

**MASSIMO RIVA**, “The Virtual Humanites Lab at Brown University: Toward an Experimental Environment for Collaborative Scholarship.”

MR. RIVA: There is no doubt that the intensified interactivity and connectivity generated by distributed computing has fostered an intellectual revolution of sorts.

In short, we’re witnessing the birth of a new social and cultural imagination of technology, similar to that engineered by Italian humanists such as Leon Battista Alberti five and a half centuries ago at the time of the Gutenberg revolution. Like Alberti, contemporary digital humanists work at the intersection of engineering and the liberal arts. [[slide 2](#)]

In the age of digital incunabula, we are all involved in an extraordinary and extraordinarily challenging task. We are the scribes, transcribing and translating past into present and future media. Indeed, words and images, textual corpora, and/or data collections etcetera are all evolving along with the new media in which they are embodied, forcing us to redesign the virtual environments of learning. [[slide 3](#)]

A utopian landscape begins to take shape. Emerging technologies promise to reconnect the physical and mental spaces in which the production, preservation, and transmission of knowledge have been traditionally separated, creating a potentially boundless and integrated environment. The study, the library, the archive and the classroom can be re-envisioned and reconceived as a sort of comprehensive theatre of the mind, a working space where different data sets can be simultaneously accessed, and diverse routines or highly specialized functions traditionally associated with separate domains of intellectual pursuit can be performed together. [[slide 4](#)]

Yet, in this extraordinarily challenging and stimulating context, where new tools and network resources for scholars are introduced on an almost daily basis, there has been no equally consistent attempt to strategically integrate these new tools and resources into a valuable multidisciplinary curriculum for the humanities. We are all keenly aware that the effort of making “millions of books” available to scholars, students, or simple readers in automatized searchable formats through various initiatives, Google Print and the Open Content Alliance, etc., must be accompanied by a corresponding effort to create the critical infrastructure, text based or object-specific meta-data in which these millions of interlinked books or documents can be actually processed, read, and understood in pedagogically creative and scholarly proficient ways. [[slide 5](#)]

These two tasks must, to some extent, be performed together. What is still lagging behind in the face of the massive amount of information becoming suddenly available is the production of content material, digital texts in particular, structured in such a way as to both promote a variety of online research activities, and function as an integral part of the teaching and training process. We need the tools to make this happen on a larger scale. But who can actually design and build this infrastructure, if not scholars, teachers, and students themselves actively engaged in the process of research and learning? In short, scholars need to upgrade to the new environment of a participatory culture. [slide 6]

As Peter Robinson has written, “Of the many kinds of print objects produced over the last centuries, it is difficult to think of any genre that is so well adapted to the computer as the scholarly edition.” (“Current issues in making digital editions of medieval texts – or, do electronic scholarly editions have a future?” Digital Medievalist 1.1, Spring 2005). Digital editions of texts from the past are aimed at preserving past systems of knowledge by transcribing and representing them in a new dynamic medium. This task of transcribing for the digital medium works that were conceived and composed within a different technological framework, puts us in a situation similar to that of the archeologist: it forces us to conceive new textual models, based on, yet not simply representating, these texts from the past. In short, we are constantly engaged in what we may call an archeology of knowledge, in order to design the new framework of knowledge. [slide 7]

What characterizes the new knowledge work necessary to produce digital editions?

Within the digital cycle, **Editor** becomes a **distributed concept**.

Within the digital cycle a document is (still) a **social construction**.

The Digital edition is more a **process than an object**: the result of distributed and collaborative (knowledge) work.

DE requires a **network of socially accepted** and validated (peer reviewed) **practices**.

These practices involve **HCI (Human-Computer interface), or better a combination of HCI** ⇒ Automatization (**machine tasks**) *and* **computer-aided editing work (human tasks)**.

**Collaboration** can be greatly enhanced through HCI.

[slide 8]

Our main goal, since the inception of our first project at Brown, the Decameron Web, has been to promote a collaborative attitude towards both research and pedagogy. [slides 9-10, end of power point presentation]

The Decameron Web [<http://www.brown.edu/decameron>] was conceived back in 1997-'98 as an online edition of Boccaccio's masterpiece; not a critical edition, but an online edition, a dynamic archive of textual and contextual resources for reading and studying Boccaccio's works in a new environment—an archive, let me point out – entirely built by students and their teachers, working together as a distributed community of learning. The project is now 10 years old and showing its age, and yet I think the principle, the ideas behind it, are still valid today.

The Pico project [<http://www.brown.edu/pico>] followed along the same lines, as an online collaborative edition of two texts, which together compose a fascinating manifesto of renaissance humanism, an ambitious, almost heroic attempt at a rhetorical and philosophical synthesis of all the wisdom belonging to all known traditions from the ancient past, the *Oration on Human Dignity* and the so-called *900 theses*, Pico's *Conclusiones Nongentae Publice Disputandae* [<http://www.stg.brown.edu/projects/pico/index.php>]

On the screen, you see the home page of the 900 theses with an index: this little yellow icon next to a thesis or a group of them, shows that each thesis has been annotated by one of the scholars who participate in this project. These scholars are distributed over three continents and, thanks to this site, they work together in annotating and translating Pico's text in an interactive and collaborative fashion. The results are remarkable: for example, the first translation of Pico's theses into Spanish is about to be completed by a group of scholars working in Spain in Latin America.

This kind of collaborative and interactive digital edition is particularly well adapted to a very complex text, such as Pico's, that requires a number of interdisciplinary, multidisciplinary competences in order to be read, understood, annotated and translated.

Finally, our last project in chronological order: the Virtual Humanities lab. The VHL [<http://golf.services.brown.edu/projects/VHL/>] was conceived two years ago with one essential goal: to provide a platform where the process of research and publication—initially geared toward the production of digital editions of late medieval, early modern Italian or neo-Latin texts—could also become the medium of an enriched philological practice along the lines of what we may call adaptive e-learning for scholars.

In short, we envisioned a laboratory as an online venue, where scholars can train themselves in a set of new practices made possible and necessary by digital media, while at the same time pursuing the traditional goals of their research in a

collaborative fashion. The texts currently edited are, as you can see, Boccaccio's Decameron, Boccaccio's *Esposizioni*, his lectures on Dante's Inferno, which are currently being translated for the first time into English by Michael Papio; Giovanni Villani's *Cronaca fiorentina* and, as already demonstrated, Pico's *Conclusiones* (900 Theses).

The VHL is an environment very similar to that which Andrea Bozzi was showing you earlier, including some of the functions and tools that a workstation for scholars working on digital editions requires. A scholar participating in the project can make or view annotations, produce an index and can also experiment with alternative semantic encodings of one of the various texts currently available.

[\[http://golf.services.brown.edu/projects/VHL/textview.php?text=esp&ptID=c02alleg\]](http://golf.services.brown.edu/projects/VHL/textview.php?text=esp&ptID=c02alleg)

If you scroll down this page, for example, you can see highlighted in color the actual traces, or footprints, that scholars have left while annotating and encoding semantic trails or topics throughout the text, so that they can be indexed and searched automatically by other scholars later. Thus visualized by the digital text is the work that comes out of a community of scholars working on the same text, from different perspectives. In short, thanks to this form of semantic encoding, we will be able to visualize different interpretations of the same text from various disciplinary perspectives. This is the experimental kind of work that we are doing.

And here's the question facing us: How can we preserve the original and historic form of these model texts, while extracting and expanding on the knowledge they contain? The VHL interface, as you can see, is still based on the print form, on the codex. But, we are trying to move away from that and to use the dynamic potentials of the digital medium in order to expand in the editing process the information contained in the book, extract it and *represent* it, visualize it, along with the knowledge work of the reader-interpreter, in a different, not necessarily linear way, modeled on the apparatus we have inherited from print, footnotes, et cetera.

A question arises: can large digital collections of texts support such a rich layer of metadata, annotations, commentaries, pattern recognition, et cetera? The main problem is designing an interface that can efficiently visualize from a cognitive point of view this rich palimpsest of structured information - syntactic, linguistic, philological, interpretative, thematic, et cetera, -at the same time enabling the user to perform a number of specialized functions within a collaborative and interactive setting. This is not an easy task, given the limited amount of space available on the screen, and the overlapping layers of information embedded in a

text. In a sense, our ambition is to design a digital edition which condenses a variety of scholarly genres, from the paleographic transcription to the scholarly essay, all through the same dynamic interface.

A few words now about the institutional environment in which our work is taking place. It's an environment that is rapidly changing as new ideas and collaborations surface, and the epicenter of the change is the library. Our collaboration at Brown with the Center of Digital Initiatives of our library, directed by Patrick Yott (<http://dl.lib.brown.edu/>), and the Scholarly Technology Group (STG: <http://www.stg.brown.edu/>), directed by Elli Mylonas and Julia Flanders, a team of pioneers of digital scholarship and the Text Encoding Initiative, is focused on implementing a university-wide digital repository.

While this is happening, scholars need to work on their objects, the texts that are of specific interest to them. And while the creation of a digital repository can help with general issues of knowledge management, IMS Systems, etc. we need to provide the specific work, the enriched metadata in order to customize these general systems in a discipline-specific way.

So our tagged XML Corpus and its attendant metadata would reside in the library, and would be curated by the library. In the first phase, we would focus on developing the fundamental functionality through which the repository's content can be used and accessed through a VHL interface.

In the second phase, the library and STG will be exploring ways to associate more specific and sophisticated behaviors such as those prototyped in the current VHL with specific sets of resources stored in and served from the repository, and to develop intermediate publication layers that enable faculty to work collaboratively with specific resource sets, (through activities like annotation and markup enhancement).

The library itself is planning on implementing Fedora 3.0 later this fall, to support core-repository functions, preservation, user authentication, as well as delivery of customized views of deposited objects. These customized views disseminators, as they are called technically, could be developed by individual faculty. XSLT, renderings of TEI texts that are project-specific through group development, etc.

To conclude, I'll jump now to two new projects that reflect this collaborative, modular, and interdisciplinary approach from the bottom up, so to speak, as the expression of scholarly communities building and organizing themselves around their objects of research.

Both projects are housed at the Center for the Digital Initiatives of the Rockefeller Library, directed by Patrick Yott. The first is called The Theatre that was Rome (<http://dl.lib.brown.edu/rome/>), conceived and directed by my Brown colleague, art historian Evelyn Lincoln: when fully implemented, a Theatre that was Rome will be a research website for scholars to develop and publish new research on early modern 1500-1800 printing, architecture, urbanism, and technology of Rome through the use and interpretation of the history of printing and illustrated books. So the focus here is on the material history of the book, as well as on the book as a specific visualizer of knowledge.

Many of the illustrated books printed in the Renaissance were called theatres, designed to amuse and display for a reader the whole panoply of any one subject with special attention to its variety and diversification within a given rubric. The Theatre that was Rome would take for its subject the creation of early modern Rome as a theatre of technology.

One quick example of how the site will work. On the one hand, you have access to full images of a book that you can examine in great detail. On the other, scholars will be able to annotate the images and annotate the text along the same lines as the texts included in VHL.

Last but not least, is the Garibaldi Panorama and Risorgimento project (<http://dl.lib.brown.edu/garibaldi/>). This is still in its very early, pre-official release stage. In order to describe this project, I will quote Lawrence Biemiller in the last issue of *The Chronicle of Higher Education*: “Two years ago, Brown University’s special-collections library was given a curiosity so unusual that librarians aren’t exactly sure what to call it. So big that displaying it is almost out of the question, and so breathtaking in scope that it would make Cecil B. DeMille jealous. It has a dashing guerrilla hero, a love story, guns, swords, and bayonets, an avalanche, torture, a growling lion, battles at sea and on land, and a final glorious victory—all in glowing colors.” (<http://chronicle.com/weekly/v54/i06/06a04801.htm>)

What is this object? The curiosity is a painting of scenes from the life of the Italian military leader Giuseppe Garibaldi - 273 feet long, and about four-and-a-half feet high, painted on both the front and back on heavy paper, stored on a large drum. -Made in England, in the early 1860’s, it was donated to Brown two years ago - serendipitously, just in time for the second centenary of Garibaldi’s birth, which falls this year. The panorama was meant to be unspooled flat before a small audience one scene at a time, and then wound onto another drum. In a sense, it is an example of a painted moving picture, an archeological specimen in the history of motion pictures.

Moving panoramas were shown in specially designed buildings, and of course, these buildings no longer exist. So, what to do with such an artifact? Simple: digitize it. Well, not so simple.

-Here is an image of the very complicated and expensive process of photographing the panorama. Detailed information about this process and additional plans for restoration and preservation can be read online at:

[http://dl.lib.brown.edu/garibaldi/panorama\\_digitization.html](http://dl.lib.brown.edu/garibaldi/panorama_digitization.html)

“Preservation Department staff members reviewed the digital capture equipment configuration and discussed the process with the technicians, and determined that the best way to ensure safe handling of the panorama was to personally unroll and re-roll it as images were captured. The large dimensions and fragile nature of the nearly 150-year-old object required skilled, gentle, and experienced hands. The panorama was unrolled across a wooden platform specifically constructed for this project; the platform was covered in plastic sheeting to provide a clean, smooth surface across which the panorama could glide.”

What will this project become as we start to envision a virtual life for this extraordinary object? On the one hand, enriched with a database of prints and other images from the Hay Military Collection and Illustrated News from the collection of our provost (and professor of Italian Studies) David I. Kertzer, the Garibaldi/Risorgimento project will provide a comprehensive resource for the interdisciplinary study and teaching of the life and deeds of one of the protagonists of the Italian unification process. On the other hand, a dynamic visualization of the panorama, based on the transcription of the accompanying manuscript that we also have in our possession, will allow a worldwide public to relive the original spectacle of the panorama as a virtual simulation on the digital platform, watching the panorama unroll and listening to a voice-over narration based on the manuscript, in both Italian and English.

Moreover, users will be able to zoom in and out of specific scenes, exploring the painting in greater detail. Librarians and scholars will contribute annotations and explanatory notes about characters and events depicted in the panorama, about its sources, both visual and textual, etc.. There will be additional information about the panorama as an artifact, the history of its exhibition, as well as general information about panoramas and dioramas as optical devices, popular media of 19th century Europe.

Finally, using the VH Lab platform, the project will also provide an interactive, collaborative venue for scholars and students of Garibaldi and the Risorgimento, who will be able to annotate, specifically, details of the images, thus

complementing the project's primary sources and materials with a rich, dynamic critical and pedagogical apparatus.

In conclusion, this project exemplifies the two fundamental challenges that we face in our work as digital humanists. Transcribing and translating old media into new media requires us to design new knowledge interfaces, which—while remaining faithful to the original as a model text or object—virtually enhance and expand the multilayered information it contains according to the dynamic possibilities of the new media.

Thank you very much for your attention.

(Applause)