

# Preface

It is undeniable that Merz telescopes played an important role in the development of astronomy and astrophysics in the nineteenth century. The reliability of these instruments, whose excellent optical qualities were universally recognized, is proven by their widespread use: in the second half of the nineteenth century, there were no observatories devoid of a Merz instrument, be it a large or a medium-size one, depending on the scientific program and/or the budget of that establishments. Merz telescopes were installed in almost all the most important observatories, in Europe, but also in India, the Philippines, Japan, Ecuador, and many other countries: their contribution to the diffusion of the practice of astronomy is unquestionable. Moreover, these instruments were active for incredibly long periods of time, having been used for over a century in many cases, sometimes even recycled, modernized, or combined with other telescopes, especially in regard to their optical parts.

This happened in Italy, for example, where Merz telescopes or lenses were used until the 1970s. Actually, Italy was one of the main commissioners of the Merz Company, due to the fact that, after the political unity reached in 1861, and the annexation of Rome in 1870, the Italian government had to sustain most of the astronomical observatories in existence in the territories of the previous Italian States. Many of these observatories had acquired or were already equipped with Merz telescopes. In the second half of the nineteenth century, early spectroscopic studies on stellar and solar physics were carried out in some Italian observatories, with Merz instruments being of primary use for this kind of research. In the twentieth century, as the financial resources allocated by the Kingdom of Italy for the renewal of astronomical equipment were scarce, Merz instruments still in use were often modernized, in order to continue to exploit their excellent optical performances. Sometimes, the disassembled lenses were mounted in other telescopes or given on loan for scientific purposes: many cases of “cannibalization” have been recorded but many others have probably been forgotten and, consequently, many pieces have been lost.

In order to preserve this important and unique heritage, actions have been taken in the past 20 years, by some Universities and astronomical institutions, for inventorying, restoring and displaying these instruments in museums. Little by

little, in Italian astronomical observatories, an increasing awareness of the importance of preserving this heritage has developed among astronomers, and today, the risk of destroying or throwing away old instruments, books and papers—as often happened in the past—has been almost completely eliminated.

This book intends to reinforce the consciousness of the scientific community about the value of this heritage and stimulate initiatives aimed at preserving Merz telescopes in other observatories and countries. It offers a perspective about the results of these actions in Italy and the research work requested for this purpose. The initial chapters provide a general view of the Merz Company and the building of large refractors in the nineteenth century, while the subsequent chapters deal with specific aspects, collections and instruments and the studies carried out with them, up to recent times. The contributors are experts in the field and often curators of the collections herein described.

As a final remark, it is important to stress that the importance of this heritage is sometimes underestimated. Historical instruments are often regarded as a mere resource for popularizing astronomy. This is certainly a part of their value, since they represent a powerful tool for inducing people to engage with science, by means of storytelling, and a visualization of how science has advanced thanks to new ideas and technologies. Nonetheless, this is a restrictive perspective. Scientific material heritage, above all, consists of cultural goods to be preserved, and is a tool for historical research. Around every old instrument, in fact, there is an intertwined context of ideas, persons, situations, and institutions. Knowing this background is crucial to fully understanding the evolution of science, and adjusting the mistakes that have sometimes occurred because of an overly facile approach to history; correct contextualization of these objects enables everyone, scholars and public, to gain the right perspective about a theory, a discovery, or a way of engaging with science. Retaining memory also means preserving identity: indeed, looking at the past and studying scientific heritage is itself most assuredly a contribution to science.

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A global heritage worth preserving

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