

# PATHWAYS

COLLEGE OF LIBERAL ARTS TEXAS A&M UNIVERSITY

to discovery

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# Cervantes & Shakespeare

MODERN TECHNOLOGIES FOR STUDYING  
THE MASTERS OF THE MODERN AGE



The week of April 23, 1616, was perhaps an ordinary one in most of Renaissance Europe. However, that week marked the coincidental passage of two literary legends who wrote about the past but would profoundly influence and forever shape future literature and culture. In England and in Spain, William Shakespeare and Miguel de Cervantes — the Bard of Avon and the father of the novel — both died within days of each other.

Almost 500 years later, in the College of Liberal Arts at Texas A&M University, another convergence is taking place — the establishment of two of the most comprehensive electronic resources for the study of Shakespeare and Cervantes. In the Academic Building and on the second floor of Blocker are

the intellectual hubs of the online Cervantes Project and the World Shakespeare Bibliography (WSB). Both resources are examples of the increasingly global access to information in the liberal arts, and both show ways to extend the impact of literature through modern technology.

#### **Piecing together the modern novel with the Cervantes Project**

Literary scholars say that with the publication of *Don Quixote* came a self-conscious narrative voice, the modern form of the novel. When you pick up a volume of *Don Quixote* from the bookstore, you read a creation of editors and translators, each with their own particular methods, interpretations, and theories about inclusion and

exclusion of certain text. You are reading a construct based on the original editions scattered around the world — behind locked climate-controlled conditions in Madrid, New York, Oxford, Washington, D.C. and other far-flung places too expensive to travel to just for reading a book.

The Cervantes Project, started in 1995, is a partnership between the Department of Modern and Classical Languages and the Center for Study of Digital Libraries in the Texas Engineering Experiment Station. Spanish Professor Eduardo Urbina is teaming up with Computer Science Associate Professor Richard K. Furuta to create an electronic archive of images, texts, and databases for the early editions of *Don*

*Quixote de la Mancha*, published between 1605 and 1637 — during and right after Cervantes' lifetime.

In their virtual library project, the Urbina-Furuta team is collecting the original materials in microfilm form — 50 copies of 10 editions. At about 700 pages per copy, that adds up to roughly 30,000 pages to digitize, convert, and collate as machine-readable text. This is called a “variorum edition.” A virtual variorum is more like it, and it's a complex project.

The team will develop programs, databases, and interfaces for their virtual variorum to include annotations and commentary about the texts that will help scholars visualize and display different versions. It may become the standard research



James Lyle, TTI-TEC

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tool for study of *Don Quixote* — making the rare editions universally available to the public, free of charge, in a way in which they too may search and compare editions to create their own personalized one.

Along the way to completion in 2005 — the 400th anniversary of *Don Quixote's* first publication — the project will help computer scientists like Furuta develop advanced computer science techniques for construction of other cyberspace libraries.

In addition to the virtual variorum edition of *Don Quixote*, the Cervantes Project includes development of the Cervantes Digital Library, the Cervantes International Bibliography Online, and the Cervantes Digital Archive of Images. It also publishes with the help of an international team of collaborators, and with the support of the Centro de Estudios Cervantinos in Spain, an annual bibliography, the *Anuario Bibliográfico Cervantino*.

of monolith, that he couldn't write a bad line. Well that's not true. He wrote a lot of bad lines." But Harner explains the current perspectives, fueled in part by reconstruction in London of Shakespeare's Elizabethan era theater, the Globe, have enlightened research into the collaborative aspects of Shakespeare's plays. Different editions may represent revisions of a text. Perhaps Elizabethan acting companies had a master copy of a play that changed depending on theater and playing time.

Harner also weaves the bibliography into his teaching, sending Shakespeare students there for their research projects. In his literary research class, he teaches the same process that his WSB team uses to compile and update the bibliography. For the World Shakespeare Bibliography, Harner and his staff — technical editor Priscilla Letterman and three graduate assistants — go through a three-step process to add material to their collection. First, they must identify new bibliographic sources, searching a series of databases, lists of journals, and other publications, and culling tips from correspondents around the world. Then they gather records and confirm their authenticity. Finally, they enter an editing phase, when records are annotated with links to other related records. Ohio University English Professor Roy Flanagan calls the bibliography "amazingly complete."



James Lyle, TTI-TEC

*(l-r): Linguist Yang, Jim Harner, grad students Ken Bugajski and Priscilla Letterman (not pictured Chris Morrow) all work on the WSB. Increasingly, research in the humanities mirrors scientific research, where access to the latest peer-reviewed research is considered critical. Harner's World Shakespeare Bibliography stays as current as possible.*

### Searching and researching meaning in Shakespeare

Everything written about Shakespeare passes through the World Shakespeare Bibliography (WSB) — books, scholarly articles, book reviews, dissertations, theatrical productions and audiovisual materials. Housed in the Department of English under the direction of English Professor James Harner, the bibliography is a vast web of resources indicative of the continued strength of scholarship about Shakespeare.

The WSB allows comprehensive and thorough research in textual criticism — the understanding of how differences in texts come about. "Scholars are coming to look at the plays as texts produced under very different kinds of conditions," Harner says.

"We know that the Elizabethan playhouse was essentially a collaborative operation," he says. "Before, we would think of Shakespeare as this kind

### A scholarly evolution

Scholarship evolves. It is not static. New questions arise, as do new resources for exploring those questions. And with changing technologies, new generations of scholars and students also redefine the way scholarship is pursued. Harner sees Texas A&M, with its strong engineering and technology resources, as one of the few places with the necessary expertise to support the opportunities electronic media are creating for scholars at all educational levels to study the classics.

"From the beginning, there was this idea of developing new techniques, processes, and methods of literary scholarship in an electronic media, instead of just converting what has been published 50 years ago and putting it on the Web," says Eduardo Urbina. "How do you think in terms of a digital edition in a digital library in a digital world — from the beginning, instead of the other way around?" ■

## What the Cervantes Project Does

The Cervantes Project already consists of electronic editions of Cervantes' works, photos and graphics about Cervantes and his times, and a bibliography of academic research and resources for studying Cervantes. The new component funded by the National Science Foundation — the Electronic Variorum Edition (EVE) of *Don Quixote de la Mancha* — is a major step further in the resource's development.

*Don Quixote* was published in two volumes, one in 1605 and the other in 1615. Of the editions published during Cervantes' lifetime, there are only five of volume one, two of volume two, and two containing both volumes in one book. Each volume runs about 700 pages, which are scanned from microfilm received from libraries around the world. The Cervantes team works with these scanned pages to develop three primary layers of this complex project: synchronization, collation, and education.

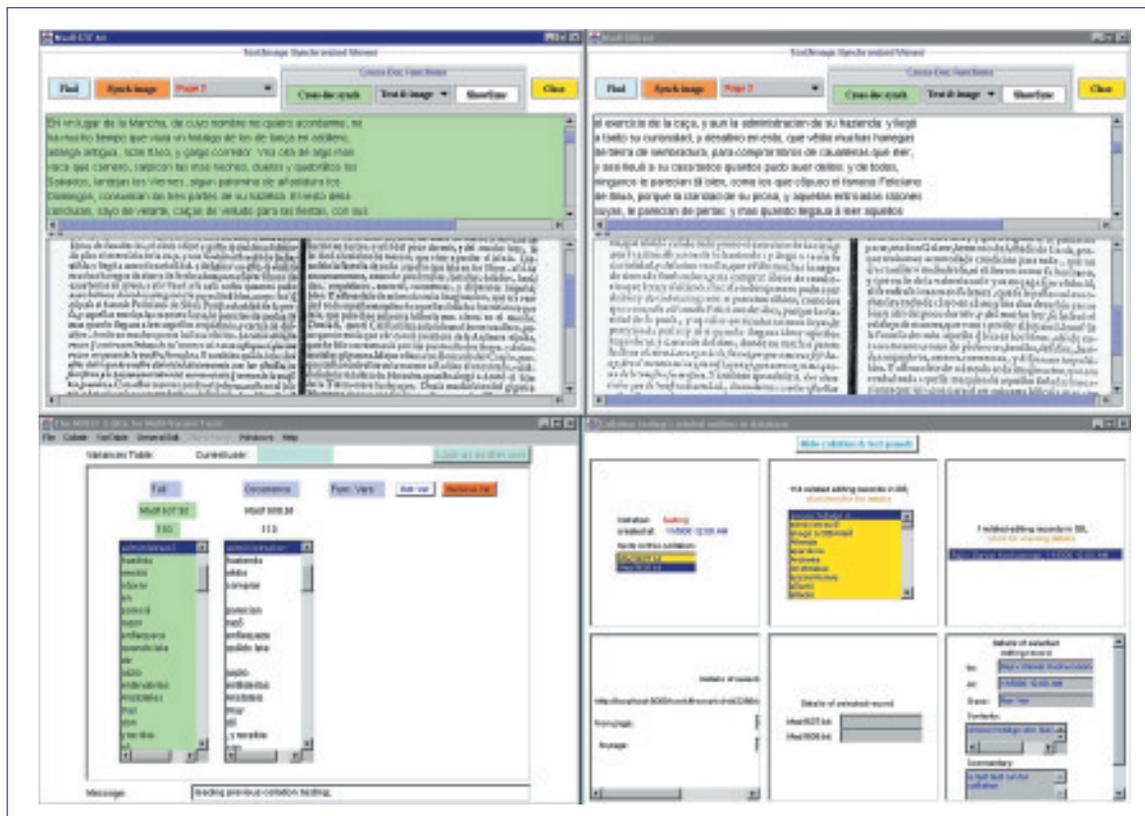
**Synchronization:** As Urbina and Furuta's team develops the EVE, they create text versions of the microfilmed pages and develop software to allow

synchronization of the text versions with their original microfilmed sources. So, as readers look at the image of the original page, they can also read the text in a modern font and style.

**Collation:** A key use of the program for Cervantes scholars is to collate pages from different editions and find differences between them. Also important is software to allow text annotation so editors can make notes about differences and explain their decisions about choosing specific texts.

**Education:** Because of interest in Cervantes at all educational levels, the Cervantes team is designing an interface to allow easy access. Readers, from grade-school to university levels, will be able to examine and customize their own editions of *Don Quixote*.

To someone outside the computer sciences, all of this might not seem like a big deal. But, developing software, tools, and interfaces to allow all of these different functions to smoothly operate is a challenging process, from which Furuta will learn lessons to apply to the development of other digital libraries in the humanities. 📖



By creating a complex online database of original texts of *Don Quixote*, scattered in rare-book libraries around the world, the Cervantes Project is providing access to resources almost impossible to have before, as well as developing tools for further development of Web-based libraries.

## Further Reading/ Information about the Cervantes Project and the World Shakespeare Bibliography

Point a lance, um, browser at <http://www.csl.tamu.edu/cervantes/> for the Cervantes Web site. This year, the Cervantes Project received a \$498,207 grant from the National Science Foundation (NSF). The grant is one of the first from NSF's Information Technology Research Initiative, a new \$90 million program to spur fundamental research and innovative applications in computer science. The NSF grant is the culmination of work on the Cervantes Web site that has been supported by the Texas A&M Office of the Vice President for Research's Interdisciplinary Research Initiatives, the College of Liberal Arts, the Department of Modern and Classical Languages, and the TEES Center for the Study of Digital Libraries.

The more than 68,000 bibliographic records of the World Shakespeare Bibliography are available by subscription at <http://www.worldshakesbib.com/>. The database, published by Arden Shakespeare, currently spans the period 1994–2000. It has been at Texas A&M since 1985, jumping media from print to CD-ROM to the current Web-based version introduced in 2000. Moving to a Web version allows Harner's team to more frequently update records. Each year, *Shakespeare Quarterly* devotes an issue to an updated bibliography produced by the WSB. The 1996 CD-ROM earned Harner the Besterman Medal from the Library Association of Great Britain.