

When the Artifact Becomes Image: Representing Geometrical Query with Tangible Tools. Catalogues Physical Models at the Turn of 1900

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III CONVEGNO INTERNAZIONALE E INTERDISCIPLINARE  
SU IMMAGINI E IMMAGINAZIONE  
3rd INTERNATIONAL AND INTERDISCIPLINARY CONFERENCE  
ON IMAGES AND IMAGINATION

# IMG2021



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A stylized graphic of an eye, composed of a thick black curved line for the upper eyelid, a smaller curved line for the lower eyelid, and a solid black circle for the pupil.

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# When the Artifact Becomes Image: Representing Geometrical Query with Tangible Tools. Catalogues Physical Models at the Turn of 1900

## Abstract

Traditionally, communication in mathematics passes through symbolic representations and visual ones, whether they are images, models or other artifacts, both in the theoretical speculation phase and in the transmission of knowledge with educational and disseminative aims. This dichotomy of representations has its roots in the epistemology of the discipline. In the European context, during the second half of the 19th century, a set of Catalogues of models for the study of geometry born. The contribution analyses their structures based on visual operations of a mathematical nature, with an indisputable aesthetic content, realized following the developments of mathematics at that time and the foundational studies by Monge, which explicitly identified the educational use of models for the geometry of surfaces. Catalogues are therefore tools for the promotion of visual artifacts of great impact, designed for the materialization of complex mathematical queries. Therefore, we propose a critical analysis of the images used in such Catalogues, of the modalities of model interpretation and of the possible repercussions in the current context of interdisciplinary studies.

## Keywords

representation, geometry, algebraic surfaces, didactic, models