

Metal Casting (*Chūkin*)

Chūkin refers to several traditional casting methods used in Japanese metalwork. Casting creates metal forms by pouring molten metal into molds and allowing it to cool. When working with molten metal, artisans can achieve much more complicated shapes than are possible with other metalworking techniques, such as hammering. *Chūkin* techniques were collectively designated an Important Intangible Cultural Heritage in 1964.

Casting technology arrived in Japan from mainland Asia during the early Yayoi period (400 BCE–200 CE). By the first century CE, metalworkers were using advanced techniques to form bronze items such as swords, mirrors, and bell-shaped ritual objects called *dōtaku*. Techniques for casting iron, which has a higher melting point, soon followed, along with the development of metallurgical techniques to refine ore and create diverse alloys from gold, silver, copper, tin, and iron. The specialized skills to smelt and cast these materials were handed down in metalworking shops from generation to generation. Over the centuries, casting has been used not only for decorative works but also in the creation of temple bells, tea ceremony kettles, cauldrons for cooking rice, and other objects linked with traditional Japanese culture. In Ishikawa Prefecture, metal casting is particularly associated with the making of gongs (*dora*) used in tea ceremony.

Chūkin is classified by the method used to make the casting mold. *Rōgata* is a lost-wax technique. *Komegata* is a section molding technique using clay models and plaster to create inner and outer molds. *Sōgata* is a technique in which a mixture of sand and clay called *mane* is pressed in a layer along the walls of two bowl-shaped basins that form the halves of an outer mold. After firing, the parts are fitted together like two halves of an egg around a smaller core, leaving space between them for the liquid metal.