The instruments of the wind ensemble

An introduction for a young audience

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Preface

Text en music of this piece are meant to help a young audience recognize and identify the sounds of instruments and instrument groups of the wind ensemble. Goal is a maximum playing time of around 20 minutes. That can be well combined in one show with the performance of for instance a musical fairytale. For every instrument or group a short musical fragment is presented where the sound characteristics of these different instruments are well exploited. The short explaining text blocks are at basic level and only meant as a guideline. Parts of the material can be skipped at choice when for instance some instruments are not active in a particular concert. That applies also to the Finale piece that has been added as a slot parade. In the table at the last page speaking and playing times are given. Involvement of the young audience can be stimulated by inviting them to look at (or eventually play) the different instruments.

Arie van Hoek

Introduction

Hello everybody, in a wind ensemble like this all musicians play together on a choice of instruments. Every instrument has its own specific sound or color. And that is what we want to show you; the different sound colors, properties and habits of these instruments.

The instruments can be divided in groups as for instance the stringed instruments (play double bass, 5 sec.), the wind instrument (play winds, 5 sec.). The first thing that catches the eye is that some instruments are very small (show piccolo or flute) and others very big (show double bass, tuba and/or contrabassoon). And what do you think, will the high notes sound from small or big instruments? (play for instance a piccolo and a double bass).

Sound is in fact vibrating air or varying air pressure. Playing a musical instrument starts with making something going to *tremble* or *vibrate*. That can be the string of the double bass or piano, the reed of the clarinet or the lips of the trumpet player; *that is the source of the sound*. Then what happens is that the vibrations of that sound source are efficiently transferred to another part of the instrument. On a double bass that is the bass body, and with a wind instrument that is the air column inside the instrument. Because of that, the instrument is generating a much louder sound than with just a single vibrating string or just vibrating lips or reed.

Now we will walk along all these instruments so that you can recognize the different sounds when they are playing together in the ensemble.

The wind instruments

Some wind instruments have been made of wood (**show**) and others are made of metal (**show**). The different wind instruments vary in size from very small (**show piccolo**) to big (**show tuba or contrabassoon**).

With string instruments, the vibrating string is the source of the sound, with wind instruments different ways are used to force the air to vibrate. At the flute mouthpiece (show flute) some airflow from breathing-out is directed with the lips towards a rather sharp edge causing some sound. With the so-called reed instruments (show reeds) a thin reed is forced to vibrate, and with the brass instruments a slight air flow between the lips causes vibration (show brass mouthpiece).

Then, *very important*, after the mouthpiece a piece of tube is mounted. And the air column inside that tube might vibrate as well, the so-called *resonance*. That only happens when the vibrations in the mouthpiece are at a pitch that is able to resonate in the specific length of air column. A much louder and more defined sound is then generated (**play trumpet mouthpiece separately and mounted**). That resonance happens at a *short* tube for *high pitch* (**play piccolo**) and at a *long* tube for *low pitch* (**play tuba**).

The flutes

We start with the flutes. Flutes are members of the woodwind family and have been built in many different shapes and configurations. Normally, in a symphony orchestra the transverse flute is used and this flute is held perpendicular to the blowing direction (**show flute playing position**). Sound is generated here by directing an airflow from breathing-out towards an edge with the lips (**flute plays mouthpiece**). Then *resonance* occurs in the air column inside the tube that is next to the mouthpiece. Along that tube a range of holes is made, most of them fitted with keys. By opening or closing these holes the length of the resonating air column inside the tube can be varied so changing the resonance pitch (**flute plays a series of scales**).

These flutes are also a family of instruments of different sizes. The piccolo (show) is the smallest instrument of the orchestra and can play notes at a very high pitch (piccolo plays some high scale). The most common flute is the treble flute (show) and that is twice as long as the piccolo (flute plays some scales as well). The flute can perform very fast notes and in the lower range produce a very romantic sound. And because playing a trill is easy on the flute it can perform the bird whistle in the orchestra very well (play trills on the flute).

(Now the flutes will play some short piece).











Oboe and English horn

The oboe is a double reed woodwind instrument **(show oboe)**. For producing sound, two pieces of reed are bound together and air is blown through the tiny space that is left between these two reeds. The result is a very penetrating sound **(oboe blows mouthpiece)**. The reed is made from cane and is very vulnerable; the smallest disruptions may result in a useless reed.

The resonator tube of the oboe is made of a tropical hardwood and like with the flutes; equipped with a series of holes and keys, allowing the fast performance of many different notes (oboe plays some scales). The sound of the oboe is very special and can range from a steady and cutting forte to a nasal and melancholic sound in the lower range of the instrument. Because of that solid sound of the oboe it is used to tune the whole orchestra at the beginning of a concert. The melancholic sound of the oboe is the proud characteristic of the bigger brother in the oboe family in particular; the English horn (show and play English horn). When a sad or pitiful melody has to be performed, the English horn is the favorite. He is quite a bit longer than the oboe and the mouthpiece has a slight bent for a more practical playing position.

(Now the oboes will play a short piece).

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The clarinets

The clarinet is a single-reed woodwind instrument (show clarinet). Like with the saxophone a piece of reed is fixed on a mouthpiece and when blowing a slight flow of air along the reed that will vibrate (clarinet blows the mouthpiece). When the mouthpiece is mounted onto the resonance tube of the clarinet distinct tones can be played. The tube of the clarinet is equipped with a lot of holes and keys allowing the clarinet to play very advanced and virtuoso performances (clarinet plays a series of scales).

Like the flutes and oboes, the clarinets are members of a family of instruments and the clarinet family has the largest pitch range of all wind instrument families. There is a piccolo clarinet, the "normal" clarinet, the alto clarinet, the bass clarinet, the contralto clarinet, contrabass clarinet, together forming the clarinet choir (show the different sizes of clarinets).

The clarinet not only plays important parts in the orchestra, it has distinct roles in jazz music, gipsy and klezmer music and military bands. The clarinet sound has a wide dynamic range, it can play loud and aggressive as well as soft and smooth. The sound color of the clarinet ranges from a sentimental slobbering in the lower pitch range to a brutal yapping in the high range; a broad range of sounds, very attractive to every composer. **(Now the clarinets will play a duet and/or a trio, depending on the availability).**

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The bassoons

Like the oboe a bassoon is a double reed woodwind instrument (show bassoon). Only, the resonator tube of the bassoon is much longer and the tube has been folded for convenience purposes. It starts with the metal mount for the mouthpiece and then it goes down through a circular hole in the wooden trunk. Then it is reversed at the lower end and goes upwards through another hole. All together the length of that channel is about 2.5 m, allowing the bassoon to play very low notes (bassoon plays lower range). Along the bassoon a series of holes and keys are mounted, allowing the playing of pretty fast notes (bassoon plays some scales). In the orchestra the low notes of the bassoons are often used to accentuate the rhythm of the music. And, because of the specific tone color, the bassoon is sometimes used for playing the parts describing grumpy old men.

The bassoon as well is part of a family of instruments but this family is not as big as the clarinets. In fact, only the contrabassoon (**show contrabassoon**) can regularly be found in symphonic repertoire. The contrabassoon sounds twice as low as the normal bassoon (**play the lower range contrabassoon**). These extreme low notes are often used in music for raising a sinister mood in music.

(Now the bassoons will play a duet and/or a trio, depending on the availability).













The horn

The horn is a clearly a brass instrument (show horn). Here sound is generated by a tiny air flow through the narrow space between the lips into the mouthpiece (horn player makes glissando on a single mouthpiece). When the mouthpiece is mounted on the horn a limited number of notes can be played, called natural harmonics (horn plays harmonics/hunting call). Furthermore, the instrument is equipped with valves, allowing the adding of some specific lengths of tubing. By controlling the valves, the resonance length of the tube is varied, allowing many more different notes to be played (horn plays some scales).

When all hoops of the horn are stretched, the total length of tubing reaches up to almost 4 m, thus the horn can play very low notes as well. The right hand of the player is partly in the bell of the horn **(show to the audience)** and the direction of the bell is rather backwards from the audience. All that results in the singular horn sound that is very suitable for performing as well the enchanting horn calls as the romantic lines in music.

(Now the horns will play a trio or quartet, depending on the availability).





The trumpet

The trumpet is a brass instrument that is a lot smaller than the horn (**show trumpet**). The resonance length of the tube is only around 1.5 m. The bell is directed straight into the audience, resulting in a clear and shining sound color. Three valves are used for expanding the number of different notes to be played (**trumpet plays some scales**). For playing very high parts in baroque music the smaller piccolo trumpet is used, suitable for playing very sparkling and virtuoso passages and solos.

The trumpet does not only play an important role in the symphony orchestra but also in the jazz orchestra or band and, together with the clarinets, in the military and marching bands. The clear tone of the trumpet is very suitable for the performance of the light and bright parts in music. And any call for action can well be boosted by the direct forward projection of the trumpet sound.

(Now the trumpet plays the solo, duet or trio depending on the availability).







The tuba

The tuba is the largest brass instrument and has the lowest pitch of all (**show tuba**). The length of the tube may stretch to up to 5.5 m and handling of the tuba calls for a robust player. Not only because of the enormous weight of the instrument but also for controlling the amount of air that is needed to play the instrument. With a deep breath the tuba player can make a lot of noise but after all; for a smooth performance of soft tones a very well skilled mastering of the instrument is crucial.

In the orchestra the tuba is the base of all produced sound and the reference for intonation for the other instruments. Concerning the rhythm in music the tuba often serves as the stable companion for the timing of the other instruments. From this it becomes clear that the tuba player has a key role in the orchestra.

(Now the tuba plays the piece below).









The double bass

In fact, the double bass is a wooden box with some stick at one end, dressed up with a few strings. The string is firmly stretched and connected to the wooden box. In this way the surface that can vibrate is largely increased, resulting in more sound production as compared to a single vibrating string. When on a particular instrument notes from the lowest to the highest pitch sound at even or comparable loudness, the instrument is called of good quality.

There are different ways to make sound with the strings; by drawing the bow across the strings (**bass plays arco**) or plucked with the fingers, that is called pizzicato (**bass plays pizz.**). In particular for playing with the bow, a choice of techniques has been developed for playing notes in different ways, making intriguing sounds.

With the tuning pegs at the top of the instrument the strings can be tuned to the proper pitch. By stopping the strings to the fingerboard with the fingers of the left hand the sounding length of the strings can be regulated. In this way on one string different notes can be played **(bass plays scales)**.

(Now the double bass plays the piece below).







Finale

So, now all instruments have been shown, the ensemble will play a short piece to illustrate the role of the different instruments. Try to locate the different elements of the music; the lines of the melody, the accompany notes and rhythm sounds. These elements travel from one instrument to the other during the performance, resulting in a constant change of the sound structure.

For a smooth performance of the music it is essential that all musicians start to play the piece at exact the same moment and play in the same tempo. And here the *conductor* appears. With that short stick or baton **(show baton)** and a suitable amount of body language the musicians get information on a range of details for a proper performance of the music. And now you will understand that when you visit a concert not only audible information but also the visual information of the whole concert contributes to this experience.

(Now the ensemble plays the Finale).

Finale































Notice of any performance will be very much appreciated.

 \mathbbm{C} Arie van Hoek, Andelst, Holland, 1 november 2011

Text	Music	Tekst duration	Music duration	Total duration
Introduction		0:02:30		0:02:30
Piccolo	0	0:01:00		
	Piccolo		0:00:10	0:01:10
Flute	0	0:00:50		
	Flute		0:00:20	0:01:10
Oboe		0:00:50		
	GOboe		0:00:20	0:01:10
English horn		0:00:40		
	Goboe/English horn		0:00:50	0:01:30
Clarinet		0:00:50		
	GClarinet duo		0:00:30	0:01:20
Bass Clarinet		0:00:30		
	&Clarinet trio		0:00:30	0:01:00
Bassoon		0:00:35		
	Bassoon duo		0:00:25	0:01:00
Contrabassoon		0:00:30		
	Bassoon trio		0:00:45	0:01:15
Trumpet		0:00:40		
	GTrumpet		0:00:25	0:01:05
Horn		0:00:55		
	&Horn trio		0:00:20	0:01:15
	&Horn quartet		0:01:30	
Tuba		0:00:40		
	бТuba		0:00:40	0:01:20
Double bass		0:00:40		
	GDouble bass		0:00:30	0:01:10
	Finale		0:03:00	0:03:00
Totale tijd		0:11:10	0:10:15	0:21:25