

# Imaging the *Quixote*: A Digital Iconography

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Computers, storage, and high-speed networks are now a universally-found commodity in academia, and correspondingly, recognition of the critical role that computers can play in the humanities is growing. Although there is a long-standing history of innovative humanities computer applications, dating almost from the computer's invention, recently interest in the application of digital technologies to source materials needed for humanities scholarship has blossomed, taking on titles such as "Humanities Computing," "Humanities Informatics," and "Digital Humanities."<sup>1</sup> In the near term, we expect to see a new and increasing domination of digital technologies over printed materials in delivering scholarly materials if for no reason other than cost. It now is possible to provide economical access to materials of such a scope that printing costs would discourage traditional publication. This paper reports on aspects of one such project—a digital iconography of Cervantes' *Don Quixote*.

The Center for the Study of Digital Libraries at Texas A&M University conducts interdisciplinary research based in the techniques of Information Science and Computer Science and directed to the creation of effective Digital Libraries in the service of scholarship. Since 1995, we have been working with Dr. Eduardo Urbina, Professor in Texas A&M University's Hispanic Studies Department, to establish a comprehensive on-line resource centered on the works and time of the iconic Hispanic author Miguel de Cervantes Saavedra (1547-1616). Since 1999, a significant component of this project has centered around early editions of Cervantes' best known work, *Don Quixote de la Mancha*, particularly on the initial editions of the work in two parts, published in 1605 and 1615, and on the other significant early editions published during Cervantes' life. Since 2003, a further component of this project has been directed towards developing a digital resource for images found in a sizable collection of editions of the *Quixote*, obtained for this purpose by the Texas A&M University's Cushing Memorial Library.

This paper reports on the current status of this iconography project and on lessons learned. Examination of the project reveals the degree of truly interdisciplinary cooperation that is needed to achieve innovation in this area—innovation both in the context of the humanities as well as in the related contexts of computer science and information science. The overall project's long-standing focus on an individual author, and in the context of the iconography on an individual work, highlights issues in the

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<sup>1</sup> See for example the papers in the edited volume, *A Companion to Digital Humanities*, 2004, Susan Schreibman, Ray Siemens, and John Unsworth, editors, Blackwell Publishing.

development of the resulting collection that are not as clearly evident in projects that focus instead on multiple authors and times.

The Cervantes Project Collection, curated by Eduardo Urbina, contains editions selected especially because of the significance of their illustrations. Initiated in 2001, in part, in recognition of the current year's celebrations of the 400<sup>th</sup> anniversary of the publication of the first part of the *Quixote*, the Collection currently contains 403 editions published between 1620 and 2004—over 800 volumes from 15 countries, primarily in Spanish, English and French. Digitization of images from the collection has been carried out over the past two years. At present, there are more than 4,000 digitized images from 74 editions available for public viewing from the Cervantes Project's Web pages at <http://www.csdل.tamu.edu/cervantes>.

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Work on the digital iconography involves cooperation between the Hispanic Studies Department, the CSDL, the Texas A&M University Libraries, and the Texas A&M University Digital Library (TAMUDL). Figure 1 shows the representations and the workflow used in their creation. While the collection is under development, its public view is provided by the CSDL's *research collection*, which also supports experimentation into novel presentation and finding strategies for elements of the collection. As shown in the Figure, the digitized collection will also be used to generate a *production collection*, to be housed in the Texas A&M University Libraries, which will provide archival access to the public once the digital iconography is completed. The record of holdings is maintained in an *edition master list*, with collection records initiated within the Hispanic Studies Department and augmented with cataloging information by the Libraries. Additionally, a record is generated for each image. Images are identified for addition to the collection within Hispanic Studies and digitization of the image carried out by the TAMUDL. The TAMUDL also augments the image's record with image metadata and routes separate copies of the image files to the Libraries and the CSDL. Thus, three separate digital representations of the collection are maintained by the project—the research collection, the digital collection, and the edition master list.

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Figure 2 goes here

Figure 3 goes here

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Figure 2 shows the view of the research collection that can be seen by visitors to our Web pages. The table shows the fields from the edition master list's records and the interface also enables searching for records based on the values within those fields. The edition master list includes entries for items that have not yet been digitized—when digital images are available, the title page or another representative image is included with the

entry. Selecting the entry brings up a new window showing all of the edition's images, and selection of any of those images brings up a magnified view (Figure 3).

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Figure 4 goes here

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The edition master list originally was derived from an Excel spreadsheet created and maintained within Hispanic Studies for the purpose of keeping track of purchases for the collection. The maintainers of the research collection and of the production collection initially imported and converted the records to provide the needed metadata for their own collections. Maintenance of the spreadsheet continued for some time, and as new entries were made, the research and production collection lists were updated to match. More recently, a custom interface has been created for maintaining the edition master list that shares its database representation with the research collection (Figure 4). The database representation is exported when updates to the production collection's list are required.

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Figure 5 goes here

Figure 6 goes here

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In addition to the iconography of the *Don Quixote*, the Cervantes Project Collection also has provided the raw materials for additional products, both on paper and also in digital form. One such example can be found in one of the editions in the collection—the edition published in London in 1781 and edited by Rev. John Bowle, which is cited as the first critical edition of the work. Published in three volumes, the edition contains the two parts of the *Quixote* and a third volume of commentary. The entire edition has been imaged, and will be published as a facsimile edition.<sup>2</sup> We also are providing a “virtual” copy of the edition on our Website, which allows the reader to view and browse an on-line version of the facsimile (Figure 5). The virtual edition provides an initial hint of some of the ways in which online editions can extend the capabilities of their printed counterparts, while retaining the familiar appearance and browsing operations of the printed version. Since the Bowle edition is published in three volumes, consulting the commentary while reading the text requires manipulating two books simultaneously since one contains the text and the other the commentary. The flexibility provided by digital presentation can be seen in Figure 6, which illustrates a presentation of the edition with the text on the right-hand side and the corresponding commentary on the left. Reading this synthetic edition proceeds as with an individual volume; paging forward advances the text page if the corresponding commentary has been seen in full or the commentary

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<sup>2</sup> Miguel de Cervantes, *Historia del famoso cavallero, Don Quixote de la Mancha*. Editada y anotada por el reverendo Juan Bowle. London: B. White; Salisbury: Impr. de E. Easton, 1781. Coordinador y Prefacio, Eduardo Urbina; Introducción, Daniel Eisenberg. Newark: Editorial Juan de la Cuesta, 2005. 3 vols.

page if not. Thus previously separated content has been brought into close proximity, benefiting the reader.

Examples such as this suggest some of the small but significant means by which digitally-based editions can enable access to materials in ways difficult to achieve with printed materials. Certainly similar access can be obtained with the printed Bowle edition given the separate volumes and a sufficient amount of desk space. However similar effects would be harder to achieve if the notes were bound within the same volume—as they would be if they were endnotes. Even more significant are ways in which digital editions can reshape the fundamental concept of *edition* while at the same time allowing the reader to carry out activities that resemble those familiar operations possible with printed editions.

Beginning in 1998, one of our key projects has centered on creating an Electronic Variorum Edition (EVE) of the significant early editions of *Don Quixote*.<sup>3</sup> The raw materials for this investigation have been microfilmed copies of key editions published between 1605 and 1637, obtained with the cooperation of Biblioteca Nacional in Madrid and augmented with copies from other collections. Of particular significance are the inclusion of multiple copies of the first printings of the *Quixote*'s two parts—the *princeps*—which appeared in 1605 and 1615. The collection includes nine copies of the first part's *princeps* and seven of the second part's, which by itself represents a resource previously unavailable to Cervantes scholars.

Our work on the EVE has centered on support for two kinds of users—support for the editor of the EVE and support for the reader. Along these lines, we have developed a stand-alone application called the MVED that allows the creation and editing of a virtual edition and a set of Web-based tools, collectively called the VERI, that allow browsing of individual works and of edited editions.

It is interesting to us to consider the ways in which the EVE illustrates change in the traditional relationships among editor, reader, and publisher. Internet dissemination of scholarly material has long been recognized as changing the relationship between scholar and publisher—even to the degree of making it practical for the scholar to become publisher, achieving widespread dissemination even when a traditional publisher is not involved. Even with traditional publishers, digital dissemination implies strengthening of the editor's role when compared to the publisher's.

Editions such as the EVE effectively decouple a question of expense from a publisher's decision to publish. Whether disseminated over the Internet or on a physical medium such as a CD, the cost to publish the edition is essentially constant—decreasing disk storage costs make questions of overall size increasingly unrelated to costs of dissemination in the case of Internet dissemination while the standardized cost of

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<sup>3</sup> Richard Furuta, Siddarth S. Kalasapur, Rajiv Kochumman, Eduardo Urbina, and Ricardo Vivancos-Pérez, "The Cervantes Project: Steps to a Customizable and Interlinked On-line Electronic Variorum Edition Supporting Scholarship" *Research and Advanced Technology for Digital Libraries: 5th European Conference, ECDL 2001*, (Darmstadt Germany, September 2001). Panos Constantopoulos and Ingeborg T. Sølvsberg, eds. Berlin: Springer, 2001, pp.71-82.

mastering and duplicating media such as CDs makes the production cost the same for large or small edition.

Rather than publisher, then, the decisions about what can go into an edited edition are primarily limited by the resources available to the editor and by the legal encumbrances associated with materials. Obtaining, digitizing, and transcribing materials is not cheap and is affected by the amount of material involved. Editing activities conflict with the other demands on the editor's time. Even when resource considerations are not of relevance, copyright or other use restrictions imposed by the materials' owners limits what can be provided.

Resulting from the same technology that has affected relationship between editor and publisher, we note changes in the relationship between editor and reader. The EVE differs from a printed Critical Edition in that the reader can consult the same sources that were used by the editor in forming the edition, not just the filtered version that would appear in print; assuming, of course, that the digital rendition conveys the complete extent of information available to the editor who also may have had access to physical resources. For the reader, the "leveling" of the field reduces the supremacy of the editor's perspective and enhances the importance of examination of the evidence.

An open question is whether digital editions will affect the role of authority in scholarly activities. An editor's decisions about a text are interrelated, and indeed interact not only with each other and the evidence but also reflect the broader influences of the editor's scholarly history. This might support an argument that editing decisions should not be viewed in isolation but instead must be treated as cohesive whole. This in turn suggests that the ability to segment a text into hypertextual fragments effectively is limited by the importance of retaining a globally-consistent view. Whether the future will see a separation between context and commentary in digital editions remains a challenging and suggestive question.

The rapid evolution of digital technologies suggests that the specific applications that we use today will be outmoded very soon. However, in the humanities even if the applications become outmoded, it seems likely that the data will retain its value—that is to say that we will want to continue accessing the same materials even when our means of access changes.<sup>4</sup> Thus our long-term goals in supporting scholarly work include allowing heterogeneity both in the participants who generate materials but also in the range of computer applications that can be developed to use the materials.

An equally challenging practical question when organizing a collection of digital artifacts is how the work will be accomplished in a timely fashion and whether it can be distributed so it can be spread out among multiple editors. A factor that mandates broad editorial collaboration in building this collection is the wide range of materials associated with Cervantes and with the *Quixote*. As the other papers in this volume illustrate, the central role of this author and novel in Hispanic culture has lead to an enormous range of artifacts. We have already discussed our project's involvement in the digital iconography

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<sup>4</sup> This point echos that made by Crane in Gregory Crane, "The Perseus Project and Beyond," *D-Lib Magazine*, January 1998, available at <http://www.dlib.org/dlib/january98/01crane.html> (URL verified on October 13, 2005).

and the EVE. In addition, we are actively involved in preparing and disseminating additional related materials.

A central and long-standing project has been provision of a digital bibliography of the constant stream of scholarly publications about Cervantes and his works. This bibliography is based on the *Anuario Bibliográfico Cervantino*, a regularly updated bibliography maintained by Eduardo Urbina, and can be found on the project's Web site.<sup>5</sup> The site also contains a collection of Cervantes' texts in digital form, biographies about Cervantes, and histories of areas related his life. Recent additions include a collection of *Ex Libris*—bookplates following Cervantes-related themes—collected by Gian Carlo Torre. Under development are a site devoted to the music used in Cervantes' writings, based on the dissertation by Juan José Pastor and a presentation of legal records collected in Spain documenting events related to Cervantes' life<sup>6</sup>, based on the records collected by Kris Sliwa. Elsewhere in this volume, Esther Almarcha and Oscar Fernández Olaide report on a nicely done collection of ephemeral products including playing cards, match books, and lottery tickets.<sup>7</sup> Yet to be considered are movies, plays, songs, statues, etc., that follow the themes, not to mention other authors' books that adopt derivative themes.

A key design decision is how relationships between artifact and text are to be identified. The traditional means of defining such connections is to associate a specific textual location with the item—to identify the related chapter, page, and line within a specified edition. However, this encoding requires that the editor have access to the specific edition selected and makes encoding of derivative works difficult (e.g., artwork that is inspired by the *character* of Don Quixote but not from the specific features of the text).

For these reasons, the project is experimenting with using a taxonomy based on the *events* that occur in the *Quixote* as the means of encoding the relationships between artifacts and text.<sup>8</sup> The taxonomy describes the “superstructure” of the work, so it is independent of any particular edition of the work. Thus, we expect that it will provide a basis for natural distribution of editorial responsibilities to area specialists while simultaneously providing the mechanism for rich hypertextual interlinking of the different collections. Indeed, we anticipate an eventual framework that will allow interlinking elements in our collection with ones in other's independently-maintained collections. As the initial test case, work is underway to encode the textual iconography with taxonomic markers.

The approach taken by the Cervantes Project is enabled by the enormous popularity of *Don Quixote*. From a practical digital libraries viewpoint, it is likely that only a relatively few works can support and justify this degree of specialized and sustained effort. However, focus on the single work and on the individual author is leading us to a

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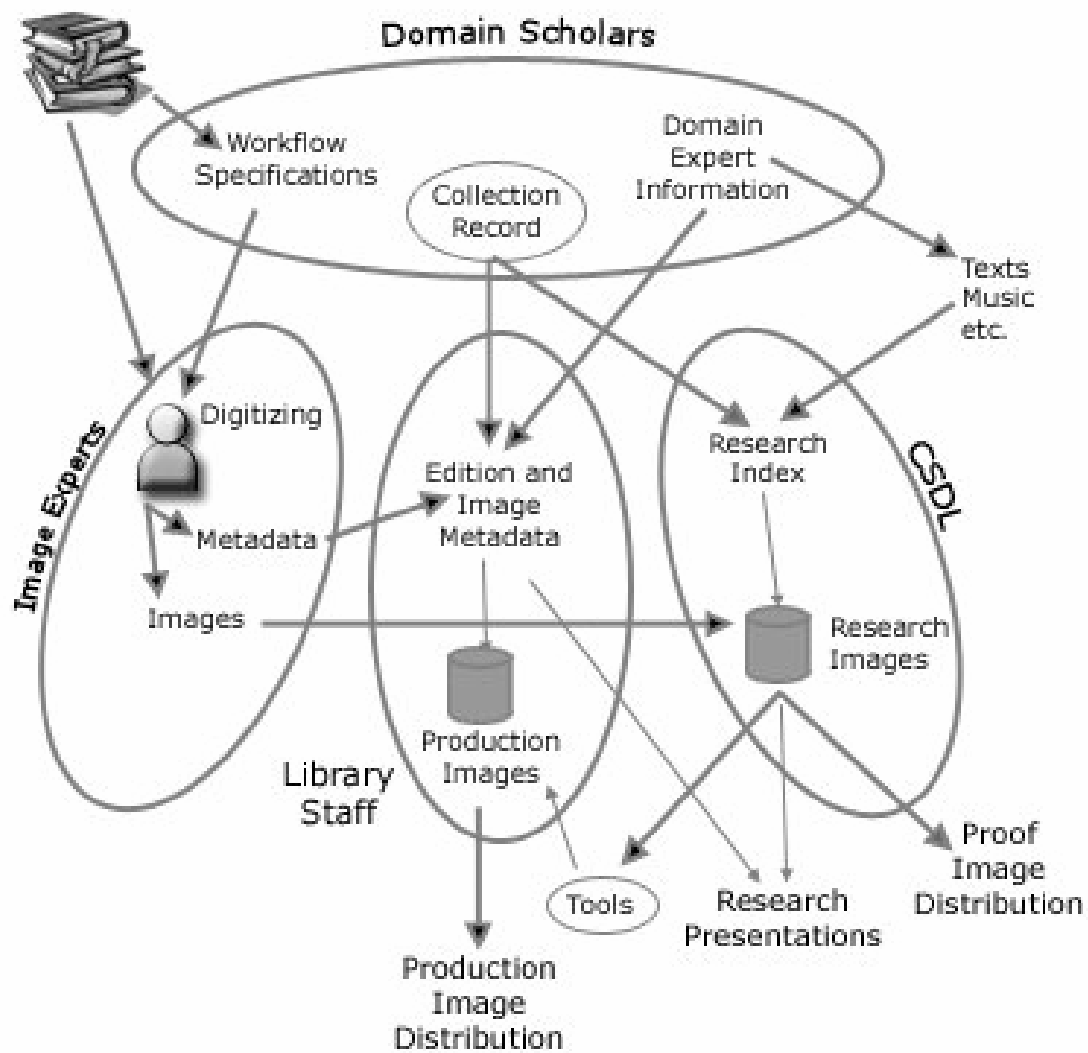
<sup>5</sup> <http://www.csd.tamu.edu/cervantes>

<sup>6</sup> Neal Audenaert. *Feature Identification Framework and Applications (FIFA)*, 2005. Master's Thesis, Department of Computer Science, Texas A&M University.

<sup>7</sup> See <http://www.uclm.es/ceclm/CentenarioQuijote/index.htm>

<sup>8</sup> Neal Audenaert, Richard Furuta, Eduardo Urbina, Jie Deng, Carlos Monroy, Rosy Sáenz, and Doris Careaga. “Integrating collections at the Cervantes Project.” *Proceedings of the 5<sup>th</sup> ACM/IEEE-CS Joint Conference on Digital Libraries*, 2005, pp. 287-288.

better understanding of the issues involved in the creation of richly interlinked scholarly resources, which in turn leads us to a better understanding of the mechanisms that can be used to achieve such interlinkages by automatic means as replacement for the relatively laborious manual processes we currently use. The manually-specified taxonomy of events in *Don Quixote* provides a “ground truth”, a target that we can seek to match with automatic processes. Consequently, as this understanding evolves, it will enable automation that can extend the benefits of rich interlinking to collections affiliated with a broader set of authors and indeed between works by separate authors. In achieving these goals the *Quixote* keeps us “honest”—the wide-ranging importance and popularity of the work, as reflected in the breadth of media type and form reflected in the artifacts associated with it, provides a testbed of exquisite complexity and potential.



**Figure 1: Processing the digital iconography collection requires interdisciplinary cooperation.**








Iconography of Don Quixote - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://csdl.cs.tamu.edu:8080/ver/SearchIconography

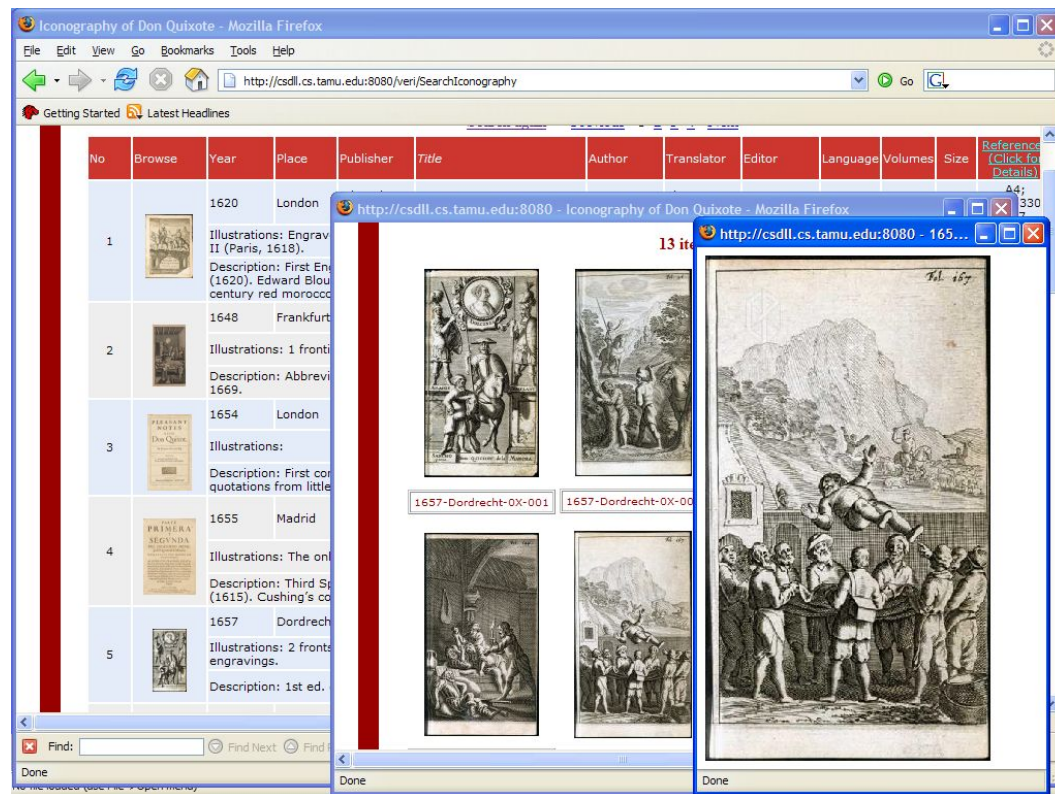
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No	Browse	Year	Place	Publisher	Title	Author	Translator	Editor	Language	Volumes	Size	References (Click for Details)
1		1620	London	Edward Blount			Thomas Shelton		English	1	4to	A4; S329-330; G57
		Illustrations: Engraved title page for Part I is first issue of first illustration of the <i>Quixote</i> ; the same engraving appears in first French translation II (Paris, 1618).										
		Description: First English translation of both parts; first edition of both parts in English: second edition of the first part (1612?), first edition of the second part (1620). Edward Blount was one of the two publishers of the Shakespeare First Folio (1623). Cushing's copy bound in contemporary if not origin century red morocco.										
2		1648	Frankfurt	T. Matthiae Gotzen					German	1	12mo	S742; P53029
		Illustrations: 1 frontis and 4 anon. copper engraved illustrations										
		Description: Abbreviated ed. in German; Digital images from copy at Library of Congress with frontis illustration wanting. Second edition published 1669.										
3		1654	London	William Hunt	<i>Pleasant Notes upon Don Quixot</i>	Edmund Gayton			English	1	4to	
		Illustrations:										
		Description: First commentary based on the <i>Quixote</i> ; a four part miscellaneous volume in verse and prose. It includes humorous anecdotes and quotations from little-known contemporaries. Shakespeare is thrice mentioned but Gayton regarded Ben Johnson as his intellectual father.										
4		1655	Madrid	Melchor Sánchez					Spanish	1	4to	S20; S97; RR41; P51992
		Illustrations: The only illustration is a small vignette found in the Dedication page.										
		Description: Third Spanish edition of both parts of the <i>Quixote</i> , published after Madrid 1637 first edition in one volume of Part I (1605) and Part II (1615). Cushing's copy bound in original vellum.										
5		1657	Dordrecht	Jacobus Savry			Lamberto van de Bos		Dutch	2	12mo	S854; P53222
		Illustrations: 2 fronts. and 24 copper engravings by Solomon Savry (?). Commonly considered 1st illustrated edition, with an extensive set of engravings.										
		Description: 1st ed. complete with a set of illustrations; digital images from copy at Biblioteca Nacional (BN) of vol. 1 only (fronts & 12 engravings)										

Find: Find Next Find Previous Highlight Match case

Done

**Figure 2: A view of the digital iconography from the research collection.**



**Figure 3: An image from an edition.**

Iconography of Don Quixote - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

Page 1 of 341 items. All sorted by year

Previous

1

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5

6

7

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11

12

13

14

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18

Next

Create New Entry

Export to Excel

Log out

No	Year	Place	Publisher	Title	Author	Translator	Editor	Lang	Vol	Size	References	Urbina ID	Library	ID
1	1620	London	Edward Bount			Thomas Shelton		ENG	1	4to	A4; S329-330; G57	Paris: Jacques du Clou and Denis Moreau, 1618.	TAMU	1
<div>Illustrations: Engraved title page for Part I; first issue of first English illus. of DQ; same illus. as in 1618 French first translation of DQ Part II</div> <div>Description: 1st English ed. of both parts; 1st ed. Part II and 2nd ed. Part I; 2 vols. in 1. Original 17th morocco binding.</div>														

Untitled Document - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

ID	Year	Place	Publisher
19	1733	Paris	Pierre Michel Huart
Title			
Author		Translator	
		F. de Saint Martin	
Editor		Language	Volume
		FRE	6
Urbina ID		Library	
Paris: Compagnie des Libraires, 1732.		TAMU	
References	Illustrations	Description	
A33; P52729	34 plates; 14 by Bonard engraved by Cars and Mathey; 10 copies of coypel by Bonard, 7 by Coypel, 2 anons. engraved by Crepy le file, and one fronts. by Humbolt engraved by Cars	Same ed. as Paris 1732; Vols. 5, 6 with <i>Continuation</i> by Saint Martin (vol. 1 of DQ and vol. 5 wanting).	

Update Database

Delete Entry

Cancel

**Figure 4: The editor's interface for maintaining the edition master record list.**



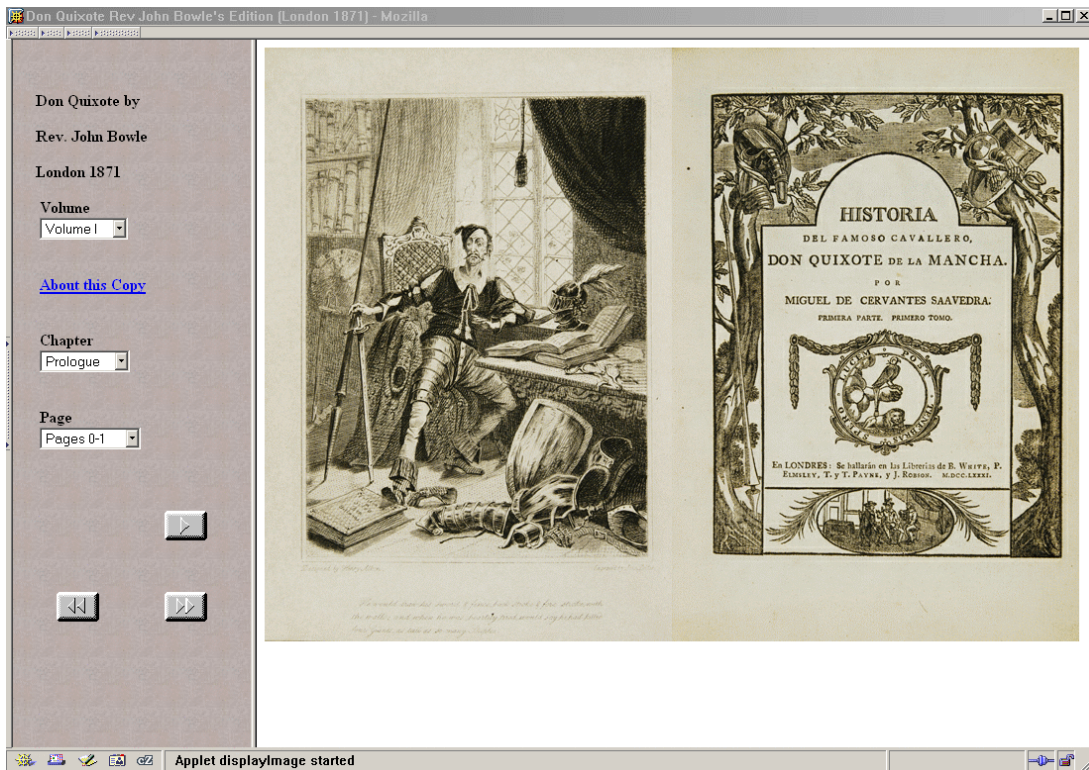


Figure 5: A virtual edition allowing browsing of Bowle's *Quixote* edition.

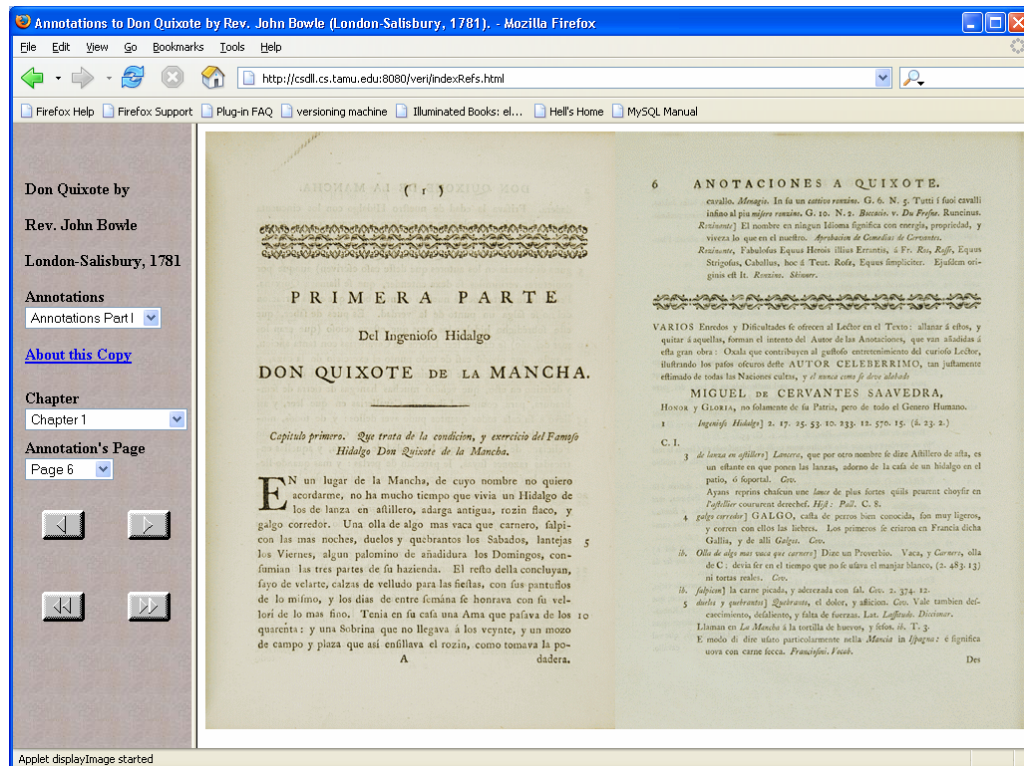


Figure 6: A synthetic edition bringing together content from two separate physical volumes.

