Orchestra

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ORCHESTRA

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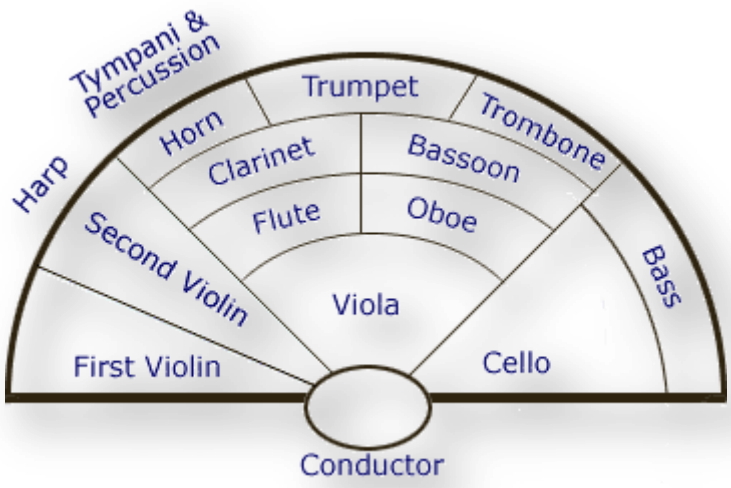
INFO

This is a study sheet by Linus Metzler about Orchestra, which was mentioned in the 1st Kanti at Mr. Nick. There is no claim for completeness. All warranties are disclaimed.

STUDY PART

SEATING ARRANGEMENT OF AN ORCHESTRA



THE INSTRUMENTAL SECTIONS OF AN ORCHESTRA

In total, they're four main sections in an orchestra

- Strings
- Woodwinds
- Brass
- Percussion

THE INSTRUMENTS OF THE SECTIONS: DESCRIPTION AND SOUND

WOOWIND

PICCOLO

- Transverse flute
- Pitched an octave higher than a standard flute
- Range of three octaves
- Used for special effects
- Originally made out of wood

FLUTE

- Soprano voice
- Most made of metal
- Oval-shaped mouthpiece with a long tube
- Horizontally held
- Different notes made with the keys (levers)
- Range of three octaves

OBOE

- Smallest and highest double reed
- Cylindrical body
- Range of three octaves
- Extremely difficult to play

ENGLISH HORN

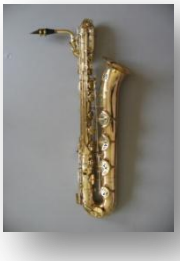
- A fifth lower than the oboe
- “alto oboe”

CLARINET

- Long tube with a mouthpiece and a bell-shaped opening
- Tone holes covered by small metal levers
- The musicians blows on a flat cane reed, which is attached to the mouthpiece
- Manufactured in four different keys
- Range of three and a half octaves

BASSOON

- Double reed
- Eight feet of cylindrical wood tubing
- Four joints
- Ten key controlled holes on the body
- Eight finger holes



SAXOPHONE

- Mixture out of the single reed and the mouthpiece of the clarinet, a metal body and widened version of the conical bore of the oboe
- Most of them are curved at the bottom (not all)
- Twenty openings covered by keys
- Range of two and a half octaves

STRING

VIOLIN

- Played with a bow
- Highest string
- Wuning pegs attached to the peg box to alter the pitch of a string
- Ways of playing
  - Pizzicato
  - Trmolo
  - Sul ponticello
  - Col legno
  - Glissando

VIOLA

- Second highest string
- Written in alto clef

(VIOLON-)CELLO

- Larger than a violin but the same shape
- Four feet long
- Played sitting down
- Range of four octaves

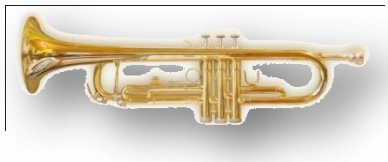
STRING / DOUBLE BASS

- Largest and lowest pitched string
- Sex feet high

HARP

- No bow used
- Forty-six strings
- Range of six and a half octaves

BRASS



TRUMPET

- Sound produced by vibrating the lips and blowing into a cup-shaped mouthpiece
- Notes changed by the three valves
- Different pitches
- Tube is as long as four and a half feet

FRENCH HORN

- Twelve feet long tube
- Sound produced by vibrating the lips and blowing into a funnel-shaped mouthpiece
- Notes changed by the three valves
- Often, the hand is used as a mute in the bell

TROMBONE

- Tenor voice
- Cup-shaped mouthpiece
- Slide
- Nine feet long tube

EUPHONIUM

- Member of tuba family
- Tenor tuba
- Three valves

TUBA

- Big family
- Largest brass
- Lowest pitched brass
- Sound produced by vibrating the lips and blowing into a cup-shaped mouthpiece
- Notes changed by lip tension or fingering the valves
- Three to five valves

PERCUSSION

RHYTHMIC

DRUM SET

- First drum sets around 1800
- Possible for one person to play several instruments at the same time
- Usually consists of the following instruments
  - Bass drum
  - Snare drum
  - Cymbals
  - Tom toms
  - (cowbells)
  - (woodblocks)

BASS DRUM

- Largest part of the kit
- Played with a foot pedal
- Low, deep sound

SNARE DRUM

- Higher pitch than the bass drum
- Buzzing or snapping sound

CYMBALS

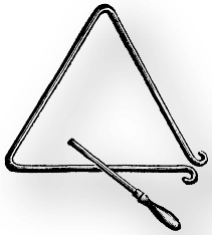
- Made out of various metals
- Diameter range is from six to 22 inches
- Different “main forms”
  - Hi-hat
    - In a pair
    - Stick foot pedal played
  - Crash- and ride cymbal
    - Stick played
  - Tom-tom
    - Normally three in a kit

TIMPANI

- Often called kettledrum
- Large copper or fiberglass shell
- Single drumhead
- Pedal
- Different notes possible (only drum)

CYMBAL

- Used since the Middle Ages
- Often used in religious ceremonies
- See also “drum set”



TRIANGLE

- Made out of steel
- Used in Europe since the 14th century

GONG

- Bronze disk
- Struck with a beater
- From Middle East or South East Asia in the 9th century to Indonesia and finally to Europe in the 18th century

MARACAS

- Rattles
- From South America
- First made with beans in shells

TAMBOURINE

- Jingling metal disks
- Drum
- Many different ways to play

MELODIC

XYLOPHONE

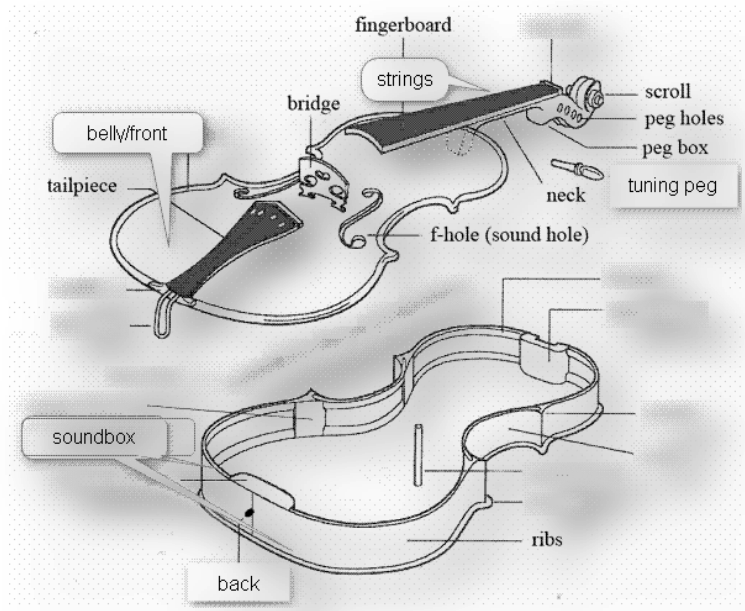
- Mallet instrument
- Graduated wooden bars
- Southeast Asia in the 1300s

THE SCORE: ORGANIZATION AND READING

woodwind
brass
percussion
string

A score for symphony orchestra normally uses the order of instruments as you see on the left. It's organized like a timeline; every note which is under another is played at the same time. And of course they're also bars and time signatures.

PARTS OF A STRING INSTRUMENT

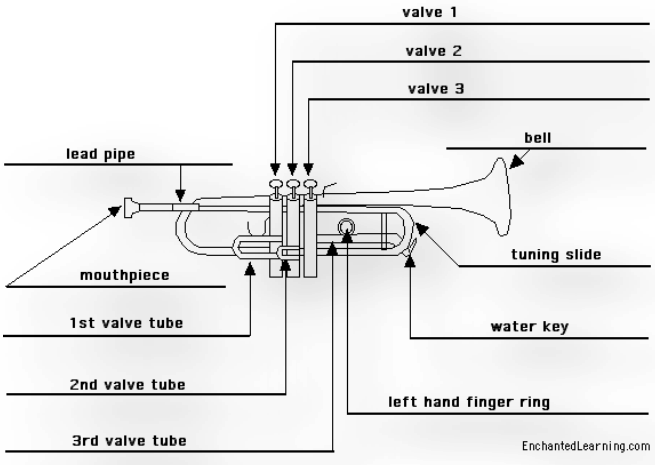


And a bow/stick with horse hair

PARTS OF A WIND WINSTRUMENT (BRASS AND WOODWIND)

Basically, the woodwind and the brass instruments have a mouthpiece, a tube and a bell. Some of them got a slide, valves or keys.

BRASS



WOODWIND

SOUND PRODUCTION OF THE INSTRUMENTS

brass

- the air has to vibrate
- lips tighter - higher note
- tube longer - lower note
- to change the sound, you can use a mute and put in the bell

woodwind

- all use wind to make a sound
- longer tube - deeper note
- they've three differetn ways to create sound
  - o-shaped mouthpiece
  - single reed mouthpiece
  - double reed motupiece

string

- they've got differences in pitch and size
- you can bow or pluck them
- they're only heard 'cause of the bridge, which transports it to the body and amplifiys it

percussion

- you can shake or hit them
- they're to sub-families
  - tuned
    - different notes
  - untuned
    - no melody possible
    - used for pure rhythm and to make noise

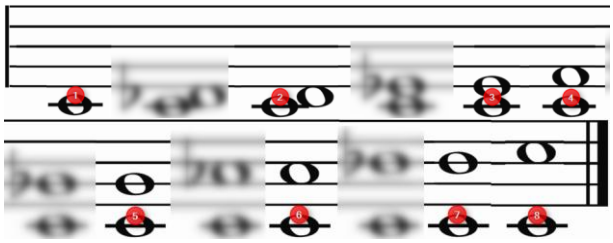
ENGLISH NAMES OF THE INSTRUMENTS AND THEIR PARTS

The whole sheet is in English, so…just read it through and you'll learn them automatically

CONDUCTING AN ORCHESTRA

The conductor is the one, who controls the orchestra, gives the speed and tells everyone when he/she hast to play. She/he uses her/his hands to give the dynamics with the left hand and the beats and tempo with the right hand.

INTERVALS



1. Unison
2. 2nd
3. 3rd
4. 4th
5. 5th
6. 6th
7. 7th
8. Octave

SOURCES

Wikipedia

And many others for the images