

# DIGITAL HUMANITIES

A Primer for Students and Scholars

Eileen Gardiner Ronald G. Musto "Deep scholarship and lively engagement with a vast range of contemporary innovations animate this concise, reliable, indeed almost indispensable book."

- James J. O'Donnell, author of Avatars of the Word

"Here is the rare publication that offers an insider's deep understanding of the humanities as well as the practitioner's experience of the digital. A wealth of theoretical and technical information is on offer, including an invaluable compendium of resources for the aspiring researcher. But the book's crucial insight is that the fundamental issues shaping this arena are cultural, not technological."

- Gail Feigenbaum, Getty Research Institute

"This remarkably intelligent and lucid book explains how the emergence of the digital world has created remarkable opportunities for gains in knowledge through the practice of the humanities. This book, providing a useful appendix and glossary, will lead students and scholars alike to think afresh about why they consider knowledge, its sources and its representation the way they do."

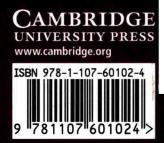
- Nicola Courtright, Amherst College

EILEEN GARDINER is cofounder and copublisher of Italica Press. She has served as director of ACLS Humanities E-Book, executive director of The Medieval Academy of America and coeditor of *Speculum: A Journal of Medieval Studies*.

RONALD G. MUSTO is cofounder and copublisher of Italica Press. He has served as director of ACLS Humanities E-Book, coexecutive director of The Medieval Academy of America and editor of Speculum: A Journal of Medieval Studies.

Cover image: Data visualization of library transactions according to Dewey Decimal categories as "Dewey Calendar." Pehr Hovey 2009. Data used by permission from the "Making Visible the Invisible" artwork database by George Legrady at the Seattle Public Library.

Cover design by Holly Johnson



# MILISTO

# The Digital Humanities

### A Primer for Students and Scholars

Eileen Gardiner

and
Ronald G. Musto





# CAMBRIDGE

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/9781107601024

© Eileen Gardiner and Ronald G. Musto 2015

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 2015

Printed in Great Britain by Clays Ltd, St Ives plc

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

Library of Congress Cataloging in Publication Data Gardiner, Eileen.

The digital humanities: a primer for students and scholars / Eileen Gardiner (Italica Press), Ronald G. Musto (Italica Press).

pages cm

Includes bibliographical references and index. ISBN 978-1-107-01319-3 (hardback) – ISBN 978-1-107-60102-4 (paperback)

Humanities – Data processing.
 Humanities – Research.
 Humanities – Methodology.
 Humanities – Study and teaching.
 Humanists – Intellectual life.
 Digital media.
 Digital communications.
 Information storage and retrieval systems – Humanities.
 Musto, Ronald G. II. Title.

AZ105.G37 2015 025.06'0013-dc23 2015003103

ISBN 978-1-107-01319-3 Hardback ISBN 978-1-107-60102-4 Paperback

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

### The Digital Humanities

The Digital Humanities is a comprehensive introduction and practical guide to how humanists use the digital to conduct research, organize materials, analyze and publish findings. It summarizes the turn toward the digital that is reinventing every aspect of the humanities among scholars, libraries, publishers, administrators and the public. Beginning with some definitions and a brief historical survey of the humanities, the book examines how humanists work, what they study, how humanists and their research have been impacted by the digital and how, in turn, they shape it. It surveys digital humanities tools and their functions, the digital humanists' environments and the outcomes and reception of their work. The book pays particular attention to both theoretical underpinnings and practical considerations for embarking on digital humanities projects. It places the digital humanities firmly within the historical traditions of the humanities and in the contexts of current academic and scholarly life.

Eileen Gardiner is cofounder and copublisher of Italica Press. She has served as director of ACLS Humanities E-Book, executive director of The Medieval Academy of America and coeditor of *Speculum: A Journal of Medieval Studies*. She is author of *Visions of Heaven and Hell before Dante, Medieval Visions of Heaven and Hell, The Pilgrim's Way to St. Patrick's Purgatory* and *Hell-on-Line*, a website on the infernal otherworld in various traditions.

Ronald G. Musto is cofounder and copublisher of Italica Press. He has served as director of ACLS Humanities E-Book, coexecutive director of The Medieval Academy of America and editor of *Speculum: A Journal of Medieval Studies*. He has taught at New York University, Duke University and Columbia University and has held American Academy in Rome, National Endowment for the Humanities and Mellon Foundation fellowships. He has published nine books and various articles, including *Apocalypse in Rome* and *Renaissance Society and Culture* (coedited with John Monfasani).

### **Preface and Acknowledgments**

The following book grew out of a 2010 Fulbright Fellowship proposal by Eileen Gardiner for teaching digital humanities to undergraduates and graduate students at the National University of Ireland, Galway. The proposal was successful, but another challenge presented itself – taking on the executive directorship of the Medieval Academy of America – so that pedagogical plan was transformed into a book that we hope will guide and benefit more than the original several dozen students.

This book also derives significantly from our many years as both scholars and publishers. In 1993, at our own Italica Press, we had published some of the first e-books for scholars, including The Marvels of Rome for the Macintosh, an early digital (HyperCard) edition of the celebrated medieval guide to the city, one of the earliest electronic books produced.<sup>1</sup> We also draw on our twelve years at the American Council of Learned Societies (ACLS) where we took over leadership of an electronic publishing project shortly after it was funded by the Andrew W. Mellon Foundation. The ACLS History E-Book Project, later ACLS Humanities E-Book (HEB), was a forward-looking project in 1999, with the goal of publishing approximately eighty-five new digital monographs in history, adding a substantial digital backlist, incorporating the insights from the digital realm and pushing the boundaries of scholarly communication in the humanities. When we left HEB in 2011, it had published nearly four thousand e-books, including a large backlist of print-first titles converted into digital format and more than one hundred new titles that ranged from born-digital projects to enhanced digital monographs featuring sound, image libraries, video, virtual reality, archival databases and other external resources.

During our time at ACLS, we had the opportunity to add to our own publishing experiences by engaging with scholars from a variety of humanities disciplines who were pioneers in the emerging field of what only later would begin to be called the "digital humanities." This experience and the people we collaborated with on this project provided us with a perspective on the digital humanities that combined the views of the various stakeholders in a then-emerging enterprise. Twelve years at ACLS also served as an informal apprenticeship for two humanities PhDs in the issues of higher-ed, scholarly communication, university presses, libraries and learned societies. Issues of hiring, tenure and promotion (HTP) seemed to permeate all aspects of scholarly communication, and these issues are raised throughout the book. We attempted to transfer this experience to our positions as executive directors of the Medieval Academy of America and editors of its scholarly journal, Speculum. With the insights gained over these years, we therefore now set out to do a "little book" on the digital humanities to guide those trying to understand what is involved in this new direction for the scholarly and academic humanities community.

As the reader will see throughout this book, we use the plural form for "digital humanities," because we take a nonprescriptive, nonideological approach to our topic, allowing numerous definitions and approaches and avoiding any airtight demarcations by theoretical frame, department, field, area of expertise, mission, skill base or individual status. We also avoid the acronym "DH" with its assertive administrative connotations of specialized departments, programs and funding channels: our approach certainly addresses these issues but is far more comprehensive of various definitions and approaches. Throughout this discussion of digital humanities, there also persists the constant presence of the historical humanities. But this book is not an elegy for a lost, first age of humanism, and its authors certainly shared in the creative excitement of the first two decades of the digital. This book is therefore as much about the current state of the humanities in our culture as it is about the digital: the fates of both seem inextricably linked at this point. It is also an attempt to reach out beyond the academy to the general public in order to help explain the current status of the humanities in our society.

It seems particularly appropriate that this book should appear at this point. Over the past two decades, the digital humanities have matured to the point where everyone knows something about them, but only a few would offer a clear-cut definition, and even fewer really know what they entail through experience or praxis. Many remain intimidated by the term and its acronym – put off by ideological and exclusive approaches and attempts to narrow down a "field" to a relatively small cadre of theorists. But the fact is that most of us do "digital humanities" much of the time in our basic research, with our daily tools of scholarly communication, in our writing and revision, in our final published work and in its assessment.

It is also a good time to write about this topic because the speed of developments appears to have slowed down considerably from the pace of the past decade. Technology is plateauing and no longer "disruptive," and the insights of Clayton M. Christiansen's *The Innovators Dilemma*<sup>2</sup> have been well absorbed by humanists. Initial experimental gains are being scaled, consolidated and made sustainable; alliances are broadening; and the subject itself has become less of a shifting seismic plate. By now so many humanities scholars have engaged in successful projects that there are solid examples – of successes and failures – that others can clearly copy and learn from, if not engage with directly. We have tried here to step back from a mere journalism of new projects and approaches to reflect on how this maturing process is working and what its long-term characteristics might be.

Again, this book is essentially a "primer," a small handbook, that we hope will be a clear and practical guide to explain what the digital humanities are, beginning with some definitions and a brief historical survey of the humanities. The book moves from there to how humanists work, what they work on, how humanists and their work have been impacted by the digital and how, in turn, they are shaping the digital. It presents a survey of digital humanities tools and how humanists use them, with examples of projects. The book then examines the way the digital impacts the way we work, the environments that we work in and the outcome of our work: its format and its place in the realm of scholarly communication within the community of scholars and scholarship. Throughout we pay attention to the theoretical underpinnings of the digital humanities: many of these foundations lie in the historical, literary, linguistic, gender and materiality turns of the past several decades. Some have emerged newly under the impact of our cyber-driven work and lives.

We wrote this book in full knowledge that by now most humanists, their colleagues in the social and physical sciences and the broader public have

all been exposed to the products of the humanities in their traditional and digital forms in an overwhelming array of examples: everything from the scholarly monograph, journal article and lectures delivered at the Modern Language Association's annual meeting, to the History Channel; the medievalist high drama of Game of Thrones; to music, TV and film reviews; to art exhibits and performances; to poetry, drama, fiction and nonfiction books; to biblical archaeology and American Civil War magazines: all are the products of humanists at work throughout American society. Every time we see an animation or virtual-reality reconstruction of a battle, see a gladiatorial contest in the movies or on TV, build or explore an ancient city on our computers, hear on NPR about a new treasure trove discovered under the high seas or watch on cable TV a frightening exploration of heaven and hell, we have already been exposed to the work of digital humanists and their colleagues in computer technologies. Writing about the digital humanities is therefore both very easy - it is an intrinsic part of our culture now - and also very difficult, precisely because it has become part of the air we breathe, the water we swim in, the fabric of our lives. To explain in carefully formulated and rigorous terms what is all around us - and what therefore seems so obvious - may be one of the hardest tasks of humanists. It is something akin to explaining to someone who never considered the fact before, that everything we touch, see or use in our daily lives is the product of some designer's mind and hand; that every major building we pass through, work, live or entertain ourselves in is the product of a team of architects who consider every detail from retaining walls to ceiling tiles to light sockets; or that every page of a history book we read is not simply something picked up from a world already there but a carefully and deliberately constructed model created by the skill and hard work of the humanists in their midst.

As we will explain in the following chapters, the humanities have a long, ancient and venerable tradition in our culture: shaping our perceptions of our present world and forming our understanding of its past and the relationships between the two. Now in the digital age and with the ubiquity of digital forms, it becomes even more necessary to take a fresh perspective on how humanists accomplish this by using the newest of technologies, just as they once did using the technologies of the manuscript book, the printing press, the photograph or the vinyl record.<sup>3</sup>

We hope that this book will provide a rich sense of all these thoughts and activities. We have attempted to engage them through a variety of sometimes overlapping approaches, and we do not expect everyone to read every chapter or to start at the beginning and work through every page. For a book of this size, covering so many topics required a great deal of compression and brevity, with a few carefully chosen examples, with all URLs accessed in late January 2015. There have been so many books, articles, conferences and lectures covering the digital humanities, expressing such a wide range of opinion and research findings, that one of our main tasks here has been to synthesize many of the discussions and issues without, we hope, oversimplifying or eliminating too much nuance. We are sorry if we could not cover all important exemplars and approaches in the space allotted. Each of these topics should and has received far greater attention than we could give them here. But we do hope that our approach has brought them together clearly and comprehensibly.

Everyone sets out to write the book that will answer their own questions, and we wanted here to explore the world of digital humanities in order to take stock after fifteen years to determine whether it fulfills the promise that it seemed to hold out in 1999. We came to the end of the book with the insight that Vincent Mosco offers in his The Digital Sublime.4 that despite all the almost millennial claims that America usually makes for each of its new technologies - whether the railroad, the telegraph or telephone, electricity, the radio, movies, TV, the fax or the computer - new technologies ultimately transform the way we live and the way we think not through their most dazzling new displays, but when they have become commonplace and broadly accepted, even perhaps banal and mundane - when everyone is using them without thinking twice. It was, after all, not Edison's electronic wonder shows that transformed America but his light bulbs. The computer and the digital world have transformed the way we work, but they are now such a part of that work that we seldom think about them twice. There are exemplary, high-end applications that only a few use, or have any use for, but most humanists use far more mundane tools frequently and learn new ones every day. It is not the virtual reality walk-through that has changed the way we work but the word processing program and the PDF, not the data mining tool or the million-pixel image but the simple database and the JPEG, not the stand-alone pyramid of data, interpretation and comment but the aggregation of digitized journals and monographs that have altered our research methods and agendas. While the Appendix offers a simple taxonomy of digital tools organized by function, it also presents a compelling second narrative of the advanced work humanists have been

conducting across the disciplines. And while most humanists continue to use a limited suite of tools, largely determined by discipline and research agenda, the Appendix will demonstrate the degree to which humanists have both embraced the digital and made it their own. The digital humanities may no longer appear spectacular to most of us – a wonder show of individual virtuosity – yet they have been transformative in the everyday way in which scholars research, organize, analyze and present their work. Have they brought about this transformation in the ways that we expected? Perhaps not yet, or perhaps they already have, and we are not yet fully aware of it.

As the following chapters will make clear, we approach this topic from the viewpoint of traditional humanist scholars, where the methods and historical perspectives of the humanities take precedence over considerations of humanities computing. However, we also view the phenomenon from outside any disciplinary or methodological stance, making neither an apologia for continuing the work of the humanities as they stood two decades ago nor seeking any movement from within the computer and IT worlds to reconfigure humanities studies and disciplines into subdisciplines for a special core of cutting-edge researchers and theorists. We hope that our experience of the praxis of digital humanities has allowed us to avoid either extreme here and to judiciously lead the reader through a complex and intriguing topic. True to humanistic method, our purpose is to probe and to ask ever new questions from developing solutions.

We would like to thank several individuals for generously sharing ideas, insights, concerns and hopes. Seeing the projects of, and engaging in conversations with, Edward Ayres, Kevin Guthrie, Kate Wittenberg, John Unsworth and James J. O'Donnell opened our eyes to the possibilities then in the making. Working with the dozens of directors of the learned societies that make up the ACLS – including Arnita Jones and Robert Townsend of the American Historical Association, John Monfasani of the Renaissance Society of America, Lee Formwalt of the Organization of American Historians, Amy Newhall of the Middle East Studies Association and Susan Ball of the College Art Association – we gathered perspective on the issues and problems facing humanists and the promise of solutions that the digital offered. Carol Mandel, Deanna Marcum, Ann Okerson and James Neal, among many others, provided the university library's perspectives; Lynne Withey, Jennifer Crewe, Peter Dimock, Niko Pfund, Steve Maikowski, James Jordan and Rufus Neal, also among

many others, offered the university press perspective; and our partners at the University of Michigan Libraries, particularly John Wilken and Maria Bonn, opened doors to new concepts and technologies. Several lengthy interviews and conversations with John B. Thompson in preparation for his *Books in the Digital Age*<sup>5</sup> helped us formulate our own ideas and place them into larger and more rigorous contexts. We would also like to thank Richard Superti for his close and observant reading of the manuscript.

Our editor at Cambridge University Press, Beatrice Rehl, took up our proposal for this book with enthusiasm, guided it through its peer review and afforded us a great deal of leeway as our outstanding professional commitments delayed the manuscript's completion. Our two groups of anonymous peer reviewers have helped form and improve this book in important ways. We would like to thank all the ACLS Humanities E-Book authors who worked with us on exciting new projects over almost twelve years at ACLS, from Joshua Brown to Burr Litchfield and Bernard Frischer to Benjamin Kohl. We would like to thank Donald J. Waters of the Andrew W. Mellon Foundation and Steven C. Wheatley of ACLS for their support throughout our days at ACLS Humanities E-Book. Nina Gielen, now managing editor at HEB, was able to transform many of our editorial and publishing ideas into robust and sustainable digital realities. And we would particularly like to thank John H. D'Arms, a friend for more than thirty years, who offered us the challenge.



## **Contents**

Lis	t of Illustrations	<i>page</i> vi
Pre	face and Acknowledgments	vii
1	Introduction to the Digital Humanities	1
2	The Organization of Humanities Research	14
3	The Elements of Digital Humanities: Text and Document	31
4	The Elements of Digital Humanities: Object, Artifact, Image, Sound, Space	43
5	Digital Tools	67
6	Digital Environments	82
7	Publication: Prerelease, Release and Beyond	97
8	The Meta-Issues of Digital Humanities 1	117
9	Meta-Issues 2: Copyright and Other Rights, Digital Rights Management, Open Access	146
10	The Evolving Landscape for the Digital Humanities	166
Epi	ilogue: The Half-Life of Wisdom	178
Арſ	bendix: Digital Tools	183
Notes		
Glossary		
Bibliography on Digital Humanities		
Index		

### Illustrations

1	Data tree from the Women Writers Project, Northeastern		
	University.	page 34	
2	An example of the application of multispectral imagining		
	technology to the Codex Vercellensi. The Lazarus Project at the	3	
	University of Mississippi.	41	
3	Record of a seal in the Cuneiform Digital Library Initiative.	47	
4	Image of the seal (left) and of the impression of the seal (right). 48		
5	Screenshot from Parker Library on the Web of Ado of Vienne,		
	Chronica. CCCC MS 290.	52	
6	3D rendering of the Coliseum from Rome Reborn.	59	
7	Saint Jerome in His Study by Antonello da Messina, c. 1475.	68	
8	A semantic map of the word Byzantine from Lexipedia.	74	
9	WordCloud of James Joyce's "A Memory of the Players in		
	a Mirror at Midnight" from TagCrowd.	76	
10	Digital mapping of Augustan Rome after Mapping		
	Augustan Rome (Supplement 50, Journal of Roman		
	Archaeology Series, 2002).	77	
11	3D Printing. Pia Hinze's gold Neobaroque dress.	79	
12	Data visualization. The forty-one most frequently cited		
	characters are arranged alphabetically and scaled according		
	to how many times they are mentioned in holy texts from		
	Buddhism, Hinduism, Islam and Judaism as well as the		
	Bible. Philipp Steinweber and Andreas Koller.	238	
13	Mind map. Student learning characteristics by Nevit Dilmen	. 243	
14	N-gram. An n-gram produced by the Google Books n-gram		
	viewer querying "hell" and "devil" from 1800 to 2008.	245	