

Cambridge University Press

978-0-521-51795-9 - Pythagoras and Renaissance Europe: Finding Heaven

Christiane L. Joost - Gaugier

[Table of Contents](#)[More information](#)

PYTHAGORAS AND
RENAISSANCE EUROPE:
FINDING HEAVEN



In *Pythagoras and Renaissance Europe: Finding Heaven*, Christiane L. Joost-Gaugier offers the first systematic study of Pythagoras, the ancient Greek sage, and his influence on mathematics, astronomy, philosophy, religion, medicine, music, the occult, and social life – as well as on architecture and art – in the late medieval and early modern eras. Spanning the period between Dante and Petrarch in the fourteenth century and Kepler and Galileo in the seventeenth, this book demonstrates that Pythagoras's influence in intellectual circles – Christian, Jewish, and Arab – was more widespread than has previously been acknowledged. Joost-Gaugier shows that during this period admiration for Pythagoras was great throughout Europe. She also shows how this admiration was translated into ideas that were applied to the visual arts by numerous well-known architects and artists who sought, through the use of a visual language inspired by the memory of Pythagoras, to obtain perfect harmony in their creations. Among these were Alberti, Bramante, Leonardo da Vinci, Michelangelo, and Raphael. Thus, she suggests, some of the greatest artworks in the Western world owe their modernity to an inspirational force that, paradoxically, was conceived in the distant past.

Christiane L. Joost-Gaugier is an internationally known and distinguished scholar. A three-time graduate of Harvard, she has published extensively in research journals, conference proceedings, and international catalogues on subjects ranging from classical literature to medieval architecture to Renaissance art and intellectual history. A recipient of grants from the American Council of Learned Societies, the American Philosophical Society, the Delmas Foundation, the Fulbright Association, and the National Endowment for the Humanities among others, she is the author of *Jacopo Bellini: Selected Drawings*, *Raphael's Stanza della Segnatura: Meaning and Invention*, and *Measuring Heaven: Pythagoras and His Influence on Thought and Art in Antiquity and the Middle Ages*. In 2005 she was awarded an Honorary Phi Beta Kappa from Harvard University for lifetime achievement.

Cambridge University Press
978-0-521-51795-9 - Pythagoras and Renaissance Europe: Finding Heaven
Christiane L. Joost - Gaugier
Table of Contents
[More information](#)



Frontispiece: Montepulciano, San Biagio (Antonio da Sangallo the Elder) Photo: Allan Foy

PYTHAGORAS AND
RENAISSANCE EUROPE

Finding Heaven



CHRISTIANE L. JOOST-GAUGIER



CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE UNIVERSITY PRESS

32 Avenue of the Americas, New York, NY 10013-2473, USA

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781107415232

© Christiane L. Joost-Gaugier 2009

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2009

First paperback edition 2014

Reprinted 2014

Printed in the United States of America

A catalog record for this publication is available from the British Library.

Library of Congress Cataloging in Publication data

Joost-Gaugier, Christiane L.

Pythagoras and Renaissance Europe : finding heaven / Christiane L. Joost-Gaugier.

p. cm

Includes bibliographical references and index.

ISBN 978-0-521-51795-9 (hardback)

1. Pythagoras. 2. Pythagoras – Influence. 3. Philosophy, Modern.

4. Philosophy, Renaissance. I. Title

B243.J66 2009

182'.2–dc22 2008040586

ISBN 978-0-521-51795-9 Hardback

ISBN 978-1-107-41523-2 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party Internet Web sites referred to in this publication and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.

Cambridge University Press

978-0-521-51795-9 - Pythagoras and Renaissance Europe: Finding Heaven

Christiane L. Joost - Gaugier

Table of Contents

[More information](#)

First of all, I never get down to writing except at dead of night when it's absolutely quiet and deep silence reigns over all ... in short, when there's such complete peace that if Pythagoras were alive he would be able to hear the music of the spheres quite clearly. At such a time gods and goddesses delight to hold converse with pure minds.

Erasmus, Dialogus Ciceronianus (trans. Betty I. Knott)

Cambridge University Press

978-0-521-51795-9 - Pythagoras and Renaissance Europe: Finding Heaven

Christiane L. Joost - Gaugier

Table of Contents

[More information](#)

CONTENTS



<i>List of Illustrations</i>	page x
<i>Acknowledgments</i>	xiii
INTRODUCTION	I
PART ONE: PYTHAGORAS, MAN FOR THE RENAISSANCE	
ONE: PROLOGUE: THE DIFFUSION OF KNOWLEDGE ABOUT PYTHAGORAS IN THE RENAISSANCE	15
TWO: THE EMERGENCE OF “SAINT” PYTHAGORAS IN THE EARLY RENAISSANCE	19
<i>Early Fifteenth-Century Writers View Pythagoras</i>	19
<i>Pletho, Bessarion, Cusanus, and Alberti: An International Generation Applauds Pythagoras</i>	24
<i>Ficino’s Pythagoras and His Significance as the Jewish “Grandfather” of Christianity</i>	27
<i>Pico’s Venerable Pythagoras: Fountainhead of Wisdom</i>	30
<i>The Dissemination of Information about Pythagoras in the Late Fifteenth Century</i>	31
THREE: THE APOTHEOSIS OF PYTHAGORAS IN THE SIXTEENTH CENTURY	37
<i>The Authority of Pythagoras in the Early Sixteenth Century</i>	38
<i>Reuchlin Describes Pythagoras’s “Luggage”: The Hebrew Patrimony of Christianity</i>	42
<i>Occultism, Virtue, and the “Jewish” Side of Pythagoras: The Heavenly Teacher of Wisdom</i>	45
<i>Mathematics, Exorcisms, and the Inspiration of Painters</i>	51
<i>Pythagoras: The “Prince of Italian Philosophy”</i>	55

 CONTENTS

 PART TWO: THE MANY FACES OF RENAISSANCE
 PYTHAGOREANISM

FOUR: THE PYTHAGOREAN TRADITION IN THE EARLY FIFTEENTH CENTURY	63
<i>The Resurgence of Pythagoreanism in Florence</i>	65
<i>The Greek Factor: Pletho and Bessarion</i>	66
<i>Intertwined Threads of Balance, Perfection, and Frugality: Germany, Florence, and Rome</i>	72
FIVE: THE STRENGTHENING AND DEEPENING OF PYTHAGOREANISM IN THE LATER FIFTEENTH CENTURY	80
<i>Ficino's Pythagoreanism and His Proselytizing</i>	80
<i>Pico's Version of Pythagoreanism</i>	87
<i>Other Late-Century Pythagoreans in Tuscany</i>	92
<i>Urbino and the Mathematical Angle</i>	93
<i>Other Mathematical Considerations</i>	98
<i>Gaffurio and the Harmonia of Music</i>	102
<i>The Roman Connection</i>	103
SIX: THE MATURATION AND VICISSITUDES OF PYTHAGOREANISM IN THE SIXTEENTH CENTURY	108
<i>Pacioli, Leonardo da Vinci, and Their Friends</i>	109
<i>Roman Perspectives</i>	120
<i>Venice: The Harmonia mundi of Francesco Zorzi and Pythagorean Musical Traditions</i>	122
<i>Esoteric Pythagoreanism: Reuchlin and His Contemporaries in Germany, Italy, England, and the Netherlands</i>	123
<i>International Pythagoreanism and Magic: France, Germany, England, and Italy</i>	127
<i>Finding Heaven: On the Brink of a New Science – From Copernicus to Kepler and Beyond</i>	133
PART THREE: PYTHAGOREANISM IN ARCHITECTURE AND ART	
SEVEN: RENAISSANCE IMAGES OF PYTHAGORAS	145
EIGHT: THE SEARCH FOR HARMONY IN ARCHITECTURE AND ART IN THE FIFTEENTH CENTURY	162
<i>Early Beginnings in the Florence of Brunelleschi and Michelozzo</i>	162
<i>Pythagorean Concepts Develop: Alberti in Florence and His Contemporaries in Pienza and Urbino</i>	176

Cambridge University Press

978-0-521-51795-9 - Pythagoras and Renaissance Europe: Finding Heaven

Christiane L. Joost - Gaugier

Table of Contents

[More information](#)

CONTENTS

<i>Contemplating Harmony at Cortona, Prato, Milan, and Rome</i>	192
NINE: FINDING HARMONY: FORM AND MEANING IN ARCHITECTURE AND ART OF THE SIXTEENTH CENTURY	202
<i>Prelude: The Pythagorean Experiments of Leonardo, Early Michelangelo, and Young Raphael</i>	202
<i>Bramante and the Perfect Church</i>	211
<i>Harmonious Unities in the Maturation of Leonardo, Michelangelo, Raphael, and Fra Bartolomeo</i>	218
<i>Venice and the Divinity of Proportion</i>	230
<i>The Theology of Arithmetic in Spain</i>	233
TEN: CONCLUSIONS: THE PRINCE OF PHILOSOPHERS AND THE BIRTH OF HARMONY AS AN AESTHETIC NOTION	240
<i>Appendix A: Pythagorean Works in Six Renaissance Libraries</i>	245
<i>Appendix B: English Translation of Filippo Beroaldo's Symbola Pythagorica (1503)</i>	248
<i>Notes</i>	267
<i>Select Bibliography</i>	301
<i>Index</i>	315

ILLUSTRATIONS



Montepulciano, San Biagio (Antonio da Sangallo the Elder)	page ii
1 Luca della Robbia, <i>Pythagoras Teaching Arithmetic to Plato</i>	146
2 Luca della Robbia, <i>Pythagoras Discovering Music</i>	148
3 <i>Pythagoras Spitting out Mathematical Formulas</i>	149
4 Jörg Syrlin the Elder, <i>Pythagoras Singing</i>	151
5 <i>Pythagoras in His Study</i>	152
6 <i>Jubal Inventing Music, Pythagoras Inventing Harmony, Pythagoras Testing His Theory on a Monochord, and Pythagoras Testing His Theory on Flutes</i>	154
7 <i>Boethius and Pythagoras</i>	155
8 Raphael, <i>Pythagoras from School of Athens</i>	156
9 Pellegrino Tibaldi, <i>Jubal and Pythagoras as Inventors of Music and Arithmetic</i>	158
10 Pellegrino Tibaldi, det. from <i>Jubal and Pythagoras as Inventors of Music and Arithmetic</i>	159
11 Annibale Carracci, <i>Hercules Bearing the Globe</i>	160
12 Florence, Pazzi Chapel, int. (Brunelleschi)	163
13 Florence, San Lorenzo, Sacristy, int. (Brunelleschi)	165
14 Plan of San Lorenzo (Brunelleschi)	166
15 Plan of Santo Spirito (Brunelleschi)	167
16 Florence, Pazzi Chapel, façade (Brunelleschi)	168
17 Plan of Santa Maria degli Angeli (Brunelleschi)	169
18 Florence, Santa Maria degli Angeli (Brunelleschi)	169
19 Plan of Cathedral of Florence Lantern (Brunelleschi)	170
20 Lorenzo Ghiberti, east doors of the Florentine Baptistery	172
21 Masaccio, <i>Tribute Money</i>	173
22 Florence, Palazzo Medici, int. courtyard (Michelozzo)	174
23 Florence, Palazzo Medici, ext. (Michelozzo)	175
24 Florence, Palazzo Rucellai (Alberti)	177
25 Matteo dei Pasti, medal for Tempio Malatestiano	178

LIST OF ILLUSTRATIONS

26	Rimini, Tempio Malatestiano (Alberti)	179
27	Florence, Santa Maria Novella (Alberti)	180
28	Pienza, Cathedral (Bernardo Rossellino)	182
29	Pienza, Palazzo Piccolomini, courtyard (Bernardo Rossellino)	183
30	Pienza, Palazzo Piccolomini, east façade (Bernardo Rossellino)	184
31	Urbino, Palazzo Ducale, Grand Courtyard (Luciano Laurana)	185
32	Urbino, Palazzo Ducale, Cappella del Perdono (Bramante?)	186
33	Urbino, Palazzo Ducale, Tempietto delle Muse (Bramante?)	187
34	Piero della Francesca, <i>Flagellation</i>	189
35	Luciano Laurana (?), <i>Ideal City</i>	191
36	Cortona, Santa Maria del Calcinaiò, int. (Francesco di Giorgio)	192
37	Cortona, Santa Maria del Calcinaiò (Francesco di Giorgio)	193
38	Prato, Santa Maria delle Carceri (Giuliano da Sangallo)	194
39	Milan, Santa Maria presso San Satiro, int. (Bramante)	195
40	Milan, Santa Maria delle Grazie, int. (Bramante)	196
41	Milan, Santa Maria delle Grazie (Bramante)	197
42	Rome, Sistine Chapel, original int.	198
43	<i>Pythagorean Sphere</i>	199
44	Leonardo, <i>Benois Madonna</i>	203
45	Leonardo, <i>Adoration of the Magi</i>	205
46	Leonardo, <i>Madonna of the Rocks</i>	206
47	Michelangelo, <i>Madonna of the Steps</i>	208
48	Michelangelo, <i>Pietà</i>	209
49	Raphael, <i>Three Graces</i>	210
50	Raphael, <i>Marriage of the Virgin</i>	211
51	Rome, Tempietto at San Pietro in Montorio (Bramante)	212
52	Fabio Calvo, view of ancient Rome	213
53	Fabio Calvo, view of ancient Rome	214
54	Cristoforo Caradosso, medal commemorating foundation of St. Peter's (Bramante)	215
55	Montepulciano, San Biagio (Antonio da Sangallo the Elder)	216
56	Todi, Santa Maria delle Consolazione	217
57	Todi, Santa Maria delle Consolazione, int.	218
58	Leonardo, <i>Burlington House Cartoon</i>	219
59	Leonardo, <i>Madonna and Child with St. Anne</i>	220
60	Raphael, <i>Canigiani Holy Family</i>	221
61	Michelangelo, <i>Pitti tondo</i>	222
62	Michelangelo, Sistine Ceiling	223
63	Raphael, Ceiling of Stanza della Segnatura	226
64	Raphael, <i>School of Athens</i>	227
65	Raphael, <i>Disputa</i>	228
66	Raphael, <i>Parnassus</i>	229

Cambridge University Press

978-0-521-51795-9 - Pythagoras and Renaissance Europe: Finding Heaven

Christiane L. Joost - Gaugier

Table of Contents

[More information](#)LIST OF ILLUSTRATIONS

67	Fra Bartolomeo, <i>Marriage of St. Catherine</i>	231
68	Giorgione and Titian, <i>Fête Champêtre (Memorial to Giorgione)</i>	232
69	Vicenza, Villa Rotonda (Andrea Palladio)	234
70	Granada, Palace of Charles V, courtyard (Pedro Machuca)	235
71	Madrid, El Escorial, plan (Juan de Toledo and Juan de Herrera)	236
72	Luca Cambiaso, <i>Trinity</i> , det. of <i>Gloria</i> at El Escorial	237

ACKNOWLEDGMENTS



The present volume, following from one that aimed to set the stage for Pythagoras and his influence in Antiquity and the Middle Ages, is devoted to recapturing his influence for the Renaissance and to speculating on its effect on the visual arts and architecture. The subject of Pythagoras's influence on the Renaissance, and specifically on the visual arts, has been obscured by our modern tendency to view different disciplines as separated from each other. The broadly interdisciplinary nature of this problem is challenging because it requires the wider perspective that was understood in the Renaissance. The substructure of thinkers and ideas that lies deeply embedded in the culture of the Renaissance is fertile ground. The testimony of its sources is so suggestive it cannot be overlooked. Our knowledge respecting the contributions of these thinkers to each other is much fuller than is frequently realized. While my understanding may be imperfect, I have here attempted to indulge my curiosity in how Pythagoras served as a conduit enabling those who sought to imitate the past to achieve an original and stunning modernity. I hope my readers will understand that this volume does not purport to give a complete synthesis of Pythagoras and his importance for the Renaissance, but only to offer some suggestions for future exploration and for evaluating his importance for the history of art and architecture. It is this interest that has encouraged me to enlarge my own studies and to seek understanding of the past by listening to its own language. For this gratification I am indebted to many institutions and many people.

First and foremost, those who inspired me in the beginning with the thrill to understand the past left an indelible example for me. These were, especially, Millard Meiss and Federico Zeri, my mentors at Harvard, and Giuseppe Billanovich, who kindly opened his house at Padua to me on many occasions. Among the many libraries that opened their doors to me, I am grateful to the Harvard University libraries, especially the Houghton and Dumbarton Oaks research libraries, as well as to the Biblioteca Apostolica Vaticana, the Library of the Kunsthistorisches Institut in Florence, the Bibliothèque Nationale at Paris, the Library of Congress, the Library of the Folger Institute, and the National Library of Medicine. During

ACKNOWLEDGMENTS

the time of my work on this volume, my most beloved home, however, was in the Library of the National Gallery at Washington, where the entire staff was always patient, kind, knowledgeable, and helpful.

I owe a special debt to those of my friends and colleagues whose superior knowledge in many important areas helped me to overcome problems or discover new tools of enlightenment. George Hersey, who sadly is no longer with us, first inspired and encouraged me to see this project through. Throughout its writing he was a confidant and a correspondent. Its realization owes a special debt of gratitude to two scholars whose knowledge, wisdom, grace, and common sense were never in short supply, Arielle Saiber and Mary Garrard. Francisco LaRubia Prado was helpful in innumerable imaginative ways, as was Carolyn Tuttle, whose first English translation of an important Renaissance work on Pythagoras is included as an appendix to this book. Among the many others who have helped me in one way or another to see this work through are Colin Eisler, Lamia Doumato, Yuri Long, Alexander Blachly, Allan Foy, David Alan Brown, Caroline Karpinski, Norberto Gramaccini, Helga DeLisle, Joscelyn Godwin, George Tatge, Shannon Pritchard, Dominique Surh, François Souchal, Carolyn Valone, Antonio Paolucci, Luba Freedman, Mary L. Robertson, Kent Killelea, Elaine Economides Joost, Charlotte DeMonte Phelps, Andrea Zezza, Inge Dupont, John Monfasani, Greg Murr, Gérard Bonneaud, Andrew Oliver, Ariel Cardoso, Elizabeth Welles, and Jorge Sobredo. I would also like to express my gratitude to the Kress Foundation for its support of this work in the form of a subvention. A very special word of thanks is due to Paolo Sfriso, who very kindly allowed the use of his photograph for the front cover.

To all these institutions and people I acknowledge my most vivid gratitude. I am especially honored to have worked, once again, with Cambridge University Press and its ever-wise and ever-gracious editor, Beatrice Rehl. Cambridge's production editor, Camilla Knapp, and copy editor, Susan Greenberg, both helped immeasurably in the process of publication.