

PRESS RELEASE

Discovery of a lost astronomical treatise by Claudius Ptolemy

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A text thought to be lost by the astronomer Claudius Ptolemy (2nd century BC) has been discovered thanks to multispectral imaging, then deciphered and interpreted by two researchers from the Léon Robin Center (Sorbonne University/CNRS), and a researcher from New York University (NYU). This treatise is the oldest known text devoted entirely to the description of a scientific instrument. Their work was published on March 9, 2023 in the Archive for History of Exact Sciences.

In June and October 2022, the [RESCAPALM project](#) had already discovered the oldest copy of a Latin treatise on the works of Plato and excerpts from [a catalog of stars by Hipparchus](#). This time, it is an astronomical treatise by Claudius Ptolemy that has been decoded. The deciphering and interpretation of the text was carried out by three researchers: Victor Gysembergh and Emmanuel Zingg of the Léon Robin Center¹ and Alexander Jones of New York University.

At the intersection of natural sciences and humanities, the deciphering was made possible by the realization of multispectral images. This imaging work was carried out first by the French company Lumière Technology, then by an international team made up of the EMEL (Early Manuscripts Electronic Library), the Lazarus Project (University of Rochester), the Rochester Institute of Technology and the company MegaVision Inc.

The manuscript containing Ptolemy's new treatise is a palimpsest, i.e. a manuscript made up of a parchment already in use, which is currently kept at the Veneranda Biblioteca Ambrosiana in Milan (Italy). It comes from the Abbey of Bobbio, one of the most important collections of manuscripts in Italy in the early Middle Ages, which inspired the famous novel *The Name of the Rose* by Umberto Eco and its film adaptation by Jean-Jacques Annaud.

This document is composed of leaves from a Greek manuscript of the sixth or seventh century BC, which contained several works of the famous astronomer Claudius Ptolemy.

The sheets in question (palimpsests) were erased in the 8th century, so that the Latin text of the *Etymologies* of Isidore of Seville could be copied over the erased text. It is thanks to the use of advanced multispectral imaging techniques that their content was discovered and deciphered.

The new text, which has gaps, describes the construction and use of a nine-ringed armillary sphere, identifiable as the "Meteoroscope" invented by the astronomer Claudius Ptolemy. This major discovery sheds new light on the history of astronomy in antiquity and on the beginnings of the history of science. In particular, it provides a better understanding of the scientific method used by ancient astronomers to make their measurements.

Moreover, this discovery illustrates the progress of advanced techniques such as multispectral imaging, whose application to illegible manuscripts makes it possible to save from oblivion texts belonging to the cultural heritage of humanity.

¹ Supervised by Sorbonne University and the CNRS

References:

Ptolemy's treatise on the meteoroscope recovered, Victor Gysembergh, Alexander Jones, Emanuel Zingg, Pascal Cotte, Salvatore Apicella, *Archive for History of Exact Sciences*, 09 March 2023

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