

LESSON 11

Tuned-Percussion Instruments

(Definite Pitch)

Tuned instruments play specific pitches or notes, just like the woodwind, brass and string instruments.

Timpani

Timpani, also called kettledrums, were the first drums to be used in the orchestra over 300 years ago. They are constructed of a large copper bowl with a drumhead made of calfskin or plastic stretched across the top. When struck with felt-tipped wooden sticks, or mallets, timpani produce a specific pitch that is determined by the drum's size. That pitch is fine-tuned by tightening the drumhead with keys and foot pedals.

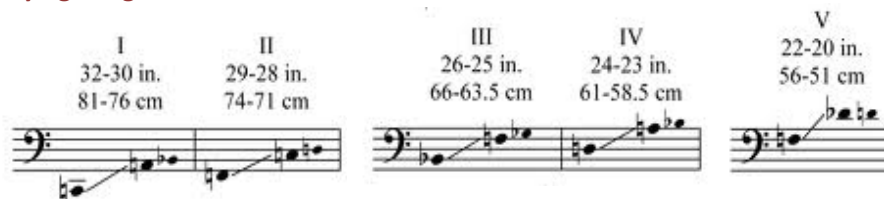


Tuning: A pair of kettle-drums (Timpani), is tuned in the tonic and dominant keys.

Orchestra: Most orchestras use three or four timpani of varying sizes. From the middle of the 19th' century onward, in western Europe and in

Russia, an ever-increasing need was felt for the presence of three or even four kettle-drums, during the whole course or part of a work.

Playing Range:



Xylophones

The xylophone is a musical instrument in the percussion family which probably originated in Indonesia. It consists of wooden bars of various lengths that are struck by a plastic, wooden, or rubber mallet. The arrangement of the bars is like the layout of the piano keyboard. The xylophone has a brighter tone than its cousin the marimba, and the notes have less sustain. Modern xylophones include resonating tubes below the bars.



Tuning: Each bar is tuned to a specific pitch of the chromatic scale.

lockenspiel are written two octaves lower than they will sound when played.

Transposing Instrument: The glockenspiel is a transposing instrument. Its pitch sounds two octaves higher from its staff representation.

Marimbas



The marimba is a musical instrument in the percussion family. Keys or bars (usually made of wood) are struck with mallets to produce musical tones. The keys are arranged as those of a piano, with the accidentals raised vertically and overlapping the natural keys to aid the performer both visually and physically.

Both xylophone and marimba bars are usually made of rosewood, but presently, synthetic substitutions are becoming more and more popular. Another material also

being used to make marimbas is glass. The bars of the marimba are wider and thinner than those of the xylophone, especially at the center; this change in shape causes the bars to respond a different set of overtones found in the overtone series, giving the instrument a richer tone. A xylophone will have a much brighter and shorter sound and is played with relatively harder mallets than the mellower marimba, which is typically played using comparatively softer mallets. Also whereas the xylophone's key widths are constant along its entire length, modern marimba keys are usually short (both lengthwise and widthwise) at the higher-pitched end and gradually "graduate" into the bottom octaves. This ensures that larger marimbas, such as 5-octaves, have enough material to generate low notes and overtones.

Notation: In sheet music, the notes to be played by the glockenspiel are written two octaves lower than they will sound when played.

Transposing Instrument: The marimba is a transposing instrument. It is pitched an octave lower than its cousin, the xylophone.

Glockenspiel



Also called orchestra bells, the glockenspiel resembles a small xylophone, but it is made of steel bars. The name glockenspiel comes from the German language and means "to play the bells." When used in a marching or military band, the bars are sometimes mounted in a portable case and held vertically. In orchestral use, the bars are mounted horizontally. A pair of hard mallets are generally used to strike the bars, although if laid out horizontally, a keyboard may be attached to the instrument to allow chords to be more easily played. When struck, the bars give a very pure, bell-like sound.

Playing Range: The glockenspiel's range is limited to the upper register, and usually covers about two and a half to three octaves.

Vibraphone



The vibraphone or simply the vibes, is a musical instrument in the percussion family. It is similar in appearance to the xylophone, although the vibraphone uses metal bars instead of the wooden bars on the xylophone. The vibraphone is commonly played with cord or yarn mallets. Below each bar is a resonator, a resonant metal tube, with a metal disc of a slightly smaller diameter located at the top. The discs in each tube are connected via a rod which can be made to rotate with an electric motor. When the motor is on and a note

is struck, the notes acquire a tremolo sound as the resonators are covered and uncovered by the rotating discs. The player can vary the speed of the tremolo. At slower speeds, the effect sounds more like a "wah-wah-wah." At faster speeds the tremolo is more pronounced. With the motor off vibraphone has a mellow, bell-like sound. The "vibrato" sound effect is what the vibraphone was named after. The vibraphone also has a sustain pedal similar to that used on a piano. When the pedal is up, the bars are all damped and the sound of each bar is quite short; with the pedal down, they will sound for several seconds, so frequent rapid pedaling is common when playing a vibraphone.

Transposing Instrument: The vibraphone is a non-transposing instrument, generally written at concert pitch.

Playing Range: The standard modern instrument has a range of three octaves, from the F below middle C. Larger four octave models from the C below middle C are also becoming more common.

Tubular Bells



Tubular bells, also called orchestral bells or orchestral chimes, series of tuned brass (originally bronze) tubes of graded length, struck with wooden hammers to produce a sound. They first appeared in England in an 1886 performance of Arthur Sullivan's *Golden Legend* in Coventry. Large tubular bells were at first used as a substitute for church bells in towers. Smaller tubes were later built to be controlled from an organ manual or, in the orchestra, to be played directly by a percussionist. As orchestral chimes, tubular bells can attain greater rhythmic precision than true bells, and their tone is clearer, for it emphasizes fewer higher harmonics. The instrument's compass normally extends $11\frac{1}{2}$ octaves upward from the C above middle C.