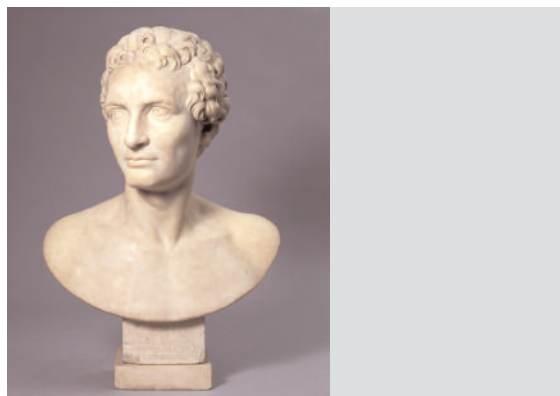


# Copying Captain Cook

## Cook Idealised



This idealised bust is unlike any authentic image of Cook. We know that it is intended to portray him from the inscription on the base: *JACQUES COOK / NÉ DANS LE COMTÉ / D'YORK EN 1728 / MORT DANS L'ISLE / D'OWHYHÉE EN 1779* (James Cook / born in the County / of York(shire) in 1728 / died on the Island / of Hawaii in 1779.) The severe classical style, with short hair, bare torso and cut eyes would have been understood as presenting Cook as an illustrious hero of everlasting reputation.

### **Captain James Cook** (1728–79)

by Lucien le Vieux, 1790

Marble

NPG 984

## An English-style Pleasure Garden



The original was commissioned by Jean-Joseph Laborde, a wealthy French financier. He earned his fortune in maritime trade and was fascinated by navigation and discovery. This passion led him to commission a sculpture for a neo-classical cenotaph to Captain Cook – one of the several follies he erected in his English-style pleasure gardens at the Château of Méréville near Paris. These monuments in Laborde's gardens were the subject of a series of 'capriccios' – fantasy compilations – by the French artist Hubert Robert.

### **The Rustic Bridge, Château de Méréville**

by Hubert Robert, c.1785

Massachusetts Institute of Art, The William Hood

Dunwoody Fund

## Copying Captain Cook



This bust of Cook has been accurately replicated in marble by 'non-contact' methods. The original marble was laser-scanned by a team from Conservation Technologies (National Museums Liverpool). Laser-scanning works by projecting a harmless laser onto the surface of the sculpture. Computer software is then able to calculate the distance from the scanner to discrete points on the sculpture to an accuracy of 0.1mm. The result is a series of 3D distance measurements to the surface, represented as points. After thousands of scans from all sides, a 'point cloud' or map of the complete surface is obtained. This 'point cloud' is then processed on a computer to produce a 'mesh', consisting of millions of tiny triangles. The mesh acts as a digital framework which can be developed into a surface. The result is a highly-accurate 3D computer model of the bust. This is then used to create a precise replica of the original marble bust, in all its detail.

### **Laser scanning Captain Cook**

# Copying Captain Cook

## Cutting the Cook



For production, a block of high-quality white marble was specially quarried in Italy. The 3D computer model was loaded onto a computer controlling the milling machine and the data used to define the path of the drill bit. Then the milling machine was set, over several days, to cut the replica bust out of the marble block.

### The facsimile in production

## A Hand Finish



The final stage of replication involved 'hand-finishing' the marble. Traditional carving tools were used to finish off areas of the surface that could not be reached by the drill bit during machining and to remove some fine machining lines left on the surface.

### The final polish

The National Portrait Gallery chose this extremely accurate method of replication for a number of reasons:

- As the bust is a modern facsimile it means that you can handle and touch it and so find out more about the way the artist designed and carved the bust. Naturally, it would not be possible to allow visitors to touch historic artefacts in this manner because of their fragility and value.
- For the same reasons, the National Portrait Gallery preferred the non-contact methods of the reproduction as this removed the risk of damaging or staining the original surface.
- The laser scanning is extremely accurate and the computer technology allows the replica to be carved from marble, as in the original, rather than cast in plaster.
- The 3D computer model could be digitally manipulated and turned into other products, such as the masks used in 'Nose Job' where you can try your hand at modelling.