**Part Two - Texture making**

**Chapter 1. Orchestral devices**

**Lecture 1.**

**The best registers in solo writing, unison, and octave doublings**

Hello and nice to see you.

Today we will start the second part of the orchestration course, which is called texture making.

In this part you will learn how to make the orchestral devices and textures.

The melodic line performed on one or combined instruments is called “devices”.

The combination of transformed harmonic elements is called the “texture”.

Before orchestrating, you must determine which instrument will play the melodic line or which devices will be used.

Then you can create an orchestral texture using different methods.

In this lecture we will explore the best registers of the instruments in solo writing, as well as the best registers for unison and octave doublings.

Here are the practical registers of the instruments for professional players.

The colored whole lines show the practical registers of the instruments.

The colored dashed lines are the lower or higher practical limits.

The black dashed lines show the possible high and low notes on the instrument, which should be omitted due to playing difficulties or lack of sounds on the instrument.

Any register of the instruments shown with a whole line can be used in solo writing, depending on the music style.

For example, due to its rough and thick timbre, the lower register of the oboe is effective in an ironic or comedic style, while the middle register works well in a dramatic style because of its sweet timbre.

We will use all of these registers throughout the lesson.

Just try to learn and recall them.

Now let's look at the best registers for unison and octave doubling.

Considering the middle, high, and very high registers of the piano, I am going to make the first unison and octave doubling chart for the orchestral instruments.

For easy learning, I will use just two pitches: **C** and **G.**

Let’s start with the middle register instruments and learn step by step.

French horn.

As you know, the 2nd register of the French horn, that lies between **F3** and **F4** is the most effective.

However, the half part of the 1st and whole part of the 3rd register are also works well in unison and octave doubling.

Therefore, I will take the range between the **C3** and **C5**.

The purple whole line indicates the effective register, which works in 90 percent of orchestral scores.

The dashed purple line is the lower limit, if the bottom note of the melody is below the **C3**.

This register will be useful for low and very low register doublings.

I will explain it in the future lessons.

Ok. The black dashed lines should be omitted, as other instruments will be placed on these registers.

The 2nd and 3rd registers of the bassoon are also most effective and melodic.

The lower register will be discussed in the next lectures.

I removed the 4th register as it has a thinner and piercing quality.

The other tenor instrument is the cello.

The most effective range lies between **C3** and **G4.**

I chose the *D* and *A strings* of the cello that are well blended in unison and octave doubling with the alto and soprano instruments.

The blue dashed lines indicate the upper and lower limit.

The next instrument is the viola.

All strings, between **C3** and **C6** can be used in unison and octave doublings.

The black line should be omitted.

The most effective register of the English horn is between **G3** and **C5.**

The 1st register is the lower limit.

The clarinet in B-flat.

Due to its soft timbre in all registers, I am going expand its range from **G3** to **C6.**

The blue dashed lines are also can be used.

The violin has a huge effective range from **G3** to **G6**, while it can be up to the **C7.**

The very high register is not useful and risky since the intervals become close to each other on the sound-box.

I am going to cut the lower and upper registers on the trumpet to get a brilliant sounding.

The very high register is rarely used.

The most effective range of the oboe lies between **G4** and **G6.**

Black lines should be omitted as they either have poor intonation or are difficult to play.

In order to achieve soft sounding in scores, the use of extreme registers of instruments should be avoided.

The best flute register for unison and octave doubling is **G4** and **G6.**

The extreme notes should be given to the piccolo, which is easier to play than the flute.

The brilliant range of the piccolo is from **C6** to **G7.**

The blue lines are rarely used.

I want to remind you that this chart will help you to make doublings just between the **C3** and **C8.**

The lower and middle charts will be discussed in the future lessons.

As you can see, I have chosen the brilliant registers where the instruments are well balanced with other instruments.

In addition, they have an excellent dynamic range from soft to strong.

The orchestral devices are used in all types of scores such as monophonic, homophonic, polyphonic, chordal, heterophonic and so on.

By using this chart you will get a lot of devices.

Please, follow me and do the same step by step.

This is a short phrase from my symphonic overture.

First, I should analyze the melody and find the boundary of this phrase.

As you can see, the top note is the **B5,** while the lower note is the **B4.**

However, the rest of the notes are roughly between **G5** and **D5.**

So, this melody is in the high register of the piano.

Let’s write your melody and mark the top and low note.

The second step is to add this melody on this chart and find effective devices.

Please, download the pdf file and work on it.

Let’s start with the French horn.

I am looking for where the horn can play this melody.

The French can play this melody in both between **B3** and **B4,** andbetween **B2** and **B3**, as they will be on the effective range of the instrument.

This means you can choose either one or use both together in octave doubling.

But this is not a problem if your melody is played in only one register.

For example, let’s say the boundary of the melody is between **F3** and **F4.**

You should mark just **F3** and **F4**.

Otherwise the octave doubling will be out of the best register of the horn and be placed in the best register of other instruments.

The bassoon can play this melody between **B2** and **B3.**

Octave doubling will be out of the best register.

The same should be considered in the cello parts.

Due to its huge range, the violas will take both between **B3** and **B4,** andbetween **B4** and **B5.**

What about the English horn?

This instrument can play this melody only between the **B3** and **B4.**

As you observed, due to their huge range, both the clarinets and violins will take the melody in octave.

You can choose any.

The B-flat trumpet will be effective from **B3** and **B4,** and between the **B4** and **B5.**

The oboe effectively plays this melody between **B4** and **B5.**

The one octave lower doubling will be poor.

What about the flute?

The low register will be useful in the other chart.

Since the **B6** is quite high, I will use just the **B4** and **B5**.

The piccolo works well between **B5** and **B6.**

Of course, it can be used one octave lower.

However, I didn’t use it, since this register has already been filled by many instruments.

So, we have marked all possible and effective registers.

If the melody is low or high, and doesn’t support this chart, then you can transpose the melody to other tonality.

This rule will be effective especially in choral music and in film music.

You can transpose the original score down or to up until you find an effective register.

However, some musical genres, such as the prelude and fugue, are best orchestrated in their original tonality.

So, any combination of these instruments will give you balanced device as all instruments are in their strong registers.

The 3rd step is to choose needed instruments and make your own device.

It in the next lectures, we will discuss how to orchestrate for ensemble and for full orchestra.

Let’s write your melody and make possible devices till the next lesson.

So, we have done our lecture. Thanks for watching. Bye for now.