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# Early Cycladic marble figurines and vessels (3rd Millennium BC) – A technological approach\*

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## Abstract

From the late Neolithic (5th Millennium BC) and through the Early Bronze Age (3rd Millennium BC), the inhabitants of the Cyclades islands have largely used marble for the manufacture of figurines and vessels. Several common features characterise these productions: they are worked in the same workshops, occasionally painted and mainly discovered in tombs. The "standardisation" of different shapes successively elaborated, led to the establishment of morphologic and stylistic classifications. Some other studies attempted to identify techniques employed but were restricted to macroscopic observations and to experimental reconstructions. Tools and processes identified were then generalised to the entire groups of marble objects through the Early Bronze Age. However, important variations can be observed (level of skill, complexity of the shapes, size of the pieces, etc.), suggesting an evolution of several levels of expertise and equipment during the Bronze Age. It was then highly desirable to further investigate manufacturing processes through a new complementary approach. The latter comprises the study of archaeological data (tools potentially employed, manufacturing traces on the object's surface) and experimental reproductions of ancient techniques. In parallel, tribological analyses (using confocal rugosimeter and interferometer) were executed to characterise technical marks recorded on both the archaeological and experimental objects. The study was focused on the best-preserved traces, related to 4 operations: sawing, incising, polishing and, for the vessels, hollowing out.

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This preliminary study allowed us to reconstruct manufacturing sequences and a large part of processes and tools used by the Cycladic craftsmen. Marble industry appears more complex than traditionally considered, revealing the cohabitation of different types of production and levels of specialisation. Although the shape of figurines is quite standardised, variation in the manufacturing sequences has been observed, whether related to an evolution through the time or linked to different workshops. Contemporaneous marble and chlorite vessels were made using distinctive techniques of manufacture (especially hollowing out processes), suggesting that they could be the products of different workshops/craftsmen.

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