

**THE BOOK OF MICHAEL OF RHODES**  
A FIFTEENTH-CENTURY MARITIME MANUSCRIPT

EDITED BY PAMELA O. LONG, DAVID MCGEE, AND ALAN M. STAHL

Volume 3: Studies  
edited by Pamela O. Long

transcription by Franco Rossi  
translation by Alan M. Stahl

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## PREFACE TO VOLUME 3

Michael of Rhodes, called Michalli da Ruodo, began his maritime career in 1401 as an oarsman on a Venetian galley and spent his adult lifetime working on Venetian ships. In 1434 he began to write the book that is the focus of the studies contained in this volume. This collection of studies can stand on its own but is also a companion to the facsimile edition of the manuscript, edited by David McGee, and to a second volume, edited by Alan M. Stahl, that contains the transcription of Michael's manuscript by Franco Rossi and a translation of his Venetian into English by Stahl. The publication of these three volumes allows scholars and the general public to study the manuscript as a whole for the first time.

The manuscript itself has never before been available to scholars. Its location before modern times is unknown, although its use for the recording of the last testament of a sailor, written on its back pages in 1473, shows that it was in the sack of a mariner traveling in the eastern Mediterranean almost 30 years after Michael's death. The manuscript, privately owned since at least the early twentieth century, was described in detail in 1966 on the occasion of its sale by Sotheby's in London. This description generated great interest especially because of the manuscript's substantial section on shipbuilding; nevertheless, it disappeared from view after its sale to another private owner. After a second sale by Sotheby's, in 2000, the manuscript's present owner gave permission to the Dibner Institute for the History of Science and Technology to study it and to support the publication by the MIT Press of a facsimile edition, an English translation, and accompanying studies. This is how our project began. It is the result of the owner's generosity and understanding of the crucial importance of scholarship that, more than 550 years after Michael wrote it, his book is now being published. The study of the manuscript and its publication have been made possible by the support of the Dibner Institute for the History of Science and Technology, as well as the National Science Foundation (Grant No. SES-0322627), the National Endowment for the Humanities (Grant No. RZ-50047-03), and the Gladys Kriebel Delmas Foundation.

Study of the manuscript has been carried out by an international group of scholars from Italy, Canada, Germany, and the United States. The three codirectors of the project—myself, David McGee, and Alan Stahl—with the help of the executive staff of the Dibner Institute, planned the project in 2002 by making applications to granting institutions and identifying a group of experts on the various topics treated in Michael's book. Each of these scholars has contributed an essay to this volume. My own essay comprises an introduction to Michael of Rhodes and his Venetian context. Alan Stahl, the translator of the text into English and editor of the second volume of this edition, contributes a biographical essay concerning Michael. Franco Rossi, who transcribed the manuscript and wrote the codicological study, both of which appear in the second volume, here

contributes an essay assessing Michael and his manuscript. Raffaella Franci's essay concerns Michael's mathematics, the most extensive part of the manuscript. Dieter Blume's study concerns the manuscript's visual images. Piero Falchetta's essay focuses on its portolans (navigational directions). David McGee, the editor in charge of the facsimile volume, here contributes a study of the shipbuilding section of the manuscript. Mauro Bondioli, an expert on late medieval ship construction, also discusses the shipbuilding part of the manuscript, including the possible origins of Michael's sources in the context of the Venetian Arsenal. Finally, Faith Wallis examines the extensive calendrical material that Michael assembled and, as her study makes clear, labored over.

The project has been a cooperative effort throughout. David McGee oversaw the photographing of the manuscript pages. In a parallel project, he created most of the subject content for a public website on Michael of Rhodes, created by WGBH of Boston and now maintained by the Istituto e Museo di Storia della Scienza in Florence. He also created and managed a separate, working website for the group that contained images of the manuscript folios and, as they were completed, each page of the transcription and translation. Before all the members of the group had met in person or studied the physical manuscript, we were able to study the pages on this website, and to add comments and corrections to the transcription and translation pages as they appeared. This project could not have been carried out without the Web and Internet technologies that allowed such a geographically diverse group to communicate extensively on a continuous basis. Alan Stahl translated the work from Venetian to English, and oversaw the edition (including transcription, translation, notes, and indexes) of the second volume of this edition. As the editor of this third volume of essays, I have overseen the production (and where relevant, translation) of the studies that appear here, and have edited them.

While the above characterizes the general division of labor among the three coeditors of this work as a whole, it does not capture the fundamental cooperation and mutual assistance that made the project possible from the start, involving intense three-day meetings in Cambridge, numerous phone calls, and hundreds of emails. Each of the specialists who have contributed to the edition and group of studies also provided extensive advice and aid on a variety of issues. Our ability to carry out the work of this edition from beginning to end was made possible by the executive officers and staff of the Dibner Institute, about which more below.

A workshop brought the group together for the first time in 2004 at the Dibner Institute at MIT. On this occasion, we discussed intensively the first drafts of the essays presented here, as well as issues concerning the project as a whole. In addition, the manuscript itself was brought to the Dibner Institute for the occasion, and the study of the physical manuscript began. The manuscript was carried to the Institute on two further occasions to allow its complete study, especially by Franco Rossi but also by other scholars in the group.

In December 2005, a second conference was held at the Dibner Institute to present the Michael of Rhodes manuscript to the public. As planned, this conference took place before the final revisions of the essays had been completed. Our group of specialists presented their findings, and invited scholars who are experts in particular facets of the manuscript and/or its general context also presented their own reflections. These additional scholars had been given access to the working website in order to study the manuscript, the transcription and translation pages, and drafts of the essays. Our thought was that we could all benefit from the reflections and comments of "outside" experts before we had completed the final revisions of our work. Our hopes for this conference were fully realized. We have benefited immensely from the contributions of these scholars, who

significantly influenced the final shape of our work—Patricia Fortini Brown, John Dotson, Paolo Galluzzi, Matthew Harpster, Alan Hartley, David Jacoby, Brad Loewen, John Jeffries Martin, John Pryor, Dennis Romano, Pamela H. Smith, Peter Spufford, Glen Van Brummelen, Warren Van Egmond, Filipe Vieira de Castro, and Diana Gilliland Wright.

The nine scholars whose studies appear in this volume each have investigated the manuscript from a variety of points of view, and present their findings in in-depth essays. These essays will help to make the manuscript more comprehensible and accessible to a wide range of scholars, students, teachers, and the general public. The availability of an exact facsimile of the manuscript, its transcription and translation, and the accompanying studies make future investigation possible. The essays represent comprehensive studies by specialists who have evaluated the manuscript, or a section of it, on the basis of their own areas of expertise.

The studies presented here provide a starting point for the study of the manuscript itself. Alan Stahl's biographical essay is one of the most extensive and detailed accounts now available of the life of a non-noble living in the early fifteenth century. Michael gave sufficient detail in his autobiographical account or service record to allow us to know exactly which ship he was on for each of his more than forty voyages. This circumstance has allowed an investigation of what happened to that ship (and therefore to Michael) from a variety of other sources. The use of Michael's detailed service record to locate other sources is evident in my own introductory essay, and is carried further by Stahl in his biographical account. In another arena, Stahl's discovery of a labor dispute between non-noble mariners and the nobles on the ships in the early 1430s elucidates not only Michael's own life but the life of maritime workers as a whole in early Renaissance Venice.

In his essay, Franco Rossi outlines his conclusions concerning the nature of Michael's authorship, including a discussion of the illustrations. He also discusses the results of his study of a second manuscript in the Biblioteca Nazionale Marciana in Venice (Ms. It. IV, 170 [= 5379]), formerly attributed to Pietro di Versi. Rossi has convincingly argued that this second manuscript was also written by Michael of Rhodes. Rossi's reflections on Michael's first book (the focus of the present edition) come out of his extensive work of transcription and his codicological study, the results of which can be found in volume 2 of this edition.

Raffaella Franci's lucid in-depth analysis of Michael's extensive mathematical passages constitutes an excellent introduction to numerous aspects of late medieval commercial mathematics. She analyzes the manuscript as an important source from the Veneto and emphasizes that this is a significant addition to a genre of books that are more usually of Florentine provenance. She makes an entirely convincing argument that Michael worked out the mathematical problems himself, that he needlessly (from a practical point of view) provided complex alternative solutions, that he was a good mathematician, and that, indeed, he loved mathematics. In a sense her lengthy and detailed essay, taken alongside the almost two hundred pages of mathematics in Michael's manuscript, suggests a reevaluation of the social world of practical mathematics in the fifteenth century—or at least makes the important addition to the list of the mathematically adept of a mariner who began his career as an oarsman.

The manuscript's charming, colorful miniatures add immeasurably to its appeal. These illustrations include the signs of the zodiac, pictures of ships and ship parts, and other images such as that of St. Christopher and Michael's own coat of arms. Dieter Blume, an art historian and specialist in medieval astrological imagery, argues on the basis of his close examination of the images that Michael, without formal training as an artist, created them himself. Others who spoke at the

2005 conference, focusing more on the original context of the images, believe that at least some of the ship images were created by others. My own nonexpert opinion combines these two views: certainly Michael may have used patterns or traced images initially created by others, but he himself applied them and elaborated them on the pages of his own book. Michael's manifest and unusual graphic skill, evident both in his writing and in his ornamental rope "page dividers," suggests that he was capable of creating the illustrations of his book as well. This is a topic that will benefit from further discussion and study. Blume's essay also contains important insights into Michael's religious world. His analysis of Michael's remarkable coat of arms (see this volume's frontispiece), topped by a mouse eating a cat and flanked by turnips, has greatly expanded our appreciation of the way in which Michael of Rhodes imposed his own individuality on his book.

The manuscript also contains navigational directions or portolans. Piero Falchetta has studied this material and has discovered that it contains numerous errors. This has led him to hypothesize that the directions were not actually meant to be used for navigation, but rather carried symbolic value in that they displayed Michael's knowledge of navigation in the larger culture of Venetian society. Falchetta's study calls into question the general issue of the function of late medieval portolans, and by extension navigational charts, which have usually been taken to be purely practical devices. Here again, an investigation of this particular manuscript has significant implications for a much broader field of study.

The shipbuilding section of Michael's manuscript is of great interest to specialists in medieval ship technology and informs a broader history of maritime Venice as well. This part of the manuscript was known in part before the present publication through its sixteenth-century copy in the Biblioteca Nazionale Centrale in Florence. Two scholars have contributed studies on this material. David McGee provides a cogent introduction to the world of early fifteenth-century ship construction and emphasizes Michael's personal involvement with the shipbuilding material. He suggests that Michael may have used his book as an aid to teaching higher-status but less skilled individuals who traveled on the galleys on which he served. Mauro Bondioli analyzes the section on galleys in detail and suggests the particular context in which Michael may have obtained and used such material. He emphasizes Michael's importance as a transmitter of records created by others. Both scholars agree that Michael of Rhodes did not himself build ships and did not write his shipbuilding tract for shipwrights.

The shipbuilding section of the manuscript posed many difficulties concerning technical vocabulary. Michael employs numerous terms for parts of ships that he describes and for the rigging—terms in Venetian that undoubtedly reflected oral usage and for which there are no contemporary English equivalents. This publication will provide a sound basis for further study and evaluation of this material. Particularly in need of further study is the section on rigging, including its extensive technical vocabulary.

Faith Wallis's essay on Michael's calendrical material constitutes a cogent introduction to the entire world of medieval concerns about time and its accurate calculation for particular events such as Easter, and for particular activities such as bloodletting. She has found close parallels to Michael's material in other manuscripts as well. Her study provides important insights into his not always successful attempts to master this complex material.

In this unusual situation, in which a manuscript is being made available to scholars and the public for the first time in modern history, the initial studies such as those we present here, no matter how painstaking and comprehensive, must be considered a starting point for further scholarship

rather than an endpoint. Indeed, many questions and areas of research remain, on which further investigation may well shed light. For example, we know nothing about Michael's early formation, presumably on the island of Rhodes. In general, much more study of Rhodian culture and society is needed for the late fourteenth and early fifteenth centuries.

Concerning the particular topics treated in Michael's book, a start has been made in several areas in identifying known manuscripts that may have sources in common with those used by Michael. Yet much further work can be done in the area of investigating the relationship of Michael's book to other extant contemporary or earlier manuscripts treating a variety of topics. Similarly, manuscripts created after Michael's can be further examined to learn more about the influence and uses made of his book. While much progress has been made in identifying manuscripts copied from Michael's or derived indirectly from it, more work needs to be done to create an accurate *stemma codicum* for each part of the work.

Another area ripe for future study concerns philological issues. For example, Franco Rossi and Piero Falchetta have noted that there is evidence of regional variations or dialects of the Venetian language used in various parts of the manuscript, undoubtedly reflecting the language of the manuscripts from which Michael copied. So far, no trace has been discerned of non-Venetian patterns of language in the manuscript, except for several short prayers in transliterated Greek. A detailed study of such philological issues would be illuminating in itself and would also provide further evidence for Michael's diverse sources.

Further study of Michael's social and religious world would also be of great interest. For example, Michael's choice of saints in his martyrology is not always what might be expected in the Venetian context; further investigation could yield much knowledge about his religious outlook and its origins. Moreover, as historians of Venice John Martin and Dennis Romano have suggested, it would be fruitful to use wills to provide a deeper understanding of Michael's social world. In particular, study of collections of testaments from his parish of San Pietro di Castello and from other parishes near the Venetian Arsenal would be of interest, perhaps with special attention to the names of noblemen and other officers who appear in Michael's autobiographical account. Such a study could do much to deepen our understanding of the social world in which Michael of Rhodes lived.

It is important to emphasize that very little was known about the book of Michael of Rhodes before we began our studies in 2002. Coming from a variety of specializations and focusing on diverse aspects of the book, our respective conclusions sometimes have diverged. A particular area of such divergence concerns the extent to which Michael's own individuality can be seen in the manuscript, and the extent to which, rather, he functioned as a copyist transmitting the work of others. However, each of the scholars assembled here has been convinced by Franco Rossi's cogent analysis of the manuscript and of the second manuscript known as the Pietro di Versi manuscript that both are autographs written by Michael of Rhodes himself.

Several individuals and institutions contributed immeasurably to the project. Claire Calcagno, an archaeologist and historian, translated four of the essays from the Italian and also provided counsel and assistance on numerous occasions concerning technical vocabulary and many other issues. Almuth Seeböhm translated Dieter Blume's paper from German to English in a highly professional way. Sidney Tibbetts, a medievalist and bibliographer, checked the references and created the first draft of a bibliography, an arduous task that she carried out with meticulous care. Alan Hartley, a specialist in ship terminology, was called in for advice somewhat late in the game and provided detailed and extensive advice far beyond the call of duty. Linda L. Carroll, professor of

Italian at Tulane University, provided extensive advice during Alan Stahl's final revision of the translation in volume 2. I owe a personal thanks to three institutions where I was a fellow while working on this project (among others)—the American Academy in Rome, the Davis Center at Princeton University, and, for the final year of this project, the Getty Research Institute in Los Angeles. All three institutions contributed immeasurably and for the most part unknowingly to the progress of the Michael of Rhodes project.

This edition and group of studies were made possible by the Dibner Institute for the History of Science and Technology, created by Bern Dibner (1897–1988), an engineer, collector, and scholar who worked to further the study of the history of science and technology and to spread interest in these topics to a wider public. Bern Dibner's work was carried on by his son, the philanthropist and business leader David Dibner (1927–2005), and David's wife, Frances, and by his grandson, Brent Dibner. The book of Michael of Rhodes, written by a nonelite man who began his career as an oarsman, is highly significant for the history of late medieval technology and mathematics, among other topics. Its publication and study represent the realization of the kind of project that Bern Dibner envisioned. It is deeply regretted that Bern's son, David Dibner, did not live to see its publication.

At the Dibner Institute itself many people provided great assistance. The project was initiated under the purview of Evelyn Simha, then executive director of the Institute, and Benjamin Weiss, then curator of rare books at the Burndy Library. From beginning to end, Rita Dempsey kept the financial accounts straight. Dawn Davis Loring was key to the successful organization of the 2005 conference. Finally, George Smith and Bonnie Edwards, the executive officers of the Dibner Institute during most of the years of the project, were unfailingly supportive and put in many hours on behalf of Michael of Rhodes. At the Burndy Library, Phillip N. Cronenwett was highly supportive of David McGee's work on the project. At the MIT Press, Sara Meierowitz and then Marguerite Avery were ideal editors who provided enthusiastic support and guidance through the preparation of the manuscript, while Matthew Abbate provided astute and meticulous copyediting and Chryseis Fox produced an elegant design that unifies the three volumes.

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 Washington, D.C.  
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