

Giving shape to the material

The different materials used to make sculptures have always had a marked influence on the work produced. In primitive times the materials used were stone, wood and ivory; later, artists began to carve their works in marble or to cast them in metal. Nowadays, a variety of new materials such as plastic, wire, rod, sheet-metal, etc. are employed.

Wood

Wood has been carved from the earliest times because it can be found almost everywhere and softwoods (conifers) are easy to cut. Yet few ancient objects have been found because wood is a perishable material and needs special conditions (e.g. ice) to survive.

The best woods for cutting shapes are **hardwoods** among which are oak, beech, walnut, lime, sycamore, mahogany, teak, ebony, pear, apple and cherry. They have different grains, textures and colours, and they can be worked on with chisels¹ of various sizes, gouges² for the preliminary roughing out, and rasps³ for making the surface smooth. Sandpaper⁴ is used to polish the surface which is then oiled and waxed to preserve the object. Wood sculptures are often painted, gilded or decorated with incised patterns.

Nowadays machines with hard metal tools are used. They reproduce a 3D model drawn on a computer by the artist, who will give the finishing touches by hand. Also wood engraving needs a hard wood, usually boxwood, and it is done with a graver or burin.⁵

Stone and marble

Given its solidity, versatility and elegance, **stone** has been sculpted for many centuries. In the past, artists usually worked stones available in the area nearby, whereas today aesthetic or cultural factors can be more relevant.

White **limestone**, being fine-grained and comparatively soft, has been largely employed as well as black **basalt**, and black, grey and green **granite**. **Red granite** was used for colossal statues, and dark grey **diorite** was used for delicate carving.

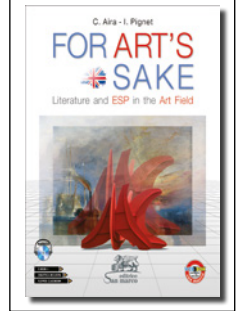
Marble is a metamorphic limestone which can be pure-white, black or variously coloured according to the predominant metallic compounds. Marble is first quarried⁶ in large blocks, then cut into slabs⁷ with a circular saw and finally polished by machinery. Shaping and all ornamental work are done by hand using different tools: drill, mallet, chisels and files.



Marble blocks, Carrara, Italy.

GLOSSARY

- 1 metal tools with a sharp cutting edge
- 2 tools for cutting out hollow areas
- 3 metal tools for shaping wood
- 4 paper covered with fine sand
- 5 tool with a point similar to chisel
- 6 removed from the place of extraction
- 7 flat pieces s



Metals

Among metals, **bronze** allows great freedom of design. The finish of the casting can reproduce the finest details noticeable not only in figures in the round, but above all in door panels made in relief and in tomb effigies. Also brass, **gold** and **silver** can be cast and then chiselled into the desired shape. Some modern sculptors have been fascinated by **iron** and **stainless steel** and their works are either cast or assembled.

Glass

Glass is often used to make little statues and table wares. It is made by heating together a form of silica (sand, flint or quartz) with an alkaline 'flux',⁸ usually potash or soda. Glass can be cast, that is moulded or blown into shape, and modelled when still hot using a long iron tube. After collecting the red-hot molten glass on one end, the artist blows down the other end of tube and produces a bubble of glass. He then swings⁹ the tube around, rolls it, cuts and pinches¹⁰ it creating its definite shape with metal tools. Today most glass is produced mechanically.

Clay, terracotta and porcelain

Clay is a versatile raw material, both plastic and tensile. At first it is 'thrown on a wheel',¹¹ moulded and when fired it is known as terracotta. Terracotta is stronger than clay and after the first firing in the kiln¹² (*biscuit* firing) it can be painted, or glazed, that is covered with a transparent layer of glass to make it translucent, opaque or coloured.

Porcelain, made from kaolin and china stone,¹³ was invented in China and produced in Europe only in the early 18th century. In Britain it is known as **bone china** from the ground animal bone that is added to the kaolin and china stone mixture. Beautiful table and ornamental wares, often coloured, decorated and gilded, are made in porcelain (Derby, Sèvres, Delft, Capodimonte).

Ivory, **precious stones** and other mineral substances were and are still worked with metal tools, diamond drills, chisels, knives, and abrasive powders.

Innovative materials

Nowadays sculptors favour unconventional or **new materials** such as wire, Perspex,¹⁴ plastics, laminated wood, vinyl, polyurethane foam, felt ribbons and assembled objects like vacuum cleaners, digital alarms, lava lamps, etc.

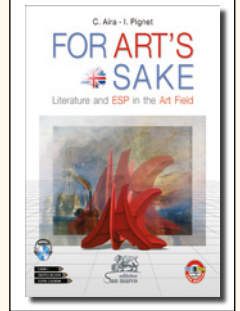
As in many artistic expressions today, there really isn't any boundary when it comes to creative freedom.

GLOSSARY

- 8** substance added to another to promote fusion;
- 9** (to swing, swung, swung) moves back and forward
- 10** presses between thumb and finger
- 11** (to throw, threw, thrown) put on a circular platform which turns round
- 12** special oven for baking pottery and bricks
- 13** kaolinized granite used as flux in ceramic production
- 14** thermoplastic sheets, derivatives of acrylic and methacrylic acids



Ancient Greek vase.



ACTIVITIES

Reading comprehension

1 *Decide whether the following statements are true T or false F and correct the false ones.*

- 1 Wood was not used to carve because it is a perishable material. T F
- 2 The best woods for cutting shapes and engraving are hardwoods. T F
- 3 Hardwood objects all have the same colour and texture. T F
- 4 To make a wood surface smooth chisels and gauges are used. T F
- 5 Statues were usually made in black basalt. T F
- 6 Metal tools are also used to work gemstone and mineral substances. T F

- T F
- T F
- T F

2 *Answer the following questions.*

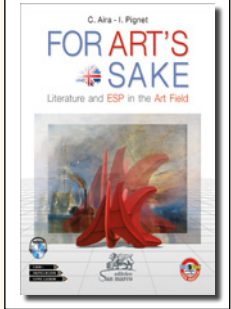
- 1 Which precious metals can be cast and chiseled?
- 2 How do modern sculptors work iron and stainless steel?
- 3 How is glass made?
- 4 What is terracotta?
- 5 What does glazing an object mean?
- 6 What is bone china?
- 7 What unconventional objects can be assembled today to make a sculpture?

Vocabulary

3 *Provide the Italian equivalent of each sculpting tool, then match them with the corresponding images.*

- 1 Chisel
- 2 File
- 3 Burin
- 4 Gouge
- 5 Hammer
- 6 Malle t.....
- 7 Saw
- 8 Drill





4 *This is a list of the materials and tools a sculptor uses to make his works. Match each English word with its Italian equivalent and classify them under the correct heading.*

- | | |
|-------------|-----------------|
| 1 Basalt | A Raspa |
| 2 Granite | B Bosso |
| 3 Welder | C Acciaio |
| 4 Boxwood | D Granito |
| 5 Steel | E Calcare |
| 6 Limestone | F Carta vetrata |
| 7 Rasp | G Basalto |
| 8 Sandpaper | H Saldatrice |
| 9 Flint | I Silice |
| 10 Brass | J Caolino |
| 11 Kaolin | K Quarzo |
| 12 Beech | L Feltro |
| 13 Quartz | M Ottone |
| 14 Felt | N Faggio |

Materials:.....

Tools:.....

Writing

5 *Can you recognize a stone by its colour? Fill in the table writing what colour each of the stones is or can be. Search the web if you need more information.*

Stone	Colour
Limestone	
Basalt	
Granite	
Diorite	
Marble	

Speaking

6 *Look at the two sculptures below and describe them, with particular reference to the material, tools and techniques used. Search the web if you need further information.*