



Figure 25.1: Geographical distribution of the Italian Astronomical Observatories

25. Italian Astronomical Observatories and their Historical Instruments Collections

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25.1 A Brief Historical Introduction

Italy has a high number of astronomical observatories in comparison with its territorial extension. This is due to historical reasons, as Italy results from a political process of unification and annexation of several small states into which the country was divided – a process (the *Risorgimento*) which was carried out mainly around the half of 19th century.

The first “institutional” Observatories in Italy were established in the 18th century, as in the majority of the other European nations. At that time, Italy was composed by seven states and since 1711 to 1819 each of these states established one or two Observatories in its territory.

After the political unity of Italy, a reform was planned¹ and in 1876 some small observatories were de-classed as simple meteorological stations (it is the case for Modena and Parma). Three more observatories were established at the end of the 19th century, and after the World Wars, with the annexing of the last ex-Austrian territories (Bozen, Trento and Trieste), the total number of the Italian Observatories was twelve – which is the current number.

It is also to be mentioned the existence of the Vatican Observatory, which keep a collection of 19th and 20th century instruments – but it is out of the purposes of this paper, as the Vatican State is politically independent from Italy.

25.2 Buildings and Collections

The consequence of above-depicted situation is a peerless Italian astronomical heritage consisting of historical buildings, instruments, books and archival materials.²

About the eighty per cent of this heritage is kept in the astronomical observatories, but also some Universities (such as Bologna and Palermo), some prestigious museums (such as the Istituto e Museo di Storia della Scienza in Florence), and some private institutions (such as the Luxottica Museum in Agordo, near Belluno) possess or keep historical astronomical collections. Concerning observatories, the most ancient ones keep many beautiful and well-preserved 18th century instruments,

made by famous instruments-makers of that time, such as Ramsden, Short, Sisson, etc. while the typical equipment of an Italian observatory in the middle of the 19th century consisted of astronomical instruments made by Reichenbach, Fraunhofer, Repsold, Merz and others.

The ancient observatories, built upon towers or palaces in the middle of the cities, have mostly preserved their original building and their historical architecture; a special mention is to be deserved to the Naples Observatory, located on the hill of the Capodimonte: it was the first architectural complex in Italy specially planned and built to be an astronomical observatory; it dates back to 1819, thus preceding the Pulkovo Observatory, established in 1839, which will serve later as architectural model for many observatories all over the world.

Many of the observatories established in 19th century have been moved to other sites – and the collections have been moved too. For example: the Turin Observatory collection is now kept at Pino Torinese; the instruments of the Arcetri Observatory are displayed at the Istituto e Museo di Storia della Scienza (IMSS) in Florence; the important collections of the two main Observatories in Rome (Collegio Romano and Campidoglio) is now splitted into the two current sites of the Rome Observatory at Monte Mario (which hosts also the remarkable collection of the Museo Astronomico e Copernicano) and Monte Porzio. It is to be mentioned the Catania Observatory, established in 1880, which was the first Italian astrophysical observatory, built on a mountain site (the Aetna).

The most recent Observatories possess instruments dating back to late 19th or early 20th centuries. Unfortunately, sometimes in the past, these instruments has not been considered as historical materials and a number of them has not been preserved, suffering loss or destruction.

25.3 Conservation and Preservation Activities

Since the 1980s an important effort has been made in preserving the collections kept in Universities and Ob-



Figure 25.2: Italian observatories: Above: Brera Observatory Museum Milan (1764), Middle left: Palermo Observatory (1799), Lower left: Naples Observatory (1819), Middle right: Padua Observatory (1767), Lower right: Teramo Observatory (1882) (Courtesy of INAF, Istituto Nazionale di Astrofisica, Photo (Padua): Gudrun Wolfschmidt)

servatories, thanks to a growing interest in the field of the history of science.

Following the example of the Brera Observatory in Milan, the first Italian Observatory to pay attention to its historical heritage, other Observatories decided to make inventories of their collections. In 1989 and in 1993, two national meetings were promoted by the History of Astronomy Working Group of the Società Astronomica Italiana to discuss the problems of the conservation of the historical astronomical heritage and in 1994 a proposal of classification for historical astronomical instrumentation was defined and presented at the Leiden SIC Symposium. Thereafter, the historical instruments in all the Observatories started to be inventoried and catalogued.

In 1999, the National Institute for Astrophysics (INAF) has been established with a unique central administration for the Italian astronomical research. INAF embodies all the astronomical Observatories and, since 2002, also the astronomical institutes of the National Research Council (CNR).

INAF Department 1 (Dipartimento Strutture) has been created to coordinate the activities of all the embodied institutions; it has activated four Services and one of them, established in 2005, is devoted to the INAF Museums. The INAF Museums Service has a Coordinator and a Working Group; it is aimed at: a) supervising the preservation of the historical instruments and buildings of INAF; b) promoting the making of inventories of the INAF historical collections; c) stimulating the Observatories in rendering accessible to the public their instruments heritage; d) if requested, advising the Directors of the Observatories in matter of historical instruments.

Once defined the aims of the Service, in June 2006, the Working Group promoted a workshop on the INAF Historical Instruments Heritage, held in Florence, thanks to the welcome of the IMSS. Representatives of all the INAF Observatories (except for Cagliari) attended the workshop and participated to the discussion, exposing problems and perspectives.

The map of the different local contexts has been updated in the workshop. The results have been encouraging: only four observatories had their collections not on exhibition; the others had museums accessible from the public. Two of them (Bologna and Palermo) keep instruments belonging to the University, while the instruments of the Observatory of Arcetri, near Florence, are on exhibition at the IMSS. The instruments of the Brera Observatory are merged with those of the University of Milan while, unfortunately, the astronomical museum in Rome is closed at present, because of space problems - its renovation and reopening is one of the most important steps to move for INAF. From 2006 to 2008, three more observatories have made efforts to exhibit their collections (this is the case for Catane, Turin and Trieste), and the situation has furtherly improved: by now, all the collections are fully or partially accessible from the public (see Table 25.1, p. 231).

Concerning instrument catalogues, the situation is encouraging too: almost the totality of the Observatories have produced both printed and online catalogues (see Appendix). This fact forms the evidence of a spread attention and sensibility to preserving and inventorying the historical instruments. Of course, the situation shows also several problems, both general and local. The main general problems are related to the lack of qualified staff – there is only one curator (in Padua) and two ex-curators, now researchers (in Palermo and in Rome) – as well as to the lack of adequate spaces, especially for the most recent observatories. Moreover, the inventory cards, where existing, are not homogeneous. From 2006 to 2008, two more collections have been catalogued (Turin and Trieste – these catalogues are not yet available), some collections need to be set on adequate exhibition (this is the case for Turin, where work is in progress – and Cagliari), and, above all, the astronomical museum of Rome needs to be re-opened and renewed.

Fortunately, there are also some resources: INAF has an annual budget for the restoration and the urgent interventions on his historical heritage (100.000 euros in 2008) and, at present, many museums are supported by local associations or by local government furnishing temporary staff.

25.4 From Specola 2000 to Astrum 2009

In 1999 the Ufficio Centrale Beni Archivistici of the Italian Ministry for the Cultural Heritage and Activities and the Società Astronomica Italiana launched Specola 2000, a project for the inventorying and preservation of the Observatories archives.³ Specola 2000 started at the end of 1999 and is currently well-advanced on the whole: the arrangement of seven from the twelve archives of the Observatories has been financed either partially or totally; the general skeleton of the archives has been identified; the inventory of five archives is entirely or partially on line.

In order to carry on and to coordinate the efforts for the conservation of the historical astronomical heritage of the Italian Observatories, the INAF Museums Service Working Group intended to follow the outlines of Specola 2000 and in 2006 presented to the Ministry MuSA 2009, a project for the preservation and cataloguing of the historical instruments kept in the museums and collections of the Italian astronomical Observatories. Musa 2009 consisted of three phases:

1. To obtain homogeneous inventorying of all the instruments according to the “PST Catalogue Card” standards recently proposed by the IMSS and the Centro Universitario per la Tutela e la Valorizzazione del Patrimonio di Siena (CUTVAP), and officially accepted by the Italian Ministry for the Cultural Heritage and Activities, and by the Central Institute for Cataloguing and Documentation (ICCD). The latter should have solicited the local

superintendents for sending specialized technical staff for compiling the cards, with the assistance of a local scientific supervisor.

2. To publish a printed and online catalogue of all the historical astronomical instruments kept in the Observatories.
3. To set a great central exhibition on the history of Italian astronomy, to be held in Rome in 2009, International Year of Astronomy, with historical materials taken from all the Italian Observatories. The exhibition would have summarized the main scientific achievements obtained in all the Observatories, or, at least, in the most important of them from a historical point of view. Unfortunately, the Ministry did not give support to Musa 2009 project and this hampered phase 1 from starting; phase 2 was consequently abandoned, while phase 3 was the only part of the project which did not depend from the carrying out of the other two phases.

Therefore, the project Musa 2009 was aborted, while the phase 3 of the project has developed into a new project: Astrum 2009, an exhibition of the Italian historical heritage in astronomy (instruments, books, archives), which will be held at the Vatican Museums from October 2009 to January 2010, thanks to the collaboration with the Vatican Observatory.

A second INAF workshop has been held in 2007 in order to coordinate the project. Actually, instruments from the major collections of the INAF Observatories will be on exhibition, together with items coming from other institutions. Except for the Museo della Specola in Bologna, also Universities collections such as those belonging to the Dept. of Astronomy in Palermo and Dept. of Physics in Bologna and Pavia, will lend some instruments, as well as private collections, such as Luxottica. In Astrum 2009, therefore, all kinds of institutions possessing astronomical instruments will be represented. The main aim of this initiative is that of giving visibility to the historical scientific collections in the Observatories and hopefully improving the current efforts in preserving the Italian astronomical heritage.

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1. See: POPPI F.; BÒNOLI F. AND I. CHINNICI: "Il progetto Tacchini e la riforma degli Osservatori italiani." In: *Cento anni di astronomia in Italia 1860–1960*. Atti dei Convegni Lincei 217 (Rome, 26–28 March 2003). Rome: Bardi Editore 2005, pp. 123–171.
 2. See: CHINNICI, I.; BÒNOLI, F.; CALISI, M.; STRANO, G. AND V. ZANINI: "Historical instruments in Italian astronomical observatories: state of the art and perspectives." In: *East and West – The Common European Heritage. Proceedings of the XXV Scien-*

tific Instrument Symposium. Krakow: Jagiellonian University Museum 2006, pp. 101–105.

3. Chinnici, I.; Mandrino, A. and F. Bònoli: "Historical Archives in Italian Astronomical Observatories: the Specola 2000 project." In: *Journal of Astronomical History and Heritage* 9 (2), 2006, pp. 200–202.

25.5 Bibliography

Printed Catalogues

- BAIADA, E.; BÒNOLI, F. AND A. BRACCESI: *Museo della Specola*. Bologna: Bologna University Press 1995.
- BUCCELLATI, G. AND P. TUCCI (eds.): *I cieli di Brera*. Milan: Università degli Studi 2000.
- CALISI, M.: *Guida alla visita del Museo Astronomico e Copernicano di Roma*. Rome: Osservatorio Astronomico di Roma 1991.
- CALISI, M.: *Storia e strumenti del Museo Astronomico e Copernicano di Roma*. Rome: Osservatorio Astronomico di Roma 2000.
- CALLEDDA, P. AND E. PROVERBIO: *La stazione astronomica di Carloforte*. Cagliari: CUEC 2000.
- FODERÀ SERIO, G. AND I. CHINNICI: *L'Osservatorio Astronomico di Palermo*. Palermo: Flaccovio Editore 1997.
- MINIATI, M. (ed.): *Museo di Storia della Scienza: Catalogo*. Florence: Giunti 1991.
- MIOTTO, E.; TAGLIAFERRI, G. AND P. TUCCI: *La strumentazione nella storia dell'Osservatorio Astronomico di Brera, Università degli Studi di Milano*. Milan: Unicopli 1989.
- PACINELLI, L. P.: *Museo di Collurania: gli strumenti, Osservatorio Astronomico di Collurania-Teramo*. Teramo: Fondazione Cassa di Risparmio della Provincia di Teramo 1999.
- RIGUTTI, M. (ed.): *La Collina di Urania: Catalogo del Museo Storico dell'Osservatorio di Capodimonte*. Naples 1992.
- RIGHINI BONELLI, M. L. (ed.): *Il Museo di Storia della Scienza a Firenze*. Milan: Electa Editrice 1968.

Online Catalogues

- <http://www.astropa.unipa.it/museo/homemuseo.html>
- <http://www.bo.astro.it/dip/Museum/MuseumHome.html>
- <http://www.brera.unimi.it/museo/catalogo/strumenti/FormRicercaStrumenti.jsp>
- <http://www.ca.astro.it/museo/welcome.html>
- <http://www.ct.astro.it/catalogo/strumenti.html>
- <http://www.imss.fi.it>
- <http://www.mporzio.astro.it/museo/welcome.html>
(in progress)
- <http://www.na.astro.it/oacmedia/museo/museo/catalogo.htm>
- <http://www.pd.astro.it/museo/PagineInglese/index.htm>
- <http://www.te.astro.it/museo.htm>

Table 25.1: *The situation of the Italian Observatories' historical heritage in 2008*

Observatory	Year	Collection site	Museum	Catalogue	Current owner	Notes
Bologna	1711	Original building (Palazzo Poggi)	Yes	Printed and online	University	The Observatory is currently located at the University Campus
Turin	1759	Moved from Turin (Palazzo Madama) to Pino Torinese	Collection partially on exhibition	Printed as internal Report)	INAF	A project for displaying the collection in the Morais dome is in preparation.
Rome	1760	Two current sites at Monte Mario and Monte Porzio	Yes (to be re-opened)	Printed	INAF	The Rome Observatory keeps the collections of the Collegio Romano and the Capitol Observatories
Brera-Milan	1764	Original building (Palazzo Brera)	Yes	Printed and online	INAF	A second site of the Observatory is located at Merate; some instruments are kept at the Museo Nazionale di Scienza e Tecnica
Padua	1767	Original building (Castel Vecchio)	Yes	Printed and online	INAF	A second site of the Observatory is located at Asiago
Palermo	1790	Original building (Palazzo Reale o dei Normanni)	Yes	Printed and online	University	An agreement exists between INAF Palermo University; the conservation and the preservation of the collections is entrusted to INAF
Naples	1819	Original building	Yes	Printed and online	INAF	This is the first building expressly conceived to be an astronomical observatory
Arcetri-Florence	1872	Moved from the Observatory to IMSS	-	Printed and online	INAF	The collection has been donated to the Institute and Museum of History of Science (IMSS); only a few items are extant in Arcetri
Catania	1880	Moved from the ex-Benedictin monastery to the University Campus	Collection partially on exhibition	Online	INAF	This is the first astrophysical Italian observatory, conceived as a mountain observatory (with a station on Mount Aetna); the Observatory is currently located at University Campus; an observational station is located at Serra La Nave
Teramo-Collurania	1882	Original building	Yes	Printed and online	INAF	It was a private observatory, donated to the Italian Government by the owner V. Cerulli
Trieste	1898	Moved from Trieste to Basovizza	Collection partially on exhibition	No	INAF	The Observatory is still located in his original site (Castello Basevi); a second site, hosting the exhibition, is located at Basovizza
Cagliari	1899	Moved from Carloforte to Poggio dei Pini	(Virtual)	online	INAF	It was originally intended as a station for the International Latitude Service; the Observatory is now located at Poggio dei Pini