

## Multi-layer spiral CT with 2D and 3D volume rendered electronic reconstructions of wax models presumably dating back to the 18th century and the Bologna School

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In January 2014, a wax, chalk and bone model presumably dating back to the 18th century and the Bologna School was found in the archives of the “Luigi Cattaneo” Anatomical Wax Museum.

Consulting the *“Catalogo delle preparazioni anatomiche in cera formanti il Gabinetto anatomico prima della Reggia Università”* (*“Catalogue of anatomical wax preparations forming the University’s first anatomy collection”*), among the wax models sold by Anna Morandi Manzolini to Count Girolamo Ranuzzi and subsequently acquired by the Institute of Sciences we discovered a description exactly matching the model in question: *“Anatomic model of the muscles of the face, and of some muscles still pertaining to the neck, and a portion of the pectoral muscles, and deltoid muscles belonging to the chest”*.

A series of multi-layer spiral CT scans (128 layers, Discovery CT750HD GE Healthcare) were obtained with 2D and 3D volume rendered electronic reconstructions of the model to provide further documentation useful for subsequent restoration and to yield details on production techniques and the model’s natural components (real bones interspersed with wax).

The results provide further evidence that the model was made by Bologna’s 18th century Anatomical Wax Modelling School, namely by Anna Morandi Manzolini, showing numerous injuries to the wax and chalk structure and confirming the extreme accuracy and precision of the morphometric relations between the real bones and the soft tissues modelled in wax.