

AVISTA Studies in the History of Medieval Technology, Science and Art is a series produced by AVISTA (The Association Villard de Honnecourt for Interdisciplinary Study of Medieval Technology, Science and Art), and published by Ashgate. The aim of the series is to promote the cross-disciplinary objectives of AVISTA by publishing in the areas of the history of science, technology, architecture, and art. The society takes its name from Villard (Wilars) de Honnecourt, an elusive persona of the 13th century whose autograph portfolio contains a variety of fascinating drawings and descriptions of both the fine and mechanical arts.

www.avista.org

AVISTA President
Robert Bork

Volume Editors-in-Chief
Jean A. Givens
Karen M. Reeds
Alain Touwaide

Volume Editorial Board
Ellen Shortell
Anne Van Arsdall
Steven Walton
Lynn T. Courtenay
Michael T. Davis
Robert Bork

AVISTA Studies in the History of Medieval Technology, Science and Art
Volume 5

Visualizing Medieval Medicine and Natural History, 1200–1550

Edited by
JEAN A. GIVENS, KAREN M. REEDS, ALAIN TOUWAIDE

ASHGATE

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the publisher.

Jean A. Givens, Karen M. Reeds, Alain Touwaide have asserted their moral right under the Copyright, Designs and Patents Act, 1988, to be identified as the editors of this work.

Published by
Ashgate Publishing Limited Ashgate Publishing Company
Gower House Suite 420
Croft Road 101 Cherry Street
Aldershot Burlington
Hants GU11 3HR Vermont, 05401-4405
England USA

Ashgate website: <http://www.ashgate.com>

British Library Cataloguing in Publication Data

Visualizing Medieval Medicine and Natural History, 1200–1550. – (AVISTA Studies in the History of Medieval Technology, Science and Art)

1. Leonardo, da Vinci, 1452–1519. 2. Medicine in art. 3. Art, Renaissance. 4. Art, Medieval 5. Literature, Medieval – History and criticism. 6. Medicine in literature. 7. Renaissance. 8. Nature in art.

I. Givens, Jean A. (Jean Ann), 1947–. II. Reeds, Karen. III. Touwaide, Alain 700.4'561

US Library of Congress Cataloging in Publication Data

Visualizing medieval medicine and natural history, 1200-1550 / edited by Jean A. Givens, Karen M. Reeds, and Alain Touwaide.

p. cm. – (AVISTA Studies in the History of Medieval Technology, Science and Art) Includes bibliographical references.

1. Medicine, Medieval. 2. Science, Medieval. 3. Medical illustration – Early works to 1800. 4. Botanical illustration – Early works to 1800.

I. Givens, Jean A. (Jean Ann), 1947–. II. Reeds, Karen. III. Touwaide, Alain. IV. Series. [DNLM: 1. History, Medieval. 2. Natural History – history. 3. Medical Illustration – history. 4. Manuscripts, Medical–history. WZ 54 V834 2006]

R141V57 2006
610–dc22

2005033204

ISBN-10: 0-7546-5296-3
ISBN-13: 978-0-7546-5296-0

This book is printed on acid-free paper.

Typeset by Bournemouth Colour Press Ltd.

Printed and bound in Great Britain by MPG Books Ltd., Bodmin, Cornwall.

Contents

| | |
|--|------|
| List of Illustrations | vii |
| Notes on Contributors | xiii |
| Acknowledgments | xv |
| Introduction | xvii |
| <i>Jean A. Givens, Karen M. Reeds, Alain Touwaide</i> | |
| 1 Image, Word, and Medicine in the Middle Ages | 1 |
| <i>Peter Murray Jones</i> | |
| 2 Latin Crusaders, Byzantine Herbals | 25 |
| <i>Alain Touwaide</i> | |
| 3 The Illuminated <i>Tacuinum sanitatis</i> Manuscripts from Northern Italy ca. 1380–1400: Sources, Patrons, and the Creation of a New Pictorial Genre | 51 |
| <i>Cathleen Hoeniger</i> | |
| 4 Erudition on Display: The “Scientific” Illustrations in Pico della Mirandola’s Manuscript of Pliny the Elder’s <i>Natural History</i> | 83 |
| <i>Sarah Blake McHam</i> | |
| 5 Reading and Writing the Illustrated <i>Tractatus de herbis</i> , 1280–1526 | 115 |
| <i>Jean A. Givens</i> | |
| 6 Leonardo da Vinci’s Anatomical Studies in Milan: A Re-examination of Sites and Sources | 147 |
| <i>Monica Azzolini</i> | |
| 7 (Hu)moral Exemplars: Type and Temperament in Cinquecento Painting | 177 |
| <i>Piers D. Britton</i> | |
| 8 Leonardo da Vinci and Botanical Illustration: Nature Prints, Drawings, and Woodcuts ca. 1500 | 205 |
| <i>Karen M. Reeds</i> | |
| 9 The Uses of Realism in Early Modern Illustrated Botany | 239 |
| <i>Claudia Swan</i> | |
| Index | 251 |

Introduction

Jean A. Givens, Karen M. Reeds, and Alain Touwaide

This volume represents a conversation among scholars in fields at the intersection of the history of art, science, and medicine. Like most cross-cultural encounters, this one brings together participants who might not otherwise meet and who often talk past each other when they do. As a consequence, as editors and writers, we find ourselves engaged in a process of translation. As we discovered, little can be taken for granted; basic, common knowledge in one field is arcana in another. As important, few definitions are universally applicable to our multiple communities, and all profit from a degree of clarification. In the process of defining ourselves and our assumptions, we have discovered that the conversation is well worth having: we have learned as much about our own work and our own working premises as we have learned about other fields.

One of the first and most obvious points requiring clarification concerns the framework and, by extension, the chronology established in this volume's title. Why "medieval" medicine and natural history, and why the dates "1200–1550?" This volume focuses chronologically and geographically on what most scholars would regard as the high and late Middle Ages from Byzantium to the British Isles. That said, this territory offers no clear boundaries between medieval and Renaissance – or as it is more often characterized these days – "early modern" culture. Moreover, when it comes to chronology, there is a reasonably clear divide, north and south. For students of southern European history, 1550 is decidedly post-medieval territory, but when it comes to northern Europe, continuity with the products and practices of earlier "medieval" centuries is evident well into the sixteenth century.

The history of art and that of science similarly diverge when it comes to the task of locating works of art and intellectual approaches within these parameters. For students of the visual arts, changes in workshop practice and conventions (among them, the shift from the anonymity of medieval craft to the authority of named artistic personalities) as well as the mastery of observational techniques and naturalistic rendering define an opposition between medieval and Renaissance visual culture that is one of the central tropes of most histories of art. It is useful to note that Leonardo da Vinci – the focus of several articles in this volume – normally figures within this narrative structure as the Renaissance artist *par excellence*, a master who clearly breaks with medieval traditions in style, subject matter, and intellectual ambition. Even so, for historians of science, Leonardo's

science – if not his visual productions – has a decidedly retrospective, “medieval” cast, particularly in light of his reliance upon Galenic tradition.

The picture of Leonardo that emerges in the essays by Piers Britton, Monica Azzolini, and Karen Reeds helps bridge these disciplinary commonplaces. Leonardo’s work clearly registers Galenic tropes and ways of understanding the body and personality, a conceptualizing mode available to other artists of the period (and perhaps, as Britton puts it, given a “new complexion” by Leonardo). For Azzolini, juxtaposing Leonardo’s anatomical drawings with what we know of his access to autopsies and dissections reveals him in a new light, as a figure whose work is deeply embedded in practices common to other professionals in fifteenth-century Milan. Finally, as discussed in Karen Reeds’s essay, the nature prints associated with the circle of Leonardo reflect both a process of technical experimentation and a context for that experimentation that is older, broader, and more diverse in its implications than heretofore suggested.

As these comments on Leonardo suggest, the essays in this volume often highlight elements of continuity rather than rupture in European intellectual life through the early sixteenth century. Moreover, the research presented here reflects a rich and frequently retrospective interplay between classical and post-classical ways of knowing about the body and the world. Among these, the many and various ways in which the teachings of Galen, the writings of Pliny, and the botanical knowledge of Dioscorides and others inform the speculation of writers in subsequent centuries play a key role.

As revealed here, this dialog registers a continuous – if multifaceted – tradition, and one in which past knowledge and ways of understanding the world are actively reshaped for present need. Thus, for example, as Alain Touwaide’s account of a previously unstudied herbal from the late-thirteenth- or early-fourteenth century shows, much older Greek manuscripts of Dioscorides’ *De materia medica* continued to serve as the foundation for the study of herbal medicine. Even though Jean Givens highlights different technologies and intellectual contexts, she similarly demonstrates the manner in which a text first assembled for the use of thirteenth-century scholars was remade, both textually and graphically, in ways that preserved its utility well into the sixteenth century.

This volume follows medieval practice by taking an ecumenical approach to our subjects, concluding that natural history and medicine are best construed very broadly. This conclusion comes as no surprise to anyone familiar with Pliny’s *Natural History*, an encyclopedia built on a particularly expansive notion of what constitutes *nature* (and illustrated in a comparably wide-ranging manner in the manuscript described by Sarah McHam). The *Tacuinum sanitatis* manuscripts discussed by Cathleen Hoeniger encompass a similar breadth; as they build upon the remedies and the precepts for healthful living in an Arabic treatise in translation, they also express belief in the fundamental equivalence of the sound body and the foundations of a well-run society.

Although most of the essays in this volume deal with books and the pictures

they contain, our interest and that of our authors extends well beyond what is generally considered scientific illustration – as important and broad a topic as that may be. Our choice of the word “visualization” is deliberate, for as Peter Murray Jones aptly put it, our aim has been “to eschew anachronistic assumptions about medical illustration in the Middle Ages and consider the relationship of image, word, and medicine afresh.” There are several parts to this topic, among them the functions served by visual imagery in the context of medicine and natural history. And Jones’s essay masterfully defines a range of possibilities that extends well beyond the material within the covers of books to include images and their use within the healing setting of hospitals; the instrumental, therapeutic benefits invested in healing tokens and amulets; as well as the use of images to validate the healer’s authority.

Several of the essays in this volume further explore the synergy between visual and verbal communication. Givens and Swan suggest that at times pictures and other visual cues supplemented, extended, and even replaced words in both manuscripts and printed books devoted to topics in medicine and natural history. As Swan reminds us, what she aptly calls the “functional” account of herbal illustration, for example, holds that images – and particularly descriptive images – “closed the gap between textual knowledge of nature and the experience of it.” The essays in this volume, however, offer an expanded range of relationships between visual and verbal communication and between reading, readership, and the communication of medical and scientific knowledge.

As Peter Jones observes, in many cases, images take priority over words, particularly in genres such as cautery images, “cases where the texts themselves appear only inscribed within the image, not as discursive entities written in defined areas of the written page.” In a related vein, Jean Givens highlights the manner in which book design and the incorporation of a paratextual apparatus of locational devices that are as much visual as verbal might assist and direct a reader’s experience as a seeker of information. Approaching the topic of function still more broadly, Claudia Swan’s discussion of a text that was *not* illustrated, Euricius Cordus’s *Botanologicon*, offers a cognitive explanation for the presence of illustrations and one that highlights their mnemonic function.

The conclusions reached here offer an alternative to the ways in which the production of medieval medical and scientific illustrations often has been described. Whereas several classic accounts (one by no less a figure than Pliny himself) memorably highlight the ways copying pictures could reduce and garble visual information, the essays in this volume reveal several other dynamics of visual communication, including the medieval illustrators’ practice of gathering models from multiple sources to expand their repertoire and to satisfy their patrons’ expectations. Jones cites “medical” images that clearly rework the visual language contained in religious texts. According to Hoeniger’s analysis of the *Tacuinum sanitatis* manuscripts, the illuminators of these luxury productions appropriated image-types from the moralizing context of the “labors of the

months,” from courtly imagery, from romance manuscripts, as well as seemingly more obvious, related texts such as herbals. In some cases, notably the nature prints examined by Reeds, first-hand knowledge of the subject under discussion may have formed part of the illustrator’s repertoire. But even when it did not, and we clearly find evidence of copying as in the corpus of illustrations described by Touwaide, or the relationship between the Latin and French copies of the *Tractatus* described by Givens, the results suggest deliberate change and modification.

Along with highlighting the *production* of images (and imagery), these essays underline the conditions of patronage and their reception – both intended and actual. In this context, geography matters, whether it is on a small scale as in Azzolini’s discussion of Milanese medical practice, or large-scale as in Touwaide’s account of heretofore unrecognized contacts between Byzantine East and Latin West. Equally important, technology matters, too, and it is here that the economics of book production – both in manuscript and in print – come into play. Several of the books discussed in this volume were clearly intended for the leisured or learned classes, among them the Egerton *Tractatus de herbis* manuscript discussed by Givens (a work that was almost certainly made for scholars at Salerno), the *Tacuinum sanitatis* manuscripts discussed by Hoeniger, and Pico della Mirandola’s copy of the *Natural History*, as discussed by McHam. The ownership of others is less certain, and best treated with a degree of circumspection, particularly when it comes to printed books. Even so, in this last context, the economics of the early book trade certainly played a role; despite the sixteenth-century popularity of illustrated medical texts, they clearly were expensive to produce.

In virtually all of the settings discussed in this volume, images required a special effort – no less in human time and the cost of materials than in intellectual commitment. The producers, audiences, and disseminators of this imagery certainly knew this and, clearly, the decision to employ visual images implicates both the viewer and the viewed. As our authors repeatedly remind us, medieval medicine and natural history were deeply logocentric enterprises. Even so, the works surveyed here reflect both the capacity and the desire of multiple communities to capitalize on the unique capacities of visual communication. Finally, as these essays demonstrate, images and imagery powerfully and meaningfully give concrete form to essential relationships: between healer and patient, between the cure of souls and cures of the body, and between memory and the mastery of the healing arts.

For Bruce Raymond, Jim Reeds, and Emanuela Appetiti