

**IAU XXIX GENERAL ASSEMBLY
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**FM 2: Astronomical Heritage: Progressing the UNESCO-IAU Initiative
Recognizing the Twentieth-Century Heritage of Astronomy**

**Twentieth-century astronomical heritage:
the case of the Brazilian National Observatory**
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Presentation of the observatory

- *Geographical position:* São Januário hill, São Cristóvão district, Rio de Janeiro, Brazil
- *Location:* Latitude $22^{\circ} 53' 43.08''$ S, Longitude $43^{\circ} 13' 28.56''$ W, 33 meters above sea level
- *General description:* The National Observatory (ON) is the oldest one in Brazil. It was founded in 1827, but moved to the present location only in 1921. It occupies a wooded area of ap. 44km^2 on the top of the hill, which since 1985 is shared with the Museum of Astronomy and Related Sciences (MAST). Both institutions are subordinated to the Ministry of Science, Technology and Innovation.



The ON-MAST campus



Brief inventory



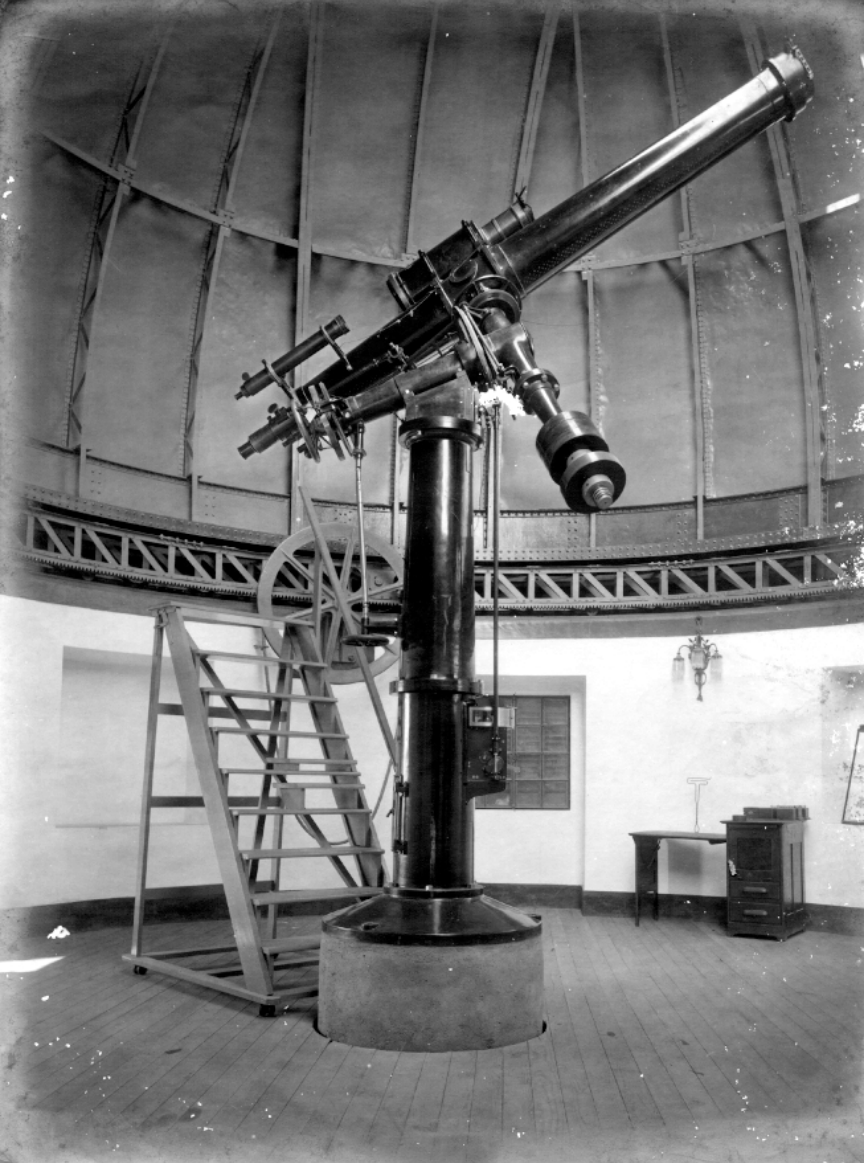
The ON headquarters in 1921

Brief inventory

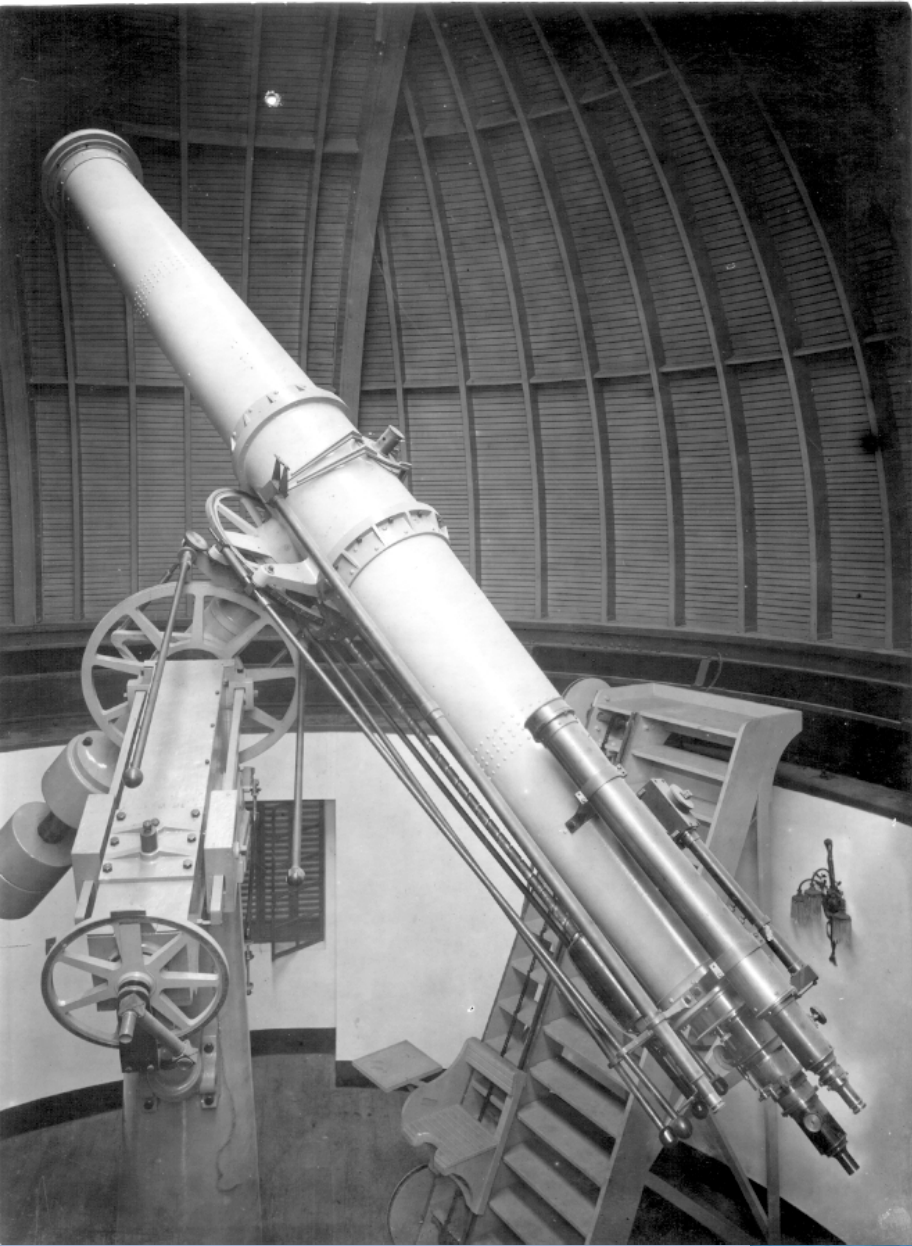


Brief inventory

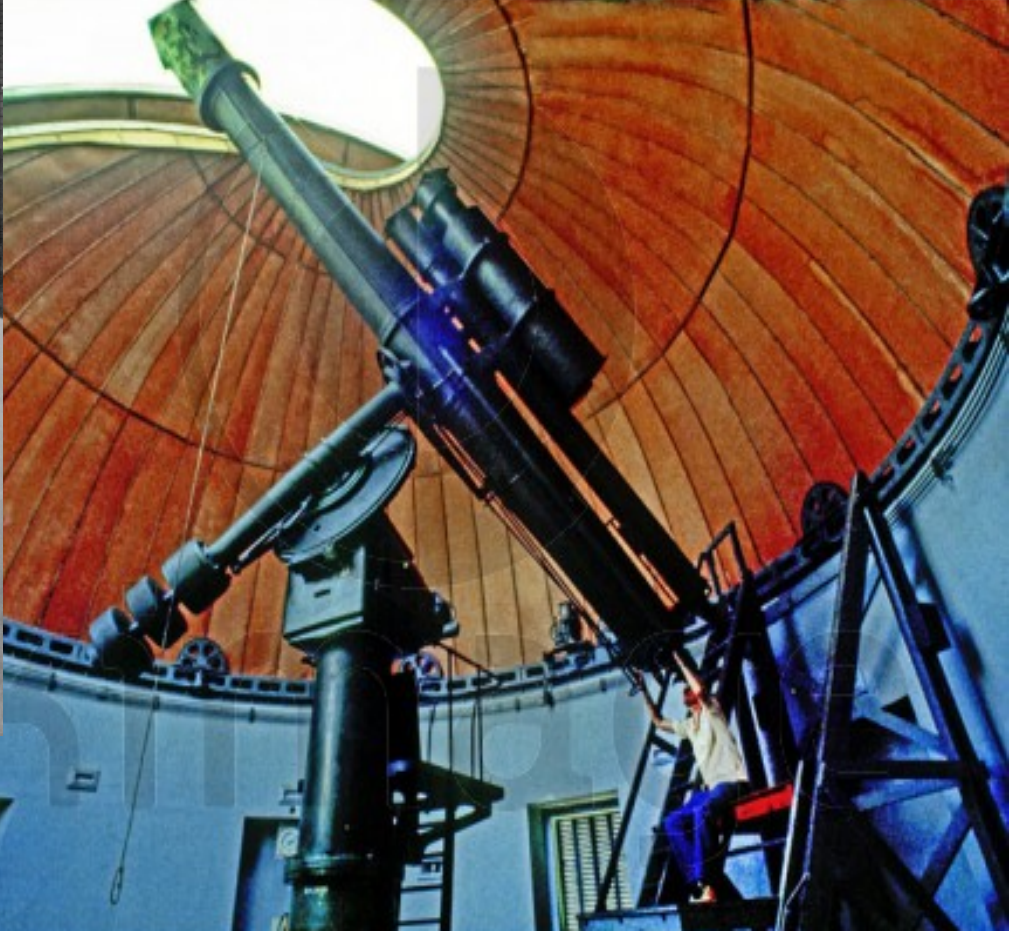
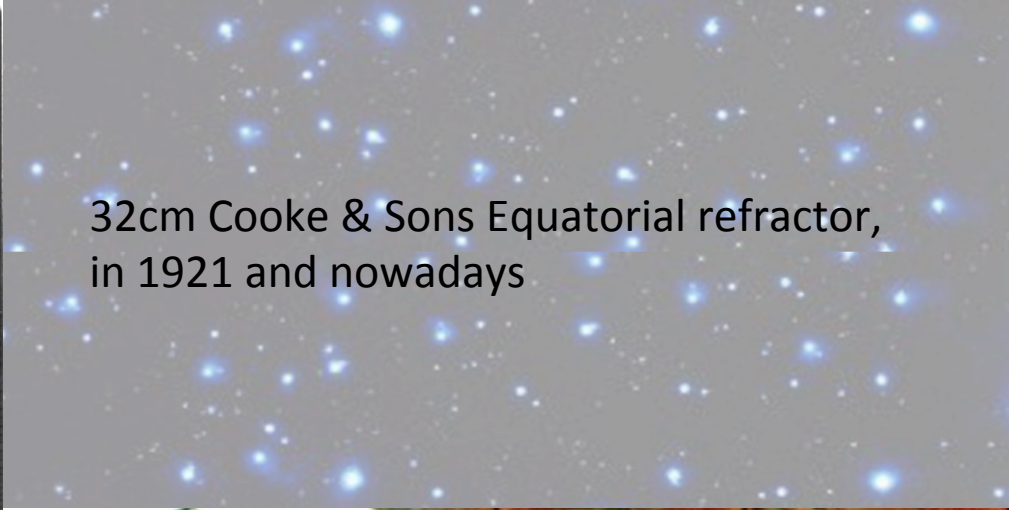
- 1) 21cm (8-in) Equatorial refractor by Gustav Heyde
- 2) 32cm (12.6-in) Equatorial refractor by Cooke & Sons
- 3) 14cm (5.5-in) Zenith telescope by Gustav Heyde
- 4) 46cm (18-in) Equatorial refractor by Cooke & Sons
- 5) 7cm (2.7-in) Meridian circle by Askania
- 6) 8cm (3.1-in) Meridian circle by Bamberg
- 7) 19cm (7.4-in) Meridian circle by Gautier
- 8) 10cm (3.9-in) Photoheliograph by Zeiss

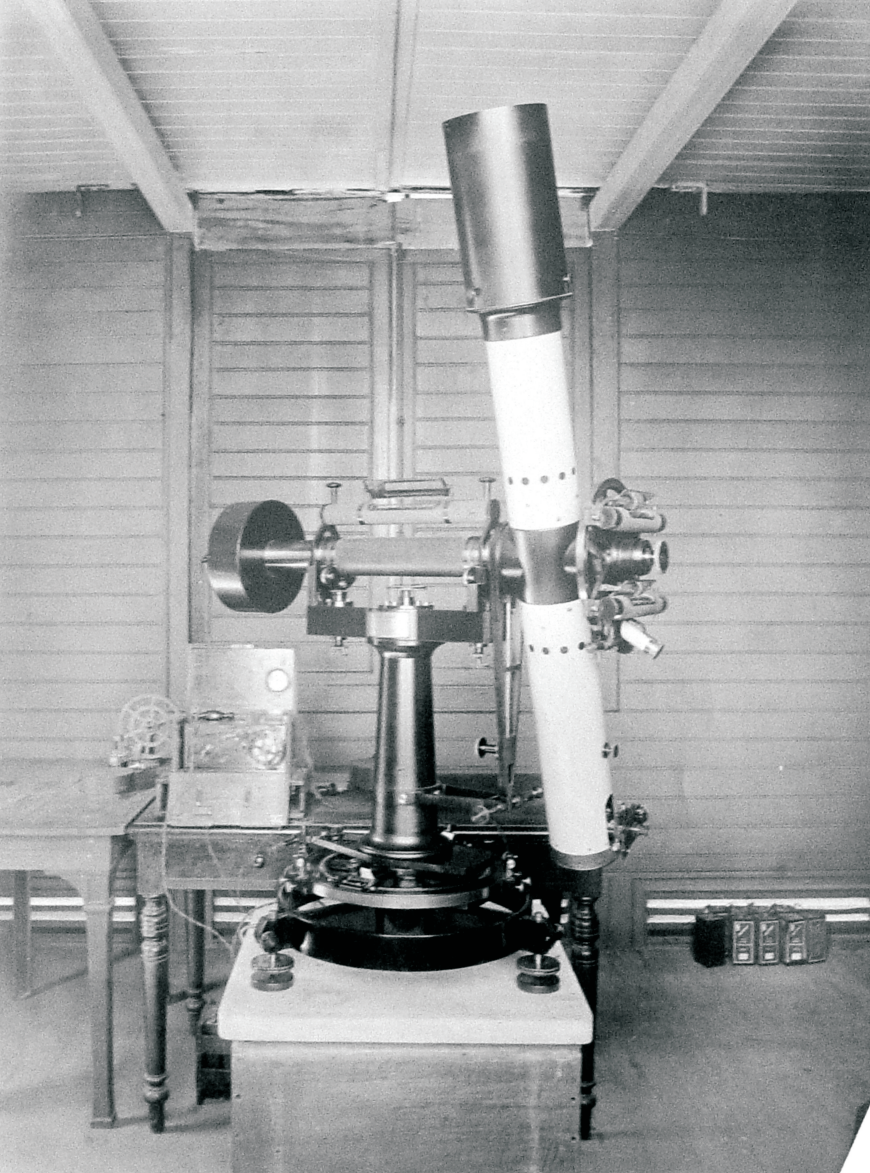


21cm Equatorial refractor by Gustav Heyde, in 1921 and nowadays



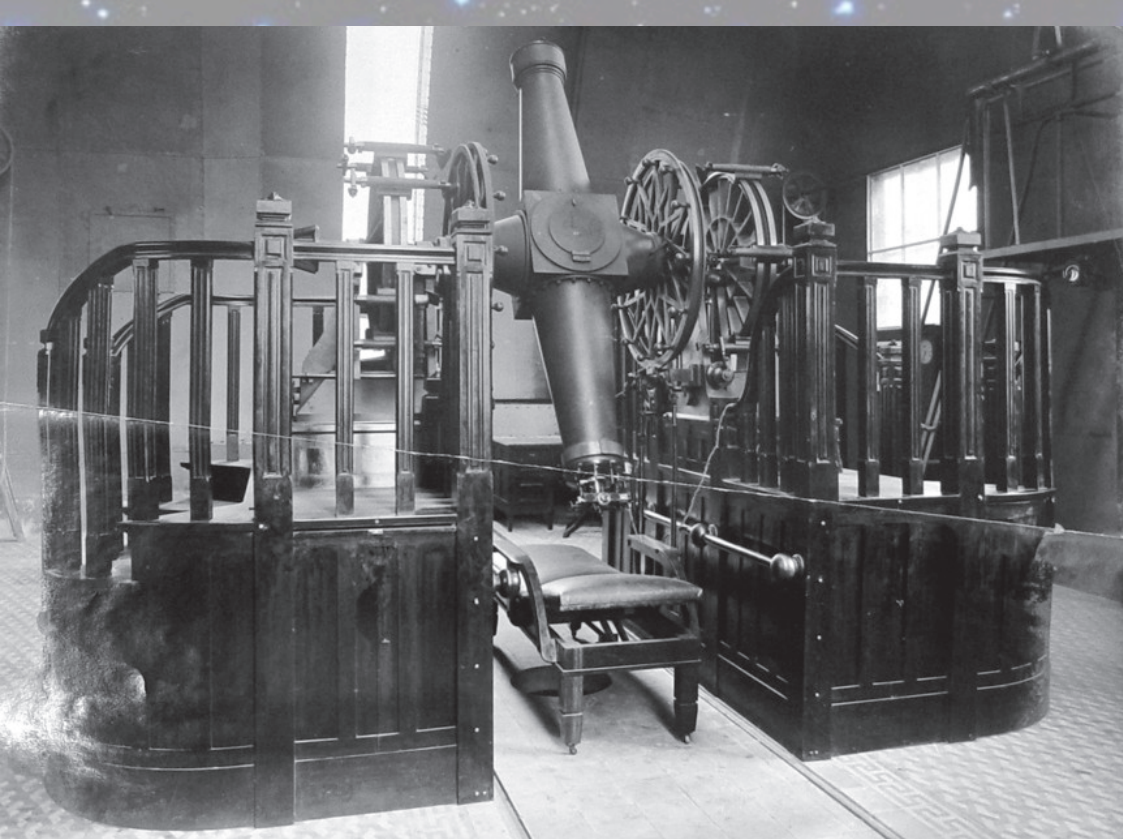
32cm Cooke & Sons Equatorial refractor,
in 1921 and nowadays





Zenith telescope by Heyde





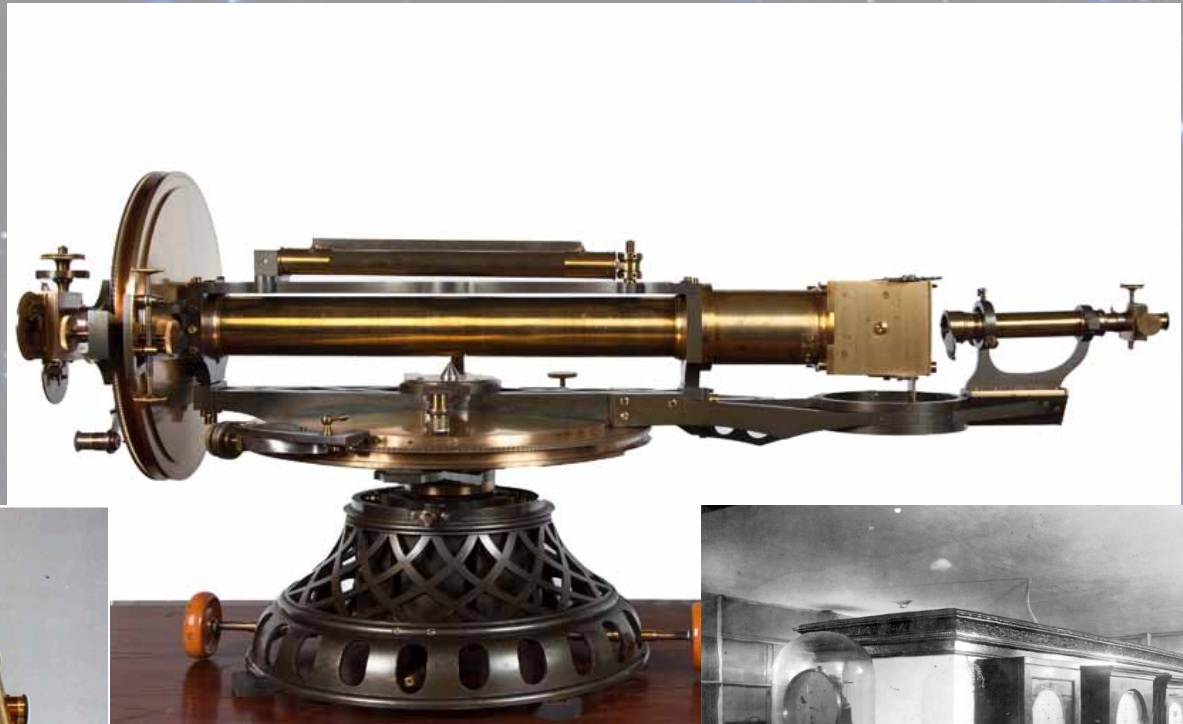
Meridian circle by Gautier,
in 1921



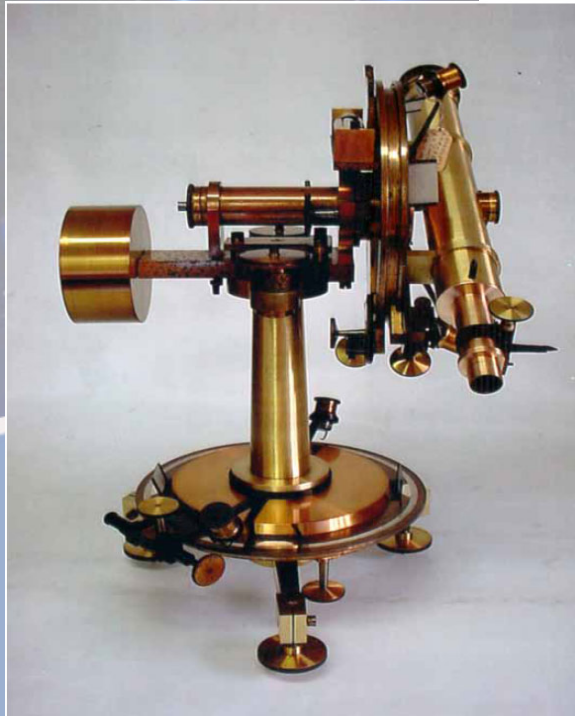
The Gautier pavilion after its restoration,
in 2005

Moveable instruments

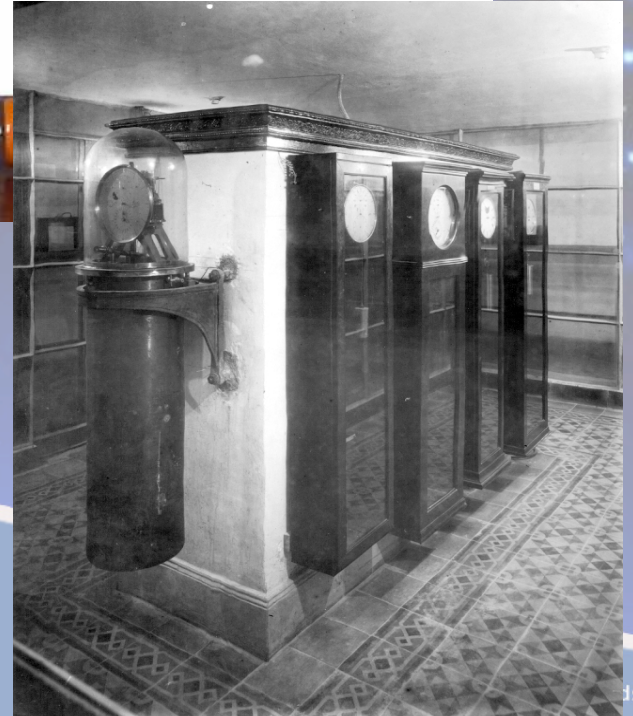
Altazimuth, awarded in
the 1873 Vienna
International Exhibition



19th century
theodolite



Pendulum clocks



History of the Observatory

The ON was founded in the context of Brazil's political independence from Portugal. From its foundation until the 1870s its main task was giving the necessary practical teaching of astronomy to the Brazilian military corps. By that time it was located in the core of the city, on the top of the Castelo hill, in the higher floors and terrace of an abandoned Jesuit convent. Under the direction of Emmanuel Liais (1871-1881) and Luiz Cruls (1881-1908) the links with the Military Academy were broken and it started performing multiple roles besides astronomical research, such as providing a legal time service, establishing a meteorological network throughout the country, and determining geographical positions. Under the direction of Henrique Morize (1908-1930) it moved to São Januário hill, where it is still in operation.

Cultural and symbolic dimension

The ON is one of the oldest scientific institutions in Brazil. Between the end of the 19th century and the beginning of the 20th century it also became a significant one. On the one hand, it rivaled with Cordoba and Cape of Good Hope Observatories in the discovery and investigation of celestial objects within the Southern skies. On the other hand, in the political context of the State building of Brazil, its personnel and equipment were responsible for some strategic tasks, such as the determination of the legal time, of the territory borders, and of the area for the new capital, in the Central Plateau (finally built in the 1950s).

Authenticity and integrity

Despite the notable urbanization of the São Cristóvão district, where the complex of ON-MAST is located, the wooded campus has been preserved. As it happens with living scientific institutions, and especially observatories, some instruments have suffered marginal modifications. Due to the obsolescence of their inner instruments, some pavilions have been abandoned in the past, and some have even been demolished, like the Gautier's.

The multidisciplinary team of MAST's specialists has successfully restored many instruments and pavilions, with the philosophy of intervening as less as possible in their actual appearance.

Documentation and archives

Since its creation MAST is responsible for safeguarding not only the ON collections of historical pavilions and instruments but also the documents and photographs produced during its activities, from its foundation until 1985. The greatest part of the ON documents are organized in a dossier of the institution, but it is also possible to find documentation in the personal dossiers of some former directors, such as Luiz Cruls and Henrique Morize.

The MAST History of Science Archive is open to public consultation.

Present site management

The ON-MAST site was listed by the Brazilian National Institute of Historic and Artistic Heritage (IPHAN) and the Rio de Janeiro State Cultural Heritage Institute (INEPAC) in 1986 and 1987, respectively. The listed heritage comprises the buildings as well the collection of scientific instruments and other significant artifacts, including the historical furniture.

Since its creation, MAST has made many interventions both on the instruments and the astronomical pavilions, in order to restore them.

References

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