Introduction

The erhu, as shown in figure 1, is a traditional Chinese two-stringed bowed musical instrument, also known in the Western world as the “Chinese Violin.” It is said that the origin of erhu can be dated back to the Tang dynasty (618-907) and adapted from the instrument, xiqin, which originated from the Mongolian tribe. It is used as a solo instrument as well as in small ensembles and large orchestras. Moreover, it is the most popular instrument in the “huqin” family of traditional bowed string instruments used by various ethnic groups in China. The erhu is a versatile instrument and is used in both traditional and contemporary music arrangements, such as in pop, rock, and jazz.

Components

Although every erhu is slightly different from one another, the basic construction is the same. The main elements that an erhu consists of are a sound box, python skin, a neck, two tuning pegs, a nut, two strings, a bridge, and a bow. In the 20th century, some manufacturing standards were made to improve the erhu with the aim of producing a louder and better sounding instrument. For example, silk strings were replaced by steel strings. By 1958, professional players set tonal standards and started to use erhu with steel strings toned to D and A. Such an erhu is defined as the modern erhu.

Sound box

The sound box of the erhu is a small, drum-like case usually made of ebony or sandalwood and python skins. It generally has a hexagonal or octagonal shape with a length of approximately 13 cm. The front side is covered with the skin of a python and the back of the box is left open. When the strings are vibrating, the bridge will transfer the vibration to the python skin,
which will then transfer vibration to the air in the box and generate resonance. The function of this case is to amplify the vibrations of the strings to generate the sounds that exit through the open side of the box.

**Nut and Bridge**

The nut and bridge are two small but key elements of the erhu that help form the vibration in the string and transfer vibrations to the sound box. The nuts are generally made from ropes wound very tightly around the neck and the strings, and are used to pull the strings towards the skin. The ropes are strong and durable so that players do not need to replace them very often. The bridge is a small prism-shaped piece of wood placed between the strings and the python skin on the sound box. The strings run through notches on one edge of the bridge to prevent movement when vibrating. The height of the bridge is about 2 to 3 cm, and the contacts between bridge, skin, and strings are firm so that the vibration can be easily transferred from the strings to the skin with negligible energy loss. Usually, a damper made from sponge or cloth is inserted between the strings and the skin at a position lower than the bridge to absorb extra vibrations, which can damage the strings and skin.
Strings

Strings are the origin of the vibrations that generate sound when playing an erhu. Similar to many other Chinese musical instruments, the erhu has no frets or touching board. Since the nut and bridge work together as two nodes on the strings, players create different pitches by touching the strings at various positions between them. The outer string is thinner and produce sound in higher tones and the inner string is thicker and produce sounds in lower tones. In modern erhus, inner strings are tuned to D4 and outer strings are tuned to A4. Although the distance between nut and bridge differs from instrument to instrument (because it is determined by the length of the player’s forearm), the maximum range of the instrument is three and a half octaves, from D4 up to A7. In order to achieve the consistency in tone range in every instruments, players have to rotate tuning pegs located near the top of the neck, which are connected to the strings to tense or relax them so as to adjust the frequency of vibrations.

Bow

The bow is 76 cm long and is often made from reed or bamboo that curves during manufacturing, and arched with horse hair in the same way as the bow of a violin. However, in the case of the erhu, the horse hair runs between the two strings. In other words, one cannot remove the bow from the instrument unless one of the two strings is taken off or broken. Players usually rub the hair with rosin to enhance the friction between the hair and strings to ensure the vibrations generated are strong enough to be heard. There is a screw device that is used to vary the tension of the bow hair because hairs that are too tight or loose prove difficult to control.

Python Skin

Python skin is one of the unique features of the erhu; however, the reason why erhu uses python skin is unknown. Skins are made with farm-raised pythons that have large and regular patterns on their skins. However, python skins do have many advantages over other skins often used in musical instruments, such as pigskin. The major feature of python skin is that it is brittle but tough. Britteness makes the sounds generated by python skins clear and melodious, while the toughness makes it very durable.
Conclusion

Erhu is one of the most important and popular musical instruments in Chinese traditional art. The construction of the erhu is not complicated but every part is assembled masterfully. It sounds similar to the human voice and can imitate many natural sounds such as birds and horses. Although the erhu has existed for over a thousand years, it continues to evolve. In addition to being widely used in traditional Chinese orchestras, erhu is more and more frequently added to modern plays and even pop and rock bands because of its unique tone color.

References


