manipulation of valves. As the name implies, the body of these instruments is made of brass and other alloys. There exists a great variety of brass winds which can be heard in military bands, jazz bands, and as folk instruments. In the symphony orchestra, only a few types perform.

The Woodwinds

The family of Woodwinds produces a tone through a vibrating column of air enclosed in a pipe or tube, and they produce the vibration by means of a **single or double reed** with the exception of the flute. The woodwinds have typically a mellow quality which allows them to blend beautifully with the each other, and yet each of instruments has a very distinct and identifiable quality all its own.

The Percussion

The Percussion family provides the orchestra with accent, rhythm, and seasoning. There are two kinds of percussion instruments, those where **definite pitches** are played and **non-pitched** instruments that just produce a characteristic sound. In most cases, a sound is produced by striking the instrument with another object: a stick, mallet, or beater.

The String Family

The VIOLIN is the soprano of the string choir. The violin can sing beautifully in melodic passages. The expressive range of this instrument is very rich, and it usually plays the melody and other important parts. The violin was the first member of the "modern orchestra," formed in the seventeenth century.

The VIOLA is the contralto of the string group. It is built somewhat larger than the violin and its bow is also a little heavier than the violin's. As the tone of the viola is stronger than that of the violin, the viola section is smaller than the violin section. Its middle-range makes it ideal for having its own melodies or doubling the violins or cellos.

The CELLO (violoncello) is held between the knees, resting on a peg with the neck pointing over the left shoulder of the player. It is about 48 inches long, and its bow is shorter than the violin's and a little thicker. Its tone is fuller and more powerful. It corresponds to the tenor and baritone range of the human voice. The four strings are tuned one octave lower than the viola's. The cello joined the orchestral family during the Baroque period and subsequently became an important solo instrument, a position it enjoys still today.

The DOUBLE BASS, as its name implies, is the lowest voice in the string orchestra. The double bass is so large that the player must either stand holding the instrument upright on the floor or sit on a high stool. It rests on an adjustable peg and is supported by the body and left knee of the player. It is about six feet long. It is not usually used as a solo instrument, but when it is, its effect is surprising.

The HARP is one of the oldest instruments, having been played by the ancient Greeks. It is a very beautiful instrument with 47 strings that are vertical to the sound board. The harp is plucked. By means of 7 pedals, the performer changes the pitch of the strings. As a help, the C strings are colored red and the F strings are blue.

The Woodwind Family

The FLUTES are the highest instruments of the woodwind family. The flute's little relative, the piccolo, is one octave higher than the flute. The flute is not played in a straight position like other woodwinds but is held sideways. Its length is about 26 1/2 inches. The player produces a tone by blowing air across a small opening near the top of the instrument. No reed or special mouthpiece is used. For many centuries, flutes, were made of wood. Most modern flutes are metallic: silver, gold, or platinum. The flute is an original member of the early orchestra.

The CLARINET is a single reed instrument. It is a close second to the flute in agility and its tone quality makes it well suited for all kinds of rapid scales, arpeggios, and figurations calling for ease in mobility and fluidity. It is a cylindrical tube with a bell expanding slightly more than the oboe's. It is usually made of grenadilla wood. Since the nineteenth century, a lower relative of the clarinet, the bass clarinet, has come into general use. Occasionally the E-flat clarinet is also used for special effects.

The OBOE belongs to a group of woodwinds called double reeds; two slips of cane are placed

one against the other and wrapped together at one end. The air in the tube is set into motion by the air blown through these reeds. The oboe has a gently tapering conical tube and is about 25 1/2 inches long. It is made of wood and is perforated with holes. They are closed either with the fingers or with keys which the player operates. The oboe has been in the orchestra since its beginnings and is often a solo instrument. Usually, there are two oboes in the orchestra.

The ENGLISH HORN is also a double reed instrument and is pitched a fifth (5 tones) lower than the oboe. It is larger, measuring about 31 1/2 inches and differs from the oboe in its bulb-shaped bell and the bent metal crook at the top end of the instrument which holds the reed. It is supported by a cord around the player's neck. It has been a regular member of the orchestra since the 19th century. Its primary function, as an auxiliary instrument to the oboe family, is to extend the range of the oboe family downward. It also figures as a solo instrument and orchestral literature abounds in solo passages for it.

The BASSOON is the bass of the woodwind section. A double reed instrument, its mouthpiece is the part with the reed, 1/2 inch wide, and a long curved metallic mouthpiece called a crook or bokel. Its air column is about 9 feet 2 inches long and is, so to speak, folded in two. It is held by a neck cord attached to a ring at the top of the instrument. The bassoon is equally suited to carry a tune or to provide accompaniment. Sometimes it is a solo instrument. Complementing the register of the bassoon toward the lowest notes is the contra bassoon. It sounds an octave lower than the ordinary bassoon and produces the deepest notes in the family of the woodwinds.

The Brass Family

The HORN (French horn)is easily recognized by its circular form and comes from the 17th century hunting horn used also at festivals and in war. It is made using a length of tubing 17 feet long. When it is in its usual playing position, the bell is pointed down and away from the listener and is partially closed by the right hand. Through the invention of rotary valves, the horn has acquired great versatility and is a favorite solo instrument. Its tone combines well with that of all instruments and it forms an important link between the brasses and woodwinds.

The TRUMPET sounds heroic and festive. It has valves, and its tubing measures 6 1/2 feet long when straightened. It serves as a melody instrument. Modern composers often use mutes with the trumpet that change the sound to a mysterious or grotesque quality. When used in classical music, the trumpets, like the horns, play in pairs. In modern works, their

number is often doubled, sometimes even tripled. The trumpet is very versatile and is used in all types of ensembles.

The TROMBONE is an instrument of power, solemnity, and antiquity, Except for changes in the mouthpiece, there have been no basic changes in it in the last five centuries. It varies its pitches by changing the position of its slide and it measures 9 feet in length. The modern trombone is made of brass, chromium, and nickel. There are usually three trombones in romantic and modern works. By tradition, the trombones are group instruments rather than solo instruments.

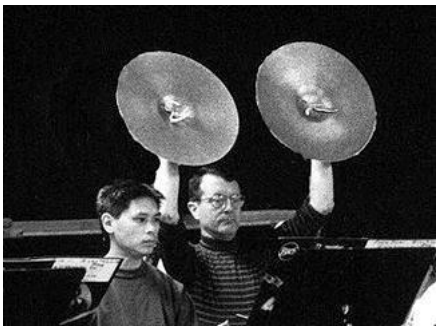
The TUBA is the lowest pitched brass instrument and uses a valve system like the trumpet. It is nine feet long, and its bell opens upward to the ceiling. A real bass tuba has been in use since 1875, and so it often has to play parts written for the earlier small tuba or extinct ophicleide. Although its primary use is to give a "bottom" to the music, the tuba is occasionally used for solos.

The Percussion Family

The TIMPANI, also called kettledrums because of their shape, are the backbone of the percussion family. Made of copper, they resemble a kettle resting on a tripod. Stretched across the top is a calfskin head. In a normal orchestra, the sizes of the timpani are 30", 28", 25", and 23". They are used in every area of symphonic music from every time period. Tuned to precise pitches, at least two of them are normally required. Their most important function is the dynamic reinforcement of the string bass part.

The BASS DRUM varies is size from 24 to 36 inches, and the

normal orchestral bass drum size is 30 inches. It is supported on a special stand. Most drummers strike it with the right hand; however, the bass drum may be struck on either head. It is capable of thunderous noise or soft rolls, and its carrying power is greater than that of any other orchestral instrument. It is often said that its soft tones are felt rather than heard.



The CYMBALS are circular discs made of brass alloy and are Turkish by tradition. They are a convex shape so that when struck together to produce a tone, only the edges touch. The cymbals are held by a leather strap and sometimes they are hung and played by a stick or mallet for a special effect. The percussionist usually has two pairs: one pair 15-16 inches in diameter and the other 18 inches in diameter.

The SNARE DRUM marks rhythm and adds spice to the music. It takes its name from the construction of gut strings stretched across the underside of the bottom drum head. These "snares" vibrate against the drum head when it is played. The snare drum is 14 to 15 inches in diameter and about six inches deep. It is played with a pair of drum sticks.

The TRIANGLE is a bar of round steel bent into the shape of its name with one corner open. The average/length of the bar is 6 1/2". It is struck by a small steel rod called a beater. Recognized by its bright, high tinkle, its sound can be heard above the loudest orchestral sounds.

The TAMBOURINE is a circle of wood, commonly ten inches in diameter with a calfskin head. Small metal discs are set in the wood circle and jingle against themselves. They are actually called jingles. The tambourine also has a single drum head and can be beaten with the hand, or sometimes the thumb is run around the outside edge of the head producing a "rolled" sound.

Other percussion instruments include the vibraphone, marimba, glockenspiel and chimes; other indefinite pitch instruments include castanets and wood block.