Editing Environments: The Architecture of Electronic Texts

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Abstract

Immersive multimedia performances, especially in the theater, installation art, and computer games, suggest to us interesting models for reconceiving the possibilities of textual editing in digital media. Traditionally, textual editions have taken different forms for different audiences of readers. Editing protocols, including the critical apparatus, are determined in part by those forms. Mostly this has meant conceiving of a given text as produced for a scholarly, classroom, or popular audience. However different these types of editions, they share familiar textual ontologies, developed primarily over the past 200 years and based on print technology. We suggest instead that editors begin thinking of digital editions primarily as 'editorial environments', with spatial, temporal, procedural, performative, and participatory properties. An electronic edition is always already a virtual world. A digital edition is an electronic environment. Citing as an example our experiment in the MOO with Shelley's sonnet 'Ozymandias', we imagine the role of the editor as textual ecologist/dramaturge/gamemaster, maximizing the resources of digital environments.

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This essay was written in 1997. It has not been significantly updated but reflects that particular moment in the debate on electronic text.

The audience watching Tom Stoppard's *The Coast of Utopia* at the National Theatre in summer 2002 found themselves, in effect, immersed in a virtual reality environment brilliantly designed by William Dudley to integrate a rotating stage and curved backdrop screen. Video graphics of a Russian country house and its grounds, or a wintry Moscow park and skating rink, were projected and at key dramatic moments were rotated 360°, sometimes in coordination with the rotating stage, to produce kinetic hybrid effects—part physical and part virtual. The overall effect was reminiscent of popular eighteenth- and nineteenth-century London panoramas, multistoried buildings people entered in order to view paintings in the round, complete with visual special effects of perspective and lighting, and sometimes with live musical accompaniment. Like these panoramas, the 3D video projections for the play were multimedia events; sometimes in combination with date and place superimposed in text on the images, the sets invoked the same kind of cinematic imaginative immersion produced by certain videogames.

At the same time, in another part of London, viewers could participate in Chris Hardman's *Euphorium*, an interactive virtual-reality theatrical production based on Coleridge's visionary poem, 'Kubla Khan'.[1] Constructed as a maze with ten

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interlinked 'environmental chambers', this installation allows one person to enter every three minutes, wearing a special helmet that projects images in the space before their eyes, all reflecting parts of the poem's text. These images move, combine, and reshape themselves, accompanied by sound effects, in a 'kaleidoscopic' multimedia experience meant to embody something of the poem's hallucinatory language in a 3D physical and virtual environment.

Immersive multimedia performance practices of this kind, especially as they have been developed in the theater and installation art, as well as exploited in digital games, suggest to us extremely interesting possibilities for reconceiving the possibilities of textual editing in digital media. Traditionally, of course, textual editions have taken different forms for different audiences of readers. Editing protocols, including the critical apparatus, are determined in part by those forms. Mostly this has meant conceiving of a given text as produced for a scholarly, classroom, or popular audience.[2] However different these types of editions may appear on the surface and may be in substance, they share relatively similar and quite familiar textual ontologies, developed primarily over the past 200 years and based on print technology.

In adapting print editorial paradigms to the digital medium, notes Susan Schreibman, editors have largely played the 'role of assembler of electronic texts', becoming 'on the one hand the literary-librarian, building a library or the more commonly termed archive of multimedia objects, and on the other hand, the literary-encoder grappling with a logic more amenable to programmers than literary scholars . . .'. In this situation, the editor is 'transformed into a hybrid literary-librarian/literary-encoder whose goal is to create an edition that surmounts limitations imposed by print-based publication'.[3] The field of electronic textual editing currently is far more advanced in theorizing and producing the 'back end' of editions—where the issues primarily involve rigorous structural markup—than it is in attending to issues relating to the 'front end'—the interface through which editions make their knowledge available experientially to users. For most editors of poetry, then, the computational and analytical powers of the digital environment for information archiving and retrieval have eclipsed its performative and expressive possibilities, its use as an engine of representation.

How might editors of electronic editions, particularly editions of poetry, think and act otherwise? One way would be to view digital 'editions' primarily as 'editorial environments', with spatial, temporal, procedural, performative, and participatory properties.

The fact is that an electronic edition is always already a virtual world, even when its editors do not consciously conceive of it in this way, and the only real question is how relatively rich or impoverished an environment it provides. To the role of editor as librarian/encoder, we would add the role of the editor as textual ecologist/dramaturge/gamemaster, maximizing the resources of whatever editorial environment he or she chooses to work within—and, increasingly, in digital media those resources will include image, sound, and video.

At the Romantic Circles Website, we not only worked with HTML, SGML, and XML encoded editions in fairly traditional electronic environments, but we have also experimented with immersive editorial environments in our text-based hybrid WebMOO, creating editions that *are* virtual worlds. For decades now installation artists have experimented with placing text in physical gallery or museum spaces, and with using text to create a sense of space within which the text is reflexively interpreted, a prototypical form of what we have come to call 'immersive textuality'. We would like to explore the issues raised by textual experiments in virtual space, particularly the WebMOO, in which the text is embodied and experienced architecturally, spatially, at the cognitive intersection of its linguistic and graphic codes. And we will conclude with an extended discussion of one such experimental immersive edition, MOOzymandias, a WebMOO rendering of Percy Shelley's sonnet 'Ozymandias'. Our ultimate interest throughout is in the ways that an immersive editorial environment might make possible new forms of textual editing.

The acronym MOO stands for 'MUD, Object-Oriented'—and a MUD is a 'Multi-User

Dimension (or Dungeon)', an open-source database and server program created in 1979 at Essex University and quickly adapted at places like MIT and Stanford for communication and the playing of adventure games among distant university campuses. The first MOO proper, which allowed users to build and inhabit virtual rooms and objects in an architectural structure, was developed at the Xerox-PARC laboratories in 1990 and was quickly replicated around the Internet.[4]

For our purpose, the salient feature of the MOO is that it allows for synchronous communication in shared and mutually constructed virtual spaces. Yet the MOO—even in multimedia WebMOO form—remains fundamentally a text-based virtual-reality environment. As Elizabeth Reid observes, in MOOs 'text replaces gesture and has even become gesture itself'.[5] To some degree, rhetoric and composition specialists have long appreciated this,[6] but the educational uses of the MOO can be expanded into the philological and pedagogical practices of literary studies in general, and of the protocols and pedagogical uses of scholarly and classroom editions in particular.

What we might call the MOOer's illusion—that willing suspension of disbelief that constitutes MOO reality—depends on an ongoing process, the reciprocal textualization of space and spatialization of text, so that we experience both written text and virtual architecture as conditioned by one another in MOOspace. It is this architectural—what has been called architextual[7]—interdependency that lies behind many of the special pleasures of the MOO, producing a kind of gaming that is also communicating, object manipulation that is also interpretation. This makes the MOO a perfect medium for what we at Romantic Circles are calling pedagogic editions, editorial environments that enable students to inhabit a poem or novel, engaging them in the process of arranging texts in order to interpret them, helping them to recognize the multiplicity of versions and the relatively ephemeral, contingent, and constructed nature of those versions, engaging them in the collaborative material production of literary texts. We find a number of salient parallels and precedents for this construct in the art world.

Imagine that you find yourself reading the following text:

> You open a low wooden door and step into what appears to the dimly-lit hallway of a rather shabby apartment building. The hall extends into the distance, then turns to the left into darkness. You smell dust and fresh paint as you look around. As your eyes adjust to the light provided by a string of naked bulbs dangling from the ceiling, you begin to make out a series of panels hung at eye level running down the length of the hall. You move in to examine one more closely: it consists of a page of handwritten text mounted below an aging photograph of a Moscow monument. The rough collage has been framed by someone using yellowed wallpaper as a matte. Looking closer, you see what appear to be Russian letters on the wallpaper. You turn and make your way down the hall. Rounding a corner, you hear the muffled sound of a lone voice singing a melancholy folksong; it seems to be coming from somewhere up ahead . . .

But now, imagine that you are corporeally present In Real Life, standing in the physical space of a large high-ceilinged gallery containing an elaborate simulation of a Moscow apartment building, a mixed media installation built like a fragile wasps' nest inside the cavernous interior of the Tate Modern in London during summer and fall 2000. Another, familiar kind of virtual reality, this maze-like space is a work by Ilya Kabakov, the 'Father of Moscow Conceptualism', titled *Labyrinth: My Mother's Album*. Built by the artist with his wife and collaborator, Emilia Kabakov, this labyrinthine space is one part of a massive decade-long larger project, 'Monument to a Lost Civilization' constructed serially in museums all over the world.[8]

In this case, the passages of text arranged in the labyrinth represent the autobiography of a fictional Russian woman, a narrative of her own hard life in the early-to-mid twentieth-century Soviet Union. Kabakov characterizes this work in literary terms, as a 'three-dimensional novel', or as participating in the collective narrative conventions of the epic.

Curators tellingly place it in the tradition of Dostoyevsky, Gogol, and Chekhov. The viewer encounters the narrative as a series of discrete wall-mounted image and text collages—hypertextual lexias experienced by physical movement through architectural space. Clearly a linear if twisting order is suggested by the hallway's perspective progression; there are no real forking paths, just the occasional dead-end doorway in a self-enfolding spiral. However, one can always stop, skip over, or read lexias in reverse while navigating the space, can turn or not turn down the twisting hallway. As you wind through the installation you hear an *a capella* voice singing a Russian folksong; gradually it grows louder. The source turns out to be a cluttered closet—what appears to be a janitor's storeroom—where you discover building and painting supplies tossed on the floor. Immersed in the space, you find yourself piecing together the narrative lexias while also playing the rather heavily determined game of finding the source of the voice, a sound like Ariadne's thread.

However—and this is what strikes you most of all—you are also frequently tempted to linger in a corner, admiring or just experiencing the tactile reality of chalk lines on the drywall or the half-swept pile of cigarette butts and candy wrappers collected with the dust. You bend over and interact with, touch some of these objects just to prove they are touchable, really there in front of your face. Then you return to reading the walls, reading what is on the walls. Clearly, the artist has arranged everything according to certain narrative and rhetorical or affective assumptions, but the experience of the space from time-to-time inevitably exceeds these arrangements. As Kabakov himself has said in one interview,

> installation, as a genre, aspires to anonymity. I've noticed that when people enter a large and seemingly self-contained installation, the thought of its authorship never even occurs to them; that is, the installation is treated as if it were a construction from an unknown era, belonging to no country or nation that anybody knows of. The emotional states experienced by the viewer are directed at anything but the creator of these objects. . . .[9]

Kabakov may be the 'author' of the texts on the walls, but in his role as conceptual architect of the whole installation he is more like an editor than an author. In many ways, he is more like a dramaturge—or gamemaster—than either.

If digital environments are inherently spatial, procedural, participatory, and performative, these terms usefully characterize Kabakov's installation as well. Most obviously, it is literally spatial, in the sense that space itself is the primary medium, the ground of this mixed media work. It can be said to explore the theme of space and how time and lived experience can be captured within it. To some extent the work is also procedural—programmed like a game by its creator to respond to actions, within certain parameters, with a certain range of results. Some of the procedures belong to the fictional persona, whose autobiographical narrative also shapes the affective responses and moods of the space. At one point, for instance, you may find yourself reading a matter-of-fact account of her abortion, then notice you are standing facing into a dark corner. Other procedures include the use of the eerie voice—one may wonder momentarily if it is live or recorded—that guides you to the janitor's closet full of construction supplies and its implied self-reflexive metaphor for the artist's role.

This kind of installation is obviously participatory and performative—one must inhabit and walk through it to experience it. Participants willingly immerse themselves in the fictional construct, playing along. The walls and lighting, supplemented by the text and images, become, in Janet Murray's terms, the 'boundary conventions that allow us to surrender to the enticements'[10] of the space, calling on the viewer to walk and read and touch—to become an engaged interactor performing the theatrical possibilities of the virtual building in an imaginary Moscow. And because the installation is also a social space, one's performance of the text is always contingent upon the actions of others inhabiting and performing the same text at the same time.

Installation artists have always experimented with the textuality of space and spatial qualities of text. One of the best known examples is Jenny Holzer, whose most famous works employ

dynamic scrolling LED marquees to make discrete experiential spaces out on the public streets of cities, such as San Francisco, Las Vegas, New York, or London, or in galleries such as the Guggenheim. These electronic signs are built with the collaboration of an engineer and set to scroll and loop texts—especially truisms or fragmentary, banal or oracular utterances. In the 1980s Holzer experimented with TV and in the 1990s with digital media, including headset-mediated VR exhibits and the Web itself ('please change beliefs'), a logical extension of her interest in text-defining space and space-defining text.[11]

But Holzer is just one well-known example. Michael Heim and others have anatomized and explored immersive spaces, from experimental installation art, to the Xerox PARC experiment in the future of reading called 'Walk-in Comix', where the walls are panels and pages, or to the room-sized surround-screen, surround-sound projective environment of the CAVE, for example, created at the Electronic Visualization Laboratory of the University of Illinois, Chicago.

As described by Heim, the CAVE

> immerses participants by projecting 3-D computer graphics into a ten-foot square cube composed of display screens that completely surround the viewers. It tracks head and hand movements to produce the correct stereo perspective.... A sound system provides audio feedback. The viewer explores the virtual world by moving around inside the cube and grabbing objects with a three-button, wand-like device. Instead of wearing helmets to experience a virtual world, CAVE dwellers put on lightweight stereo glasses and walk around inside the CAVE as they interact with virtual objects. Multiple viewers can share the same virtual experience and can easily carry on conversations inside the CAVE, enabling researchers to exchange discoveries and ideas.... (p. 26, 27)

Although the CAVE was created as a tool for extremely high-end scientific visualizations, as a model it could bring a whole new meaning to the phrase 'getting into a text'.

Indeed, Robert Coover and a group of creative writers are already experimenting in this direction at Brown University's virtual-reality chamber. An article in the *New York Times* for 19 August 2002 describes these experiments as 'another step in electronic writing's evolution from a set of digitally interconnected words and sentences to an enveloping experience that augments the text with sound, video and nearly tangible 3-D imagery'. As the article explains, viewers entering the VR chamber don stereoscopic glasses through which computer generated texts on the wall appears in three dimensions: 'Viewers can watch as words materialize and swirl through the air around them, or they can step into a rotating cube to see an E. E. Cummings quotation that has been digitally inscribed on two of the walls.' Text on the walls can be generated on the fly through a text-painting program that allows the mouse to act as an airbrush nozzle 'spraying strings of letters around the room.... After the letters appear in space, they form words that hang in midair', encircling the viewer. In one 3D short story, words on the wall peel away as they are clicked on by a mouse, floating through the air and returning into the text in random places, changing the meaning of a sentence, or making nonsense of it. Such experiments suggest that we will one day see literary VR theaters, for example, in which Shelley or Joyce scholars make and share discoveries about the text while *inside* of *Prometheus Unbound* or *Ulysses*. Our own experiment with MOOzymandias—a new kind of 'pedagogical edition' that students can build, mutate, and inhabit—takes an interesting step in this direction, as we will soon demonstrate.

Virtual Reality and immersive digital games—including MUDs and MOOs, as well as later graphically intense first person shooters and multiplayer role-playing games, such as Halo or Word of Warcraft—and art-world experiments, such as Holzer's and Kabakov's grew up together in the 1980s and 1990s and have always arguably 'intermediated' one another—to adapt Jay David Bolter and Richard Grusin's term, 'remediation', for this kind of relationship.[12] Many installation artworks, like electronic games, are about 'virtual reality'—in more than one sense. But, then, so are imaginative literary works.

Moreover, the historically dominant physique and technique of literary works, the technology of the codex book, is fundamentally a spatial matter. In literary studies, a scholarly editor working in the letterpress medium to produce a book must conceive of the text spatially, to some extent, and certainly, as Jerome McGann has argued, must conceive of it physically.[13] For editors, literary works are always materially embodied and disposed, mediated by the bibliographic codes of the book as much as by the formal and semantic features of the text. Page layout, typeface, editorial apparatus of whatever extent are all part of the conscious arrangement and embodiment that makes an edition—almost always in collaboration with others, from research assistants to co-editors, to designers, to publishers, and marketers. Indeed, the immersive features of digital environments throw into clear relief the nascent immersive features of traditional textual editions themselves, which are philological in their instrumentality and phenomenological in their effects. Readers perform the procedures encoded within the structure or physique of a textual edition—and to that extent participate in its very realization—becoming 'immersed' by the interplay of text and apparatus within the 'depths' of the edition. In this sense, *every* edition and literary work is, more or less, immersive—as are Renaissance fairs, for example, or theme parks, children's games, rituals, and performance spaces.[14] We are specifically interested in the strong form of immersive environment that often characterizes gaming under the special protocols of digital environments.

An active gamer helps to sustain and shape the fictional world of play at the same time that he or she is responding to other players and the programmed conventions and procedures of that world. Our pedagogical editions in the Romantic Circles MOO are derived in part from the discourse of game theory and share with games the feature of inhabitable virtual space—a feature whose genealogy does not descend from philology (as do traditional scholarly editions) so much as from the conventions and protocols of museums and galleries.

On the simplest level, catalog commentary, often mounted on walls beside art objects, sharing and co-constructing space with the object itself, has always been an integral part of the viewer's experience of the work of art in museums. But there have been more extreme experiments in museum interfaces.

On a recent visit to Seattle, we spent a day in Frank Gehry's stunning tourist attraction, the Experience Music Project, a kind of public temple of rock'n roll, with Jimi Hendrix at the holy of holies but including niches dedicated to skatepunk, ska, and of course, this being Seattle, grunge.

The building itself inspired by laquered electric guitar bodies, provides a disorienting immersive environment ultimately descended from Filmore lightshows and their predecessors, the warehouse acid tests of the 1960s. Once inside we were invited to become what science fiction writer Neal Stephenson (in his paradigmatic 1992 novel, *Snow Crash*) has satirically called gargoyles, geeks wearing their computing equipment out in public, each of us made into a hybridized cyborg carrying a digital shoulder-bag pack, headphones, and handheld infrared device. After a brief training session, we were set loose in the museum space. The gargoyle pack allowed us to point, click, listen, and generally interact with the otherwise fairly conventional display cases of artifacts and commentary in text panels or on video screens.

Looking at a display-mounted leather biker jacket once worn by Elvis, we could hear not only a recording of 'Don't be Cruel' but commentary on subcultures, fashion, and Marlon Brando. Bookmarking the object with our handheld device allowed us to construct as we went a personalized Web page on the EMP server that we could turn to later in order to drill deeper for more text and music files.

At first it may seem that the idea of this interface is to interiorize the museum-going experience, isolating each individual gargoyle in an out-of-body trip through the hallucinatory dreamspace Gehry has designed. But in fact it is more complicated than that. We could always hear each other and other museum-goers talking beside us, as well as ambient noise in the building and music and video soundtracks further along the exhibit cases. We frequently stopped, removed our headphones,

and discussed what we were seeing and hearing. In fact, the gargoyle experience of the EMP was more like another science fictional device, the special digital data glasses of William Gibson's *Virtual Light* (1993), which superimpose textual and iconic interpretations in a constant mediating foreground on whatever one sees in the physical environment, tall buildings, public squares, abandoned bridges (or, it is impossible to avoid noting in these troubled times, like the real head-mounted displays that create data interfaces for today's military weapons, from the Gulf War to Afghanistan). Admitting that no museum object can be experienced directly, in unmediated fashion, the EMP goes to extremes to create a kind of self-consciously hypermediated perspectivism, a live interface of multiple and shifting layers.

In fact, a number of current theoretical arguments within the museum community over the meaning of 'museum experience' are illuminating for the purposes of our experiments with immersive editorial environments in the MOO, especially the debate over whether museums ought to be 'object centered' or 'story centered'.[15] On the one hand, this distinction parallels the historical difference between editions that are text centered and those that are commentary centered; and, on the other hand, it suggests that the commentary or contextual material itself might take the form of a story, or even, a game, replacing the traditional apparatus criticus with a virtual world. Story-centered or gamelike presentations highlight the object as a site of unfolding experience rather than as hermetically sealed, and lend themselves especially to digital environments.

Take, for example, Jerome McGann and Johanna Drucker's experimental *Ivanhoe Game*, which exploits the theatrical possibilities of digital environments to create a space in which students are able, in effect, to perform Scott's novel—making individual critical decisions that change a collective database that is the story-world of the whole.[16] For McGann and Drucker, 'Humanities scholarship without gameplay, even when the scholarship explicitly devotes itself to self-reflection, inevitably fails to engage with essential features of the works it means to study, including the workings of the mind engaged with such works.'

The *Ivanhoe Game*, touches upon another feature of strong immersive environments: their ability self-reflexively to model processes of textual reproduction and critical engagement. Like the installation art we have discussed and, indeed, museum space in general, MOOspace can display what Hilde S. Hein in *The Museum in Transition* calls 'participatory exhibitry' (p. 49), work in progress that provides a metacommentary upon the scenes of its own production, partly by inviting the viewer to become an active doer, for example, as our gargoyle equipment involved us in the Experience Music Project. Such exhibitry can become a means, in Heins's words, of 'fostering and investigating the collaborative process itself'. Hein asks, 'How does one give visible form to the excitement of an intellectual process?... Just as museums seek to inspire... a common responsive experience... they might succeed, with the help of scholars, in designing ways to activate a collaborative cognitive capacity potentially present in everyone.' (p. 49)

What might it mean, then, to produce a textual edition that seeks through a form of immersive 'participatory exhibitry' to engage the 'collaborative cognitive capacity' of its users, one that instead of appearing as a finished product, provides a procedural, dialogical, and explicitly gamelike editorial environment through which readers can be transformed into players and collaborative editors of a shared textual space, constructing new editorial content and reflecting upon the processes through which that content is produced? What might it mean to construct a textual edition that can itself embody a virtual community?

That is the nature of the experiment we have embarked upon in MOOspace, in the development of one prototypical pedagogical edition, MOOzymandias.[17] Dedicated to Shelley's sonnet, 'Ozymandias', the textual space of MOOzymandias was conceived as a labyrinthine tomb. Something between a virtual museum installation and an edition in three imagined dimensions, the project uses Shelley's verbal text as participatory exhibitry, building material to be arranged, explored, and reconstructed. A series of linked chambers echo the poem's multiply-framed points of view: from the speaker to the 'traveler from an antique land'

to the sculptor to the king himself. One progresses inwards through the structure of the sonnet, and bits of the text are gradually revealed at each level, always in procedural response to user interactions. But the MOO makes possible other useful fictions, such as the transformation of keywords from the text into programmable MOO objects, to be programmed to respond in various inventive ways and placed in each chamber where new users encounter them.

There are other objects beyond the keywords: intertextual, paratextual, and contextual furniture that offer a range of interactive possibilities. Some are Turing bots—agents with modest artificial intelligence who respond to users questions with programmed simulated conversation. And some special objects throughout the space are programmed to teleport users to and through a network of primarily user-built tunnels and rooms, each of which contains thematized objects that explore not just the poem's, but the MOOzymandias edition's literary, cultural, or historical contexts, including two recently built by a group of graduate students at the University of Maryland—one on Romantic Orientalism and visual culture, and one on MOO exhibitry as a form of ekphrasis—and a series of 'Formal Suites' built by undergraduates at Loyola University Chicago to explore by architectural analogy the structure of 'Ozymandias'.

The user only learns what the different kinds of objects do by constructively interacting with them. For example, in the entryway or antechamber you encounter a 'book' that when 'opened' (one types the command 'open book') moves your virtual character to an entirely new room. From this, the first of the nested chambers of the tomb, one key object takes you down to a heretofore hidden series of linked tunnels running beneath the chambers. By now you know enough to be on the alert for teleportation objects, but along the way, the gamelike features of the environment, including an experimental collection of multimedia effects—from an ambient musical soundtrack and other audio files, to Quicktime VR and Flash movies—appear in the space to be manipulated, explored, and interpreted. The overall result is a sense of having literalized, spatialized the architecture of Shelley's poem, of inhabiting and discovering not just the verbal text of the sonnet but a series of objects and spaces, on more than one level, suggestive of several complex overlapping contexts. In this way, the structure and context for Shelley's poem is at once historicized and materialized in the virtual objects, while the illusion of the fictional space you are in is reinforced.

At the heart of the maze is the part of MOOzymandias that most closely resembles the content of traditional textual editions, a Regency parlor in which the textual history of 'Ozymandias' constitutes the furnishing objects, a virtual form of editorial versioning. You open a heavy wooden door and seem to be transported through time and space to a well-furnished parlor in early nineteenth century London. It is fully furnished, decorated in the 'Etruscan' style, more proof of the fashion for all things antique:

> You see a life-sized sarcophagus along the far wall. A small bust of Napoleon shares space with many books tossed on the cluttered bookcase. No one is home but you see signs of recent occupation: the embers of a fire are glowing in the fireplace and a half-empty glass of wine and two newspapers are on the table beside the couch. On a small desk in the corner, a stack of papers is held down by a miniature stone pyramid; beside the papers is an inkwell with a tall quill pen.

Here, users will be able to find in the bookcase a manuscript notebook that contains Shelley's draft and fair copy of 'Ozymandias'; a copy of Shelley's *Rosalind and Helen* volume, including the first version of the poem to be published under his real name; a chapbook on sonnet structure, including instructions on how to write a sonnet; a pamphlet on the Regency fad of sonnet competitions, during one of which 'Ozymandias' was composed, along with an invitation for users to supply their own entry into the 'Ozymandias' competition; and a copy of the *DNB*, with a biography of Horace Smith, the friend with whom Shelley was competing. The two newspapers on the table are copies of Leigh Hunt's *Examiner*, the first containing the original

appearance in print of Shelley's sonnet, under the pseudonym 'Gilrastes'; the second, Horace Smith's sonnet on Ozymandias, written in competition with Shelley, and published by Hunt shortly after Shelley's. And those adventurous enough to open the sarcophagus will find a copy of 'Address to a Mummy', the most popular poem Horace Smith ever wrote:

> And hast thou walk'd about, (how strange a story!)
> In Thebes's streets three thousand years ago,
> When the Memnonium was in all its glory,
> And time had not begun to overthrow
> Those temples, palaces, and piles stupendous,
> Of which the very ruins are tremendous.
> Speak! for thou long enough hast acted Dummy.
> Thou hast a tongue—-come—-let us hear its tune;
> Thou'rt standing on thy legs, above-ground, Mummy! . . .

The most exciting thing about the WebMOO environment as a platform for this project is that it is a networked, social space, accessible at all times to multiple users logged in from anywhere in the world. Best of all, it is open-ended and constructible. Students around the country (or the world) can create their own MOOzymandias objects on the fly—perhaps in dialectical response to an existing object, can even dig their own tunnel in the maze. The result is a rhizomatic network of participatory spaces that are all part of the pedagogic edition as it continues to grow and mutate.

All tunnels ultimately connect to the backbone structure we have designed, and thus all tunnels may eventually wind their way to the final chamber, in which an Egyptian Sphinxbot's questions about 'Ozymandias' have to be answered before you can leave the tomb to emerge on the level sands of the desert above. Once in the desert, you can don a pair of sunglasses that allow for a full view of the text of Shelley's poem, as critically edited by us, shimmering like a mirage in your field of vision.

If you have made it this far though the MOOzymandias maze, you are permitted a dramatic endgame exit, through and beyond the text as it were: the hot air balloon carries you into the sky, a bird's eye perspective looking down on the MOO as a whole. From here one can go down to anywhere in this virtual world. Of course that includes other pedagogic editions, under construction elsewhere in the MOO; for instance, the FrankenMOO project being built by students at Georgia Tech under the direction of Ron Broglio, one of Romantic Circles' Associate Editors.

These pedagogic editorial environments are perhaps 'editions' only in the conceptually expanded sense we have been exploring, but that is precisely the point: to try to expand what we mean by—and more important—what we do with textual editions. We believe that computer-mediated editorial environments offer intriguing possibilities for editions of all kinds as they come, in the fullness of time, to inhabit multimedia digital forms that will exploit as editorial resources not only just the printed word, but also images, sound, video, interactivity, and, even perhaps, those literary Virtual Reality Theaters we discussed above—as well as other kinds of editorial environments yet to be imagined.

Notes

1 **Stoppard, T.** (2002). *The Coast of Utopia: Voyage* (part I of the trilogy), August 2002, at the Olivier Theatre, National Theatre, London. *The Euphorium*, Artistic Director, Chris Hardman, opened 14 August 2002 at the Roundhouse Theatre, Camden.

2 For a standard discussion of these matters, see **Tanselle, G. T.** (1981). Textual Scholarship. In Nicholls D. G. (ed.) *Introduction to Scholarship in Modern Languages and Literatures*. New York: MLA, pp. 29–52, esp. pp. 46–50.

3 **Schreibman, S.** (2002). Computer-mediated texts and textuality: theory and Practice. *Computers and the Humanities*, **36**: 285.

4 See **Haynes, C. and Holmevik, J. R.** (eds) (1998). Introduction. In *High Wired: On the Design, Use, and Theory of Educational MOOs*. Ann Arbor: University of Michigan Press, pp. 2–3.

5 **Jones, S. B.** (ed.) (1995). Virtual Worlds: Culture and Imagination. In *Cybersociety: Computer Mediated Communication and Community*. Thousand Oaks, CA: Sage, p. 167.

6 See, for example, various contributions to **Berge, Z. L. and Collins, M. P.** (eds) (1995). *Computer Mediated Communication and the Online Classroom*, 2 Vols. Cresskill, NJ: Hampton Press.

7 **Haynes and Holmevik,** *High Wired*, p. 4.

8 Exhibit catalogue, Tate Modern. *Between Cinema and a Hard Place*. 12 May 2000 to 3 December 2000; see also <http://www.tate.org.uk/modern/exhibitions/cinema/kabakov.htm>.

9 **Kabakov, I.** (1999). 'About Installation', conversation with Margarita Tupitsyn and Victor Tupitsyn. *Art Journal*, **58.4**: 62–73.

10 **Murray, J. H.** (1997). *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. Cambridge, MA: MIT Press, p. 103.

11 See the pages on Holzer and her work at the äda Website: <http://adaweb.walkerart.org/context/artists/holzer/holzer0.html>

12 **Bolter, J. D. and Grusin, R.** (1999). *Remediation: Understanding New Media*. Cambridge, MA and London: MIT Press.

13 See, for instance, **McGann, J. J.** (1991). *The Textual Condition*. Princeton: Princeton University Press, pp. 13–16.

14 This catalog is provided by Marie-Laure Ryan (2001) in *Narrative* as *Virtual Reality: Immersion and Interactivity in Literature and Electronic Media*. Baltimore: Johns Hopkins University Press, p. 20. For Ryan there are three distinct kinds of immersion: spatial, temporal, and emotional, all of which she sees ultimately as functions of narrative: a text is immersive only if it creates 'a space to which the reader, spectator, or user can relate, and it must populate this space with individuated objects. It must, in other words, construct the setting for a potential narrative action, even though it may lack the temporal extension to develop this action into a plot' (pp. 14–15). We are much less interested than Ryan in the ways that readers get lost or absorbed in an immersive text than in the possibilities immersive texts provide for self-reflexively modeling critical engagement with texts and textuality.

15 For an interesting discussion of these distinctions, see **Hein, H. S.** (2000). *The Museum in Transition: A Philosophical Perspective*. Washington, DC: The Smithsonian Institution Press, p. 7.

16 See the research report by **McGann, J. J. and Drucker, J.** (2001). The Ivanhoe Game. http://jefferson.village.virginia.edu/%7Ejjm2f/IGamehtm.html. McGann has recently provided an extensive account of the game, now revised and named IVANHOE, in *Radiant Textuality: Literature After the World Wide Web*. New York: Palgrave, pp. 209–48.

17 Log in to Romantic Circles' Villa Diodati MOO, in which MOOzymandias is being built, at <http://www.rc.umd.edu:7000> (then type @go MOOzymandias). For a less-interactive, simple Webpage version of the MOOzymandias 'rooms', see <http://www.rc.umd.edu:7000/705/>.