



Creating an Ordered World in Disordered Times: The Pope Orrery

November 3, 2023 • Harvard Science Center • Room 469 • 1 Oxford Street • Cambridge, MA

The Pope Orrery

The [Pope Orrery](#) is a grand orrery (a mechanical model of the solar system) built between 1776 and 1787 in Boston by a clockmaker and inventor, Joseph Pope. It is made of mahogany, brass, ivory, and glass—all materials that were of necessity imported to make this “American” product. The inner section of the movement contains a mix-and-match of gears and parts imported from England, while the outer sections exhibit the use of very thin brass wheels, wrought iron, copper, and cardboard, making it appear that Pope added to it over many years under some hardships of the war and perhaps without having a full design at the start. In place of the usual caryatids at the corners of the twelve-sided skirt, the orrery has cast-brass statuettes of scientific and political figures Isaac Newton, Benjamin Franklin, and James Bowdoin (amateur scientist and Governor of the Commonwealth of Massachusetts at the time of the orrery’s completion). The glazed beehive dome, representing the sphere of fixed stars, thus literally rests on the shoulders of science and the state.



Other artisans helped in its production, although they did not sign it. For instance, the wood patterns for the twelve brass figures were carved by Simeon Skillin Jr, a woodcarver best known for ship figureheads. The brass castings have been attributed to Paul Revere. Pope also was advised by Benjamin Waterhouse, the notable physician and professor of Harvard Medical School, who served as his go-between with Governor Bowdoin and more elite individuals.

Magnificent in scale and as political and scientific furniture, the Pope orrery was a spectacle in its day. Still unfinished, it made the news when it narrowly escaped

the great fire in Boston's South End in 1787. In 1788 it was praised by members of the American Academy of Arts and Sciences and purchased by Harvard College with funds raised from gambling. A fixture in Harvard's Philosophy Chamber, the orrery was shown off to visitors such as George Washington (1789) and used to teach John Quincy Adams (1786) and other students. Today it remains a star object at Harvard in the Collection of Historical Scientific Instruments.

The Workshop

This event will gather specialists—historians of science, furniture, labor, and politics, as well as horologists, and conservators—around the Pope Orrery (built 1776-1787 in Boston) to interpret it from their diverse vantage points. Together we will use the Pope Orrery as a *mise-en-scène* for an examination of Boston and the British world during the American Revolution, as witnessed by the labor, technology, economics, and politics of its production and sale, the social classes involved, and its use as a spectacle, prestige item, and model for teaching natural philosophy and religion.

The program and list of speakers can be found [here](#).

The public workshop—on November 3, 2023—will include talks and discussions. ***It will be held in-person at Harvard University with a hybrid option via Zoom. There is no fee to attend.*** The host will be the Collection of Historical Scientific Instruments via the Department of the History of Science at Harvard University.

The workshop has the endorsement of the IUHPST Scientific Instrument Commission, an international body. We are grateful to the David P. Wheatland Charitable Trust for financial support.

For more information about the orrery and workshop, and how to register, please visit <https://chsi.harvard.edu/pope-orrery-workshop>



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The Collection of Historical Scientific Instruments
Harvard University • November 3, 2023

Welcome and Introduction

8:45 AM

Welcome

Hannah Marcus

9:00 AM

The Life of Joseph Pope and That of His Orrery

Sara Schechner

American Clockmaking

9:20 AM

American Clockmakers and Their English Clocks

Robert C. Cheney

9:40 AM

Joseph Pope's Clocks

Richard Ketchen

10:00 AM

The Practical Considerations
of Actually Building an Orrery: Rittenhouse and Pope

Frank Hohmann III

10:20 AM Discussion

10:40 AM Coffee Break

Mechanical Models, Spectacle, and Networks

11:00 AM

Who Bought a Grand Orrery and Why?
From the Earl of Orrery to the City of Glasgow

Alison Morrison-Low

11:20 AM

"Wonder, Reverence, and Delight":
The Clockwork Cosmos in Early Modern Exhibition and Education

Alexi Baker

11:40 AM

The Cosmos as Not-An-Orrery

Jessica Riskin

12:00 PM

The Cosmos and the Atlantic:
The Fabrication Network of the Pope Orrery

Edward S. Cooke, Jr.

12:20 PM Discussion

12:40 PM Lunch Break

Material World

The Pope Orrery: Technical Study and Conservation

1:30 -2:30 PM

Panel discussion of conservators and conservation scientists

Melissa Carr - woodworking and furniture

Katherine Eremin & Georgina Rayner - analysis of metals, paint stratigraphy

Tony Sigel - object conservation, brass figures

2:30 PM Discussion

2:50 PM Coffee Break

Expanding the Orbit

3:20 PM

An Enlargement of the Orbit: Pope's Orrery
and Eighteenth-Century Constitutionalism

Jill Lepore

3:40 PM

From Orreries to WorldWide Telescope and OpenSpace:
Making Two-Dimensional Paths on the Sky
into Motions in a Three-Dimensional Universe

Alyssa Goodman

4:00 PM Discussion

4:30 PM General Discussion and Conclusions

5:00 PM Thanks / End of Meeting

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David P. Wheatland Charitable Trust
and the sponsorship of the
IUHPST Scientific Instrument Commission.*

