

TIMEKEEPERS IN HISTORICAL OBSERVATORIES

Challenges in conservation, restoration and maintenance

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The Philosophy of Observatory Clock Conservation: Reconsidering *Know Why Before Know How*

Observatory timekeepers are designed for precision, reliability, and time transmission. Their time frequency must be exploited beyond the simple movement of hands, notably through the escapement's sound and the electrical second's signal. To ensure accuracy and stability, these clocks integrate various technical solutions. Some use electromagnets to sustain pendulum motion, while others minimize air friction and environmental impact by operating in a vacuum.

Understanding their technical features and function is essential to defining a conservation-restoration strategy aligned with museological policies. Restoring them to working order? Why, and for what purpose? For an obsolete scientific role? To display time for visitors? Since observatory clocks were rarely set to the correct time—only their operating state mattered—this argument appears to be weak. Their pedagogical and aesthetic value seems more relevant, as functioning mechanisms enhance understanding and offer a visually engaging ballet. Restoration and maintenance can also support conservation by preventing oil solidification, dust accumulation, and metallic corrosion. However, wear and tear, the risks of reactivating deteriorated electrical components, and potential handling accidents remain concerns. As always, no perfect recipes but only compromises.

This presentation explores the restoration of observatory clocks, considering both their material and immaterial dimensions—where *know why* may be more important than *know how*.

Romain Jeanneret is a conservator-restorer specializing in historical metals and technical objects. His work focuses on interdisciplinary research and material studies in complex cultural heritage. He teaches at HE-Arc CR, collaborates on research projects at the University of Neuchâtel, and is in charge of the restoration workshop of the medieval treasury at Saint-Maurice Abbey in Switzerland.