## The instruments of the orchestra

Arie van Hoek

to Angela Colbers

## The wind instruments

At the back of the orchestra the wind instruments have found a place (play winds, 5 sec). Some wind instruments have been made of wood (show) and others are made of metal (show). Just like the string instruments 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) with the lips some airflow from breathing-out is directed 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 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).



