Hypertext in Literary Education, Criticism, and Scholarship

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Abstract: After describing the English course and the particular hypertext system that supports it at Brown University, the essay surveys the materials on *Context32*, that part of the system devoted to literature courses, and narrates how a student uses the system during a typical session in our electronic laboratory/classroom. Next, it presents evidence of the effects of such information technology on student performance, after which it examines the relation of hypertext to contemporary literary theory, in particular to the ideas of decentering, intertextuality, and anti-hierarchical texts. Finally, it explains the continuing developments of Intermedia.

Key Words: hypertext, hypermedia, Intermedia, educational computing, student-directed learning, collaborative learning, literary theory, interdisciplinary, graphics.

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What is Hypertext and Why Should Those Who Read Books Care?

It is eight PM, and after having helped put the children to bed, Professor Jones settles into her favorite chair and reaches for her copy of Milton's *Paradise Lost* in order to prepare for tomorrow's class. A scholar who specializes in the poetry of Milton's time, she returns to the poem as one returns to meet an old friend. Reading the poem's opening pages, she once again encounters allusions to the Old Testament, and because she knows how seventeenth-century Christians commonly read these passages, she perceives connections both to a passage in Genesis and to its radical Christian transformations. Furthermore, her previous acquaintance with Milton allows her to recall other passages later in *Paradise Lost* that refer to this and related parts of the Bible. At the same time, she recognizes that the poem's opening lines pay homage to Homer, Virgil, Dante, and Spenser and simultaneously issues them a challenge. Meanwhile, John H. Smith, one of the most conscientious students in Professor Jones's survey of English literature, begins to prepare for class. What kind of poem, what kind of text, does he encounter? Surely the *Paradise Lost* he reads must be the same one read by his instructor — or is it? Whereas Professor Jones experiences the great seventeenth-century epic situated within a field of relations and connections, her student encounters a far barer, less connected, reduced poem, most of whose allusions go unrecognized and almost all of whose challenges pass by unperceived. An unusually mature student, he pauses in his reading to check the footnotes for the meaning of unfamiliar words and allusions, a few of which he finds

explained. Suppose one could find a way to allow Mr. Smith, the student, to experience some of the connections obvious to Professor Jones. Suppose he could touch the opening lines of *Paradise Lost*, for instance, and the relevant passages from Homer, Virgil, and the Bible would appear, or that he could touch another line and immediately receive a choice of other mentions of the same idea or image later in the poem or elsewhere in Milton's other writings — or, for that matter, interpretations and critical judgments made since the poem's first publication.

Hypertext, electronically linked text, enables students to do all these things. Unlike books, which contain physically isolated texts, hypertext emphasizes connections and relations, and in so doing, it changes the way the texts exist and the way we read them. It also changes the roles of author and reader, teacher and student.

Because hypertext has the power to change the way we understand and experience texts, it offers radical promises and challenges to students, teachers, and theorists of literature. Hypertext, a term coined by Theodor H. Nelson in the 1960s, refers to nonsequentially read (and written) text:

> Both an author's tool and a reader's medium, a hypertext document system allows authors or groups of authors to link information together, create paths through a corpus of related material, annotate existing texts, and create notes that point to either bibliographic data or the body of the referenced text . . . Readers can browse through linked, cross-referenced, annotated texts in an orderly but non-sequential manner. (Yankelovich, Meyrowitz, and van Dam, 1985)

Writers on hypertext trace the notion to a pioneering article by Vannevar Bush in the 1945 *Atlantic Monthly* that called for mechanically linked information-retrieval machines to help scholars and decision-makers in the midst of what was already becoming an explosion of information (Bush, 1945). In the 1960s Douglas C. Englebart and Theodor H. Nelson began to design and implement computer systems that could implement some of these notions of linked texts, and today hypertext as a term refers almost exclusively to electronic hypertext systems that rely on computing equipment and software.

Originally the basic idea of what we now call hypertext, which came into being before electronic computing, did not depend upon computers, and in fact the standard scholarly article in the humanities or physical sciences perfectly embodies the underlying notions of hypertext as nonsequentially read text. For example, in reading an article on, say, Joyce's *Ulysses*, one reads through the main text, encounters a number or symbol that indicates the presence of a foot- or endnote, and leaves the main text to read that note, which can contain a citation of passages in *Ulysses* that supposedly support the argument in question as well as information about the scholarly author's indebtedness to other authors, disagreement with them, and so on. The note can also summon up information about sources, influences, and parallels in other literary texts. In each case, the reader can follow the link to another text indicated by the note and thus move entirely outside the scholarly article itself. Having completed reading the note or having decided that it does not warrant a careful reading at the moment, one returns to the main text and continues reading until one encounters another note, at which point one again leaves the main text.

This kind of reading constitutes the basic experience and starting point of hypertext. Suppose that one could simply touch the page where the symbol of a note, reference, or annotation appeared, and that act instantly brought into view the material contained in a note or even the entire other text — here all of *Ulysses* — to which that note refers. Scholarly articles situate themselves within a field of relations, most of which print medium keeps out of sight and relatively difficult to follow because the referenced (or linked) materials lie spatially distant from the reference. Electronic hypertext, in contrast, makes individual references easy to follow and the entire field of interconnections obvious and easy to navigate. The greater ease with which one can orient oneself within such a context and pursue individual references radically changes both the experience of reading and ultimately the nature of that which is read. For example, if one possessed a hypertext system in which our putative Joyce article was linked to all the other materials it cited, it would exist as part of a much larger system in which the totality might count more than the individual document; the article would now appear woven

more tightly into its context than would a print-technology counterpart. The ease with which readers traverse such a system has additional consequences, for as they move through this web or network of texts, they continually shift the center — and hence focus or organizing principle — of their investigation and experience. In other words, hypertext provides an infinitely re-centerable system whose provisional point of focus depends upon the now interactive reader.

Hypertext offers enormous possibilities to the student and teacher of literature, all of which derive from its fundamental connectivity, a quality that greatly speeds up certain processes involved in skilled reading and critical thinking while also making them far easier to carry out. The greater speed of making connections in hypertext permits the reader to make connections that would otherwise be difficult and time consuming.

Since hypertext facilitates the making of connections among texts and arrays of concepts, images, and maps, it seemed an obvious tool to use in basic college courses in which students must assimilate large bodies of information while developing the analytical skills necessary to think critically about this information. Unfortunately, until very recently the lack of computing equipment and necessary software meant that these educational and research possibilities could not be realized. Englebart demonstrated the general viability of electronic hypertext with AUGMENT, which dates from the late 1960s. In the 1970s Andres van Dam used FRESS (Carmody, 1969) — a word-processing language with hypertext capabilities — to conduct a seminal experiment in hypertext and co-operative learning as part of a poetry course at Brown University (Catano, 1979). However, until the development of relatively powerful and inexpensive mini-computers that could join together to share information, there seemed little chance of developing even prototypes of systems that would be both appropriate for educational and scholarly use.

Brown University's Scholars Workstation Project, which is supported by a grant from IBM, offered the promise of adequate computing machinery of the sort required, and the Institute for Research in Information and Scholarship (IRIS) of Brown University set out to develop a hypertext system for use in university education and scholarship. In 1985 IRIS received a three-year grant from the Annenberg/Corporation for Public Broadcasting Project to develop Intermedia software and the educational materials that would employ it. English 32, *Survey of English Literature, 1700 to the Present*, and Biology 106, *Plant Cell Biology*, were the two courses chosen for the pilot-project. The developers originally planned to have Intermedia ready for English 32 spring semester 1986 and for Biology 106 the following spring, but delays required both courses to be taught with Intermedia for the first time during the spring semester 1987.

In this article I shall first describe the English course and the particular hypertext system that supports it at Brown University. Second, I shall survey the materials on *Context32*, that part of the system devoted to the English course, and narrate how a student uses the system during a typical session in our electronic laboratory. Third, I shall present evidence of the effect of such a hypertext system on student performance. Fourth, we shall examine the relation of hypertext to contemporary critical theory, in particular to the ideas of decentering, intertextuality, and anti-hierarchical texts. Finally, I shall explain planned improvements to the Brown University Intermedia system and suggest several educational experiments that can take advantage of present and future hypertext capacities. An annotated bibliography with information about hypertext and hypermedia systems, their history and implications, follows the main text.

2. Educational Goals of English 32 and the Role of Intermedia

In spring semester, 1987 the forty-five students in my section of English 32, *Survey of English Literature, 1700 to the Present*, used *Context32*, a corpus of linked documents created using Intermedia software designed at IRIS (Meyrowitz, 1985; Yankelovich, 1986; Yankelovich, Landow and Cody, 1987). At first glance, this course resembles the traditional, rather old-fashioned survey found in many English departments, for it is intended to allow beginning students to sample a wide range of authors (e.g., Pope, Dickens) and literary movements (e.g., Neoclas-

sicism, Victorianism) and gain some sense of the historical continuities of major forms (e.g., epic and mock-epic, the realistic novel). English 32 has other goals not usually found in traditional literary surveys, among which the most important is to enable students to describe the interrelations of authors, broad movements, and various extra-literary cultural contexts, such as the social, religious, political, intellectual, artistic, and technological history.

In addition, I also intended the course to foster critical thinking, which I believe centers on the notion that an educated intelligence perceives any particular phenomenon as potentially multi-determined and subject to multi-causation. *Context32*'s graphic presentation of data and its capacity to allow multiple links to individual documents encourages the habit of approaching any literary (or other) fact from multiple directions.

This aspect of Intermedia markedly differentiates it from many other computer-assisted education projects that encourage students to sit passively before a screen while information is fed to them as if they had found a MacDonald's of education whose products they can engorge in passivity.[1] In contrast, Intermedia tries to make the student map out pathways for him or herself. Intermedia is designed, in other words, to free students rather than confine them. Indeed, by allowing the student to create his or her own route, it permits — or rather demands — choices.

The sheeplike behavior displayed by many freshmen is often due to their having little information and little idea of what to do with it. One cannot make connections between fact A and six other facts if one knows only fact A. This lack of factual knowledge leads to reductive thinking. Additional information, however, will not help students think critically unless they have techniques for relating facts to each other. College liberates because it provides students with facts and offers examples of the way they can make connections for themselves. Intellectual freedom derives from an ability to make choices. Anything that can help teachers communicate information to students as well as provide them with techniques to relate it to what they already know provides a model for education. The habits of mind, thus encouraged, apply to all kinds of activities, inside the classroom and out, and they remind us that education and thinking are active procedures. Intermedia has the capacity to speak to all these educational issues. Above all, it encourages students to ask questions and make choices.

Intermedia and Context32

Brown University's Intermedia extends hypertext to include other media, and it is therefore most accurately described as a hypermedia system. As Nicole Yankelovich, IRIS Project Co-ordinator, explains: "Hypermedia is simply an extension of hypertext that incorporates other media in addition to text. With a hypermedia system, authors can create a linked corpus of material that includes text, static graphics, animated graphics, video, sound, music, and so forth" (Yankelovich, Landow, and Cody, 1987, p. 1). Yankelovich, Meyrowitz, and van Dam had earlier explained that a *hypertext* document system allows authors to link together only information blocks created with a single application, a text editor, while a *hypermedia* document system provides linking capabilities between heterogeneous blocks created with different applications such as a painting program, a chart package, or a music editor" (Yankelovich, Meyrowitz, and van Dam, 1985, p. 19).

Context32, the body of materials created specifically for English 32 (though since used in other courses as well) draws upon these hypermedia capacities of the system. The redesigned, computer-assisted version of English 32 has essentially the same reading list as in past versions. With the addition of Intermedia, the course now has five components: (1) assigned readings, (2) student-directed class discussions, (3) a weekly lecture, (4) out-of-class writing assignments, other exercises, and examinations, and (5) hypermedia materials that constitute *Context32* and that were created specifically for the course.[2] These materials, which are intended to help students read with greater skill and pleasure, and they supplement the main reading but do not replace it.

Students make use of *Context32* and Intermedia in the Electronic Classroom — really a learning laboratory — in Rhode Island Hall on the Brown campus. This laboratory is open from 9 am to midnight weekdays and from noon to midnight on weekends. After doing the assigned readings and while attending lecture and class discussions,

students use Intermedia materials on fourteen networked IBM RT PCs. *Context32*, which comprised approximately 1000 text and graphic files joined by some 1,300 links by the end of the course, employs various parts of the IRIS Intermedia system. Nicole Yankelovich provides a helpful overview of the system:

> The Intermedia system is built on top of the 4.2 BSD UNIX operating system and runs on IBM RT/PC and Sun workstations which support Sun's Network File System (NFS). To create Intermedia, the software development team adopted an object-oriented processor to the C programming language licensed to Brown University by Bolt, Beranek, and Newman as well as Apple's MacApp facility for creating generic Macintosh applications and Cadmus's CadMac toolbox, both under special agreement with Apple Computer, Inc. With an object-oriented development environment and a UNIX-based implementation of the Macintosh Toolbox, the Intermedia programmers constructed a system that starts with an application framework similar to the Apple Lisa or the XEROX Star environments and adds to that framework full hypermedia capabilities. For a more detailed description of the underlying Intermedia architecture, refer to Meyrowitz (Meyrowitz, 1986).

Intermedia combines the ability to link documents with a number of powerful applications that exist in a graphical folder system. The applications, which follow the Macintosh interface paradigms, are used for both creating and displaying course materials. We used such applications to create the material for the English literature course. The *InterText* word processing program allowed us to create nicely formatted texts that students would be able to read on the screen with ease. A timeline editor, *InterVal*, was used for creating and displaying chronological timelines. *InterDraw*, a structured graphics editor, was used in conjunction with *InterPix*, a scanned image viewer, to create and display diagrams and bitmap images. The link-creating process is modeled after the copy/paste techniques found in the standard Macintosh programs, and link-making is integrated with all other editing tasks (Yankelovich, Landow, and Cody, 1987, p. 15).

(a) *InterVal*
InterVal documents are timelines for individual authors as well as more general subjects, such as political history, science, literature, and the women's movement. Since Intermedia permits a number of documents to be opened at the same time, it is possible to open and juxtapose timelines and, for example, place one relating to Tennyson next to the History Timeline (see Figure 1).

(b) *InterText*
InterText documents include biographies of individual authors, brief essays on literary techniques, both general and specific (e.g., "Narration and Point of View" and "Imagery in D. H. Lawrence's 'Prussian Officer'" [see Appendix 3]), and discussions of nonliterary topics involving more than one author (e.g., "Social Darwinism", "Ages of Technology", "Biblical Typology", [see Figure 6] and "Freud and Freudianism"). Most essays contain questions that refer students back to the reading, ask them to apply their newly acquired information to an included sample portion of text, or encourage them to follow links to other files.

In addition to these kinds of materials, which were incorporated into *Context32* the first time it was used in an English course, two others have been added during this past semester — primary materials, including (a) lyric poems that either exemplify particular difficulties (Hopkins' "The Windhover") or are frequently referred to ("Ode on a Grecian Urn"), and (b) annotated bibliographies. Although we considered including bibliographies on the system, my assistants and I did not do so at first for several reasons. English 32 had a particularly heavy list of readings (see Appendix 1), and we did not wish to suggest that students were required to read secondary materials. If students had time for additional work, the instructors preferred that they either read additional authors or read more widely in the authors assigned. Second, since studies at Brown had revealed that only the smallest percentage (3%) of students do recommended readings, I did not wish to create the impression that students should try to read materials when we did not expect them to do so. Since more advanced courses now make use of *Context32*, I wish to make such bibliographies available for those working on independent projects or research papers. Placing such materials on the system no longer creates a false impression of the teacher's expectations.

(c) *InterDraw*
In contrast to InterText documents which contain

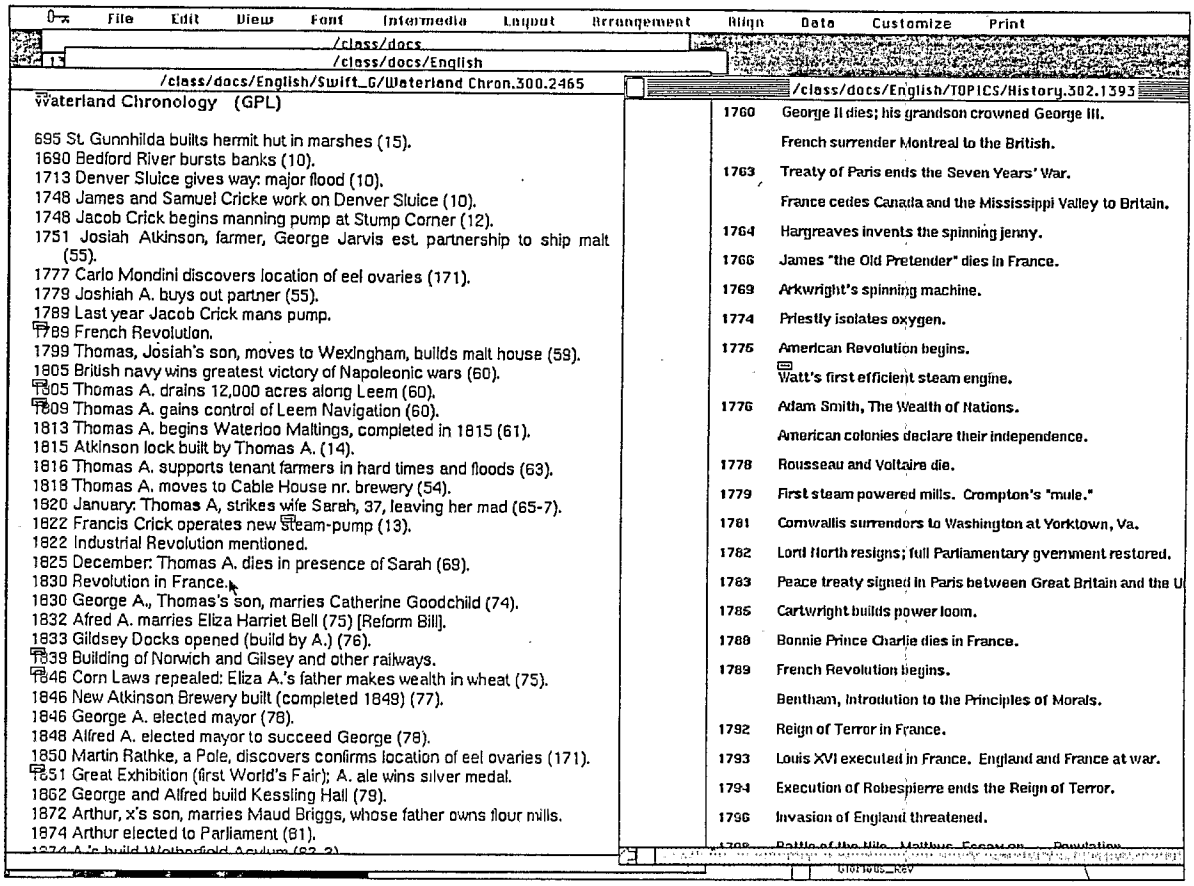

Figure 1

only formatted text, those in InterDraw contain both graphic images and text. InterDraw documents take various forms, the most important of which is the index diagram, one of the most educationally important parts of *Context32*. First of all, these diagrams serve as directories or overviews, thus making available to the users various information about individual authors, works, and topics. They also include links to that information. By surrounding an individual phenomenon — say, Tennyson (see Figure 2), Tennyson's *In Memoriam*, or Victorianism (see Figure 3) — with a series of relatable phenomena including biographical information, contemporary science, and so on, these overview diagrams immediately reinforce one of the main educational points of the course — that any phenomenon exists surrounded by relatable contributing phenomena. This graphic presentation simultaneously shows

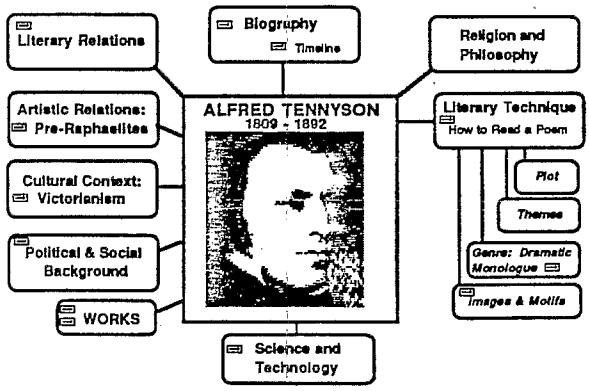

Figure 2

existing links and cultivates the habit of making such connections.

By abandoning the table-of-contents or list mode, which so characterizes page-bound, printed

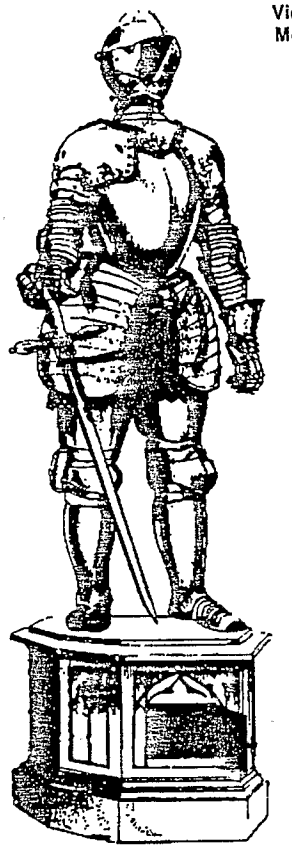

Figure 5

Greece of ancient myth. The visual information, which provides interesting but unexpected data also enforces the principle that relevance is in the mind of the beholder and that the investigator's function is to inquire what connections might exist among various kinds of data and how their relative value might be evaluated.

4. A Typical Session

After logging onto one of the RT PCs the student types the command "Intermedia" once a prompt appears. After several minutes half a dozen icons in the shape of folders appear. At this point a mouse is used to activate and then open the folder labeled "English". The student then double-clicks "*Context32*" and waits three to four minutes (reduced to 25 seconds as of 9/87) for that action to generate the thousand odd links that bind the system together (2100 as of 2/88). A student who wishes to prepare for class discussion or written exercises on Tennyson and the Victorians can begin by opening either the Tennyson or the Victorian folders. Suppose the user opens the former.

Students generally open the overview file first (see Figure 2) since this provides them with an idea of the types of information that relate to an individual author, and it also permits them to use the links to gain access to such data. Depending on which reading questions or particular interests students wish to pursue, they can follow links to a biography of the poet; essays on his individual works or materials on his relations to contemporary history and politics, religion and philosophy; discussions of other authors and the general cultural milieu — in this case, Victorianism.

The student might first look at "Tennyson's literary relations" and follow that to other authors, such as contemporaries like Browning or Arnold, or to influential predecessors, such as Keats and Wordsworth. Conversely, a student attempting to discover an adequate working definition of "Victorian" could explore the link to the poet's cultural context and bring up the overview file on Victorianism (see Figure 3), which presents a wide range of information about the period in visual and verbal form. Following the link to "Medieval Revival" (see Figure 5), the student encounters the stove in the shape of a suit of armor, and following the links in that file leads to five files on the poetry of Tennyson and Browning. The student might choose that on "Morte D'Arthur" (see Appendix 3), thus encountering *Context32*'s characteristic mixture of information, additional questions, and suggested links. From here a student might examine several poems or return to either overview and go from there, examining the file "Biblical Typology" (see Figure 6) or "Darwinism," since both have an important relation to Tennyson's major poetry. Working with novelists and writers of fiction leads the user of *Context32* to employ it in much the same way. Originally, only overview files for individual works (see Figure 7) had links to discussions of literary technique (e.g., theme, imagery, narrative method); following one of these links offers the student a choice of a general introduction to the technique common to all relevant authors and a file (see Appendix 3) containing brief passage from the assigned work

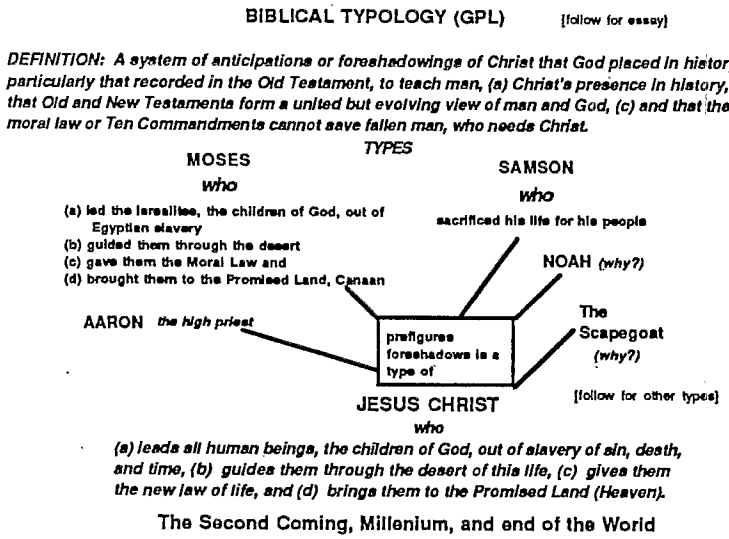

Figure 6

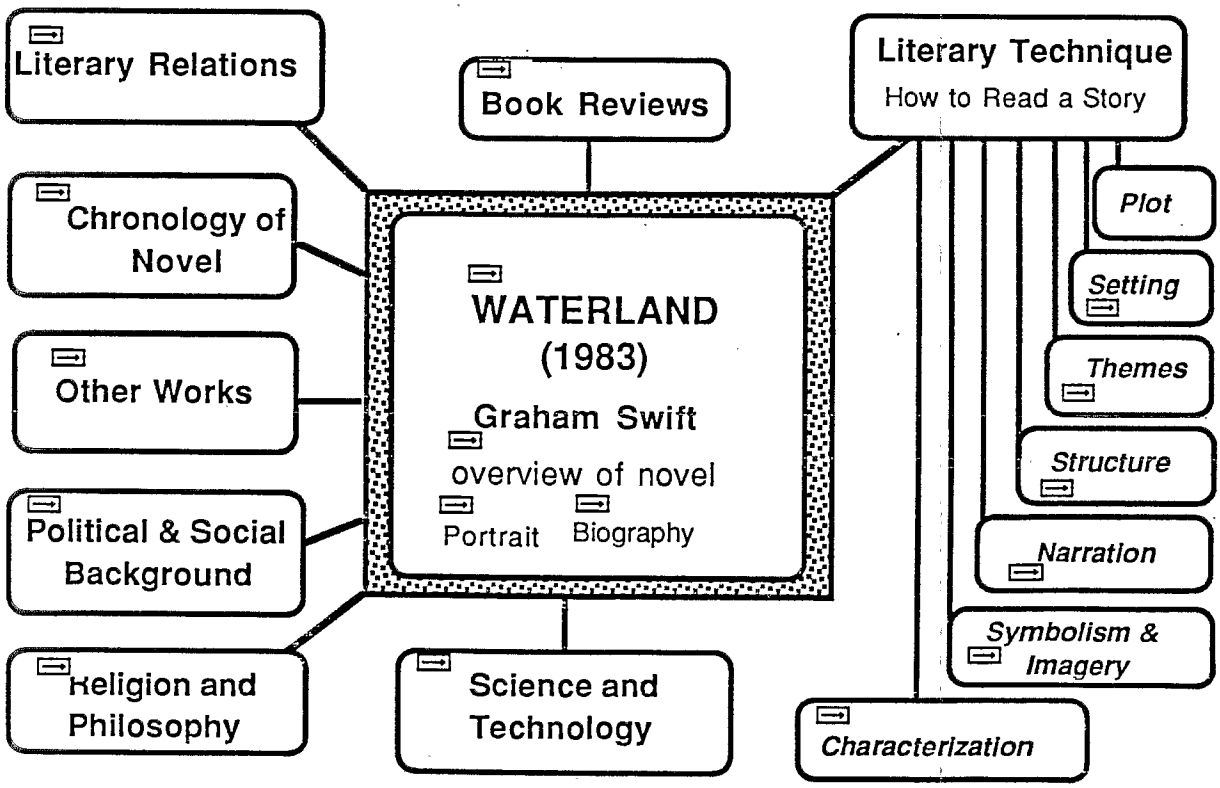

Figure 7

together with discussion and additional queries. After students used a sample set of documents I had appended to a single author, they told me that they found this kind of information particularly helpful. I therefore created them for all major authors and placed links in the overview (OV) files.

5. Results

In English 32 Intermedia was used to provide the kind of information that students rarely obtain as well as to help them develop critical thinking skills. The role of the Office of Program Analysis (OPA), the social science section of IRIS, was to evaluate the success of Intermedia and study the process of developing Intermedia and course materials. In order to have a standard of comparison, several ethnographers from OPA examined how students study and learn in courses without computer enhancement. An OPA team carried out extensive surveys of the entire process for one and one half semesters, and the results are described in *Intermedia: A Case Study of Innovation in Higher Education*, a 200-page report to the Annenberg/CPB Project. I will here provide a brief summary of the methods and results.

The OPA analysts attended all meetings of software and courseware developers who were interviewed approximately once per week. One of them also attended all classes before, during, and after the development of the Intermedia component of English 32, and they also had students keep diaries, conducted surveys, and repeatedly interviewed them. Charts and statistics summarizing student use, attitudes, and time spent appear in the project report, as do copious quotations from the student interviews.

As we had hoped, students using *Context32* demonstrated a markedly better grasp of the materials and introduced more kinds of data into class discussions, papers, and examinations than had members of previous classes. For example, during class discussion both the number of student comments and number of individual students participating increased by 300% and, perhaps even more impressive, the nature of their comments changed from vague expressions of interest ("I was interested in the way Swift said this") and need for help ("I wonder if anybody could tell me why . . .") to factual statements and critical judgments. We had early indications that *Context32* was doing some of the things we hoped it might accomplish, for immediately after the students worked with the system for the first time, they began to introduce factual material into class discussions — something the teaching staff and social scientists evaluating the course had not observed previously. As the course progressed, student exercises, such as diagrams of literary relations and imitations of Pope's neoclassical heroic couplets, proved markedly superior to those in previous years.

Furthermore, Intermedia helped many students learn how to make more effective use of books. Studies of novice readers and our own OPA researchers both confirm what many teachers have long suspected — namely, that inexperienced or unskilled students fail to make use of introductions, footnotes, glossaries, and other apparatus created specifically for them. Many novice readers do not find such information of interest because they lack the necessary reading skills and cannot recognize the relevance of the information offered. The report indicated that after using Intermedia, students make much greater use of these materials in books, and it might be argued that after students have used electronic hypertext they can make better use of the printed version. In any case, Intermedia seems to have taught students crucial reading skills and demonstrated that computer-assisted instruction can help students take better advantage of printed materials.

My grader for the course, an experienced graduate-student teacher who judged the take-home midterm and in-class final examinations to be the most rigorous she had ever seen, found that answers to both identification and essay questions were in general far more detailed and intellectually sophisticated than the answers given by previous students at this level. In fact, more than 10% scored 100%.

In addition to such results, some of which we had hoped would occur, several others took us by surprise: the course's emphasis upon connectivity and interrelatedness convinced many students that, since everything in the course related to everything else, they could not omit any of the reading. For millenia teachers have tried to con-

vince students to do all their assigned readings; Intermedia seemed, quite unexpectedly, to have achieved this result.

A second pleasant surprise concerns the willingness of a large minority of students to consider *Context32* as something to which they can contribute and whose shape they can determine. This belief apparently derives from the first week's assignment, which instructed students to explore files relating to Graham Swift's *Waterland* (1983) and suggest (1) additional links among files that they would like to see, and (2) texts that they would append to various relevant digitized graphic documents, such as maps depicting the growth of British railways and canals (see Appendix 2). Having once been asked their opinion, they henceforth gave it freely. Throughout the semester students thus offered proofreading and criticisms of the nature and placement of links as well as requests for documents on subjects such as labor history or critical theory that they believed useful. After the end of the course several students, without being asked, mailed in substantial written evaluations containing corrections, suggestions, and requests for improving Intermedia materials.

This interest beyond the course itself appears significant, particularly since any enhancement seems likely to work only if it develops grass roots appeal. This appeal seems to exist at both extremes of the educational scale. Freshman not in my section of English 32 expressed serious interest in using Intermedia, and at least one student used it intensively throughout the semester. At the same time, two graduate students have continued to use Intermedia in preparing for their preliminary oral examinations for the doctorate. Some students enrolled in English 32 reported to me that they used *Context32* to study for other courses, including some outside the English department.

6. Hypertext and Critical Theory

(a) *Hypertext and Intertextuality*

Hypertext, a fundamentally intertextual system, has the capacity to emphasize intertextuality in a way that page-bound text cannot. Scholarly articles, as we have seen, offer an obvious example of *explicit* hypertextuality in nonelectronic form. Conversely, any work of literature — which I shall take to mean "high" literature of the sort we read and teach in universities — offers an instance of *implicit* hypertext in nonelectronic form. Let us take the example of Joyce's *Ulysses*. If one looks, say, at the "Nausicaa" section in which Bloom watches Gerty McDowell on the beach, one notes that Joyce's text here "alludes" or "refers" (the terms we usually employ) to many other text or phenomena that one can treat as texts, including the Nausicaa section of *The Odyssey*, the advertisements and articles in the women's magazines that suffuse and inform Gerty's thoughts, facts about contemporary Dublin and the Catholic Church, and material that relates to other passages within the novel. Again, one can envisage a hypertext presentation of the novel that would link this section not only to the kinds of materials mentioned but also to other works in Joyce's career, critical commentary, and textual variants. Hypertext here permits one to make explicit, though not necessarily intrusive, the linked materials that an educated reader perceives surrounding it.

Thaïs Morgan suggests that intertextuality, "as a structural analysis of texts in relation to the larger system of signifying practices or uses of signs in culture," shifts attention from the triad constituted by author/work/tradition to another constituted by text/discourse/culture. In so doing, "intertextuality replaces the evolutionary model of literary history with a structural or synchronic model of literature as a sign system. The most salient effect of this strategic change is to free the literary text from psychological, sociological, and historical determinisms, opening it up to an apparently infinite play of relationships" (Morgan, 1985, pp. 1—2). Morgan well describes a major implication of hypertext (and hypermedia) intertextuality: the text opens up, freeing one to create and perceive interconnections. Nonetheless, although hypertext intertextuality would seem to devalue any historic or other reductionism, it in no way precludes reading by means of author and tradition. Our experiments thus far suggest that hypertext does not necessarily turn one's attention away from such approaches either. What is perhaps most interesting about hypertext, though, lies not in whether it fulfills certain claims of structuralist and post-structuralist criticism but that it provides a rich means of testing them.

(b) *Hypertext and De-Centering*

As the preceding pages have already shown, Intermedia does not work in the manner of most first-generation computer-assisted instruction. Most such programs and materials, which follow the model of printed workbooks, take the user through a pre-arranged sequence of exercises and experiences. Such systems constrain anyone using them by forcing them to follow a single sequence or relatively few possible sequences. Intermedia, in contrast, employs the fundamental characteristic of hypertext and hypermedia systems that they are bodies of linked texts that have no primary axis of organization. In other words, Intermedia, like any hypertext and hypermedia system, has no center, and although this absence of a center can create problems for the teacher and researcher, it also means that anyone who uses Intermedia makes his or her own interests the de facto organizing principle (or center) for the investigation at the moment. One experiences Intermedia as an infinitely decenterable and recenterable system.

To those who have followed the course of contemporary critical theory, such capacity has obvious relation to the ideas of Derrida and Althusser, two thinkers who emphasize the need to shift vantage points by de-centering discussion. As Jacques Derrida points out in "Structure, Sign, and Play in the Social Sciences," the process or procedure he calls de-centering has played an essential role in intellectual change. For example, "Ethnology could have been born as a science only at the moment when a de-centering had come about: at the moment when European culture — and, in consequence, the history of metaphysics and of its concepts — has been dislocated, driven from its locus, and forced to stop considering itself as the culture of reference" (Derrida, 1972, p. 251). Derrida makes no claim that an intellectual or ideological center is in any way "bad," for as he explains in response to a query from Serge Doubrovsky, "I didn't say that there was no center, that we could get along without a center. I believe that the center is a function, not a being — a reality, but a function. And this function is absolutely indispensable" (Derrida, 1972, p. 251; see also Althusser, 1979)

Intermedia, like all hypertext systems, permits the individual user to choose his or her own center of investigation and experience. What this principle means in practice is that *Context32* does not lock the student into any kind of particular organization or hierarchy. For one who choses to organize a session on the system by making use of author overview files, moving, say, from Keats OV (overview) to Tennyson OV, the system would represent an old-fashioned, traditional, and in many ways still useful author-centered survey course. On the other hand, nothing constrains the student to work in this manner, and any students who wish to investigate the validity of period generalizations could organize their sessions in terms of such periods by using the Victorian and Romantic OV files as starting or midpoints, while others could begin with ideological or critical notions, such as Feminism OV or Victorian Novel OV. In practice, moreover, students employ *Context32* as a text-centered system, since they tend to focus upon individual works with the result that even if they begin sessions by entering the system at an individual author overview file, they tend to spend most time with files devoted to individual works, moving between poem and poem (Swinburne's "Laus Veneris" and Keats's "La Belle Dame Sans Merci") and between poem and informational texts ("Laus Veneris" and files on chivalry, medieval revival, courtly love, Wagner, and so on).

(c) *Hypertext Systems Are Potentially Democratizing and Anti-hierarchical*

As the capacity of hypertext systems to be infinitely recenterable suggests, they have the corollary characteristic of being anti-hierarchical and democratic in several different ways (modes?). First, as the authors of "Reading and Writing the Electronic Book" point out, in such systems, "Ideally, authors and readers should have the same set of integrated tools that allow them to browse through other material during the document preparation process and to add annotations and original links as they progress through an information web. In effect, the boundary between author and reader should largely disappear" (Yankelovich, Meyrowitz, and van Dam, 1985 p. 21).

One sign of the disappearance of boundaries between author and reader consists in the fact that

the reader, not the author, determines largely how the reader moves through the system, for the reader can determine the order and principle of investigation. Intermedia has the potential, thus far only partially realized, to be a democratic or multicentered system in yet another way: as students who use the system contribute their comments and individual documents, the sharp division between author and reader that characterizes page-bound text has begun to blur and threatens to vanish with several interesting implications. First, by contributing to the system, student users accept some responsibility for materials anyone can read. Second, students thus establish a community of learning, demonstrating to themselves that a large part of any investigation rests on the work of others.

Although students, particularly beginning students, do not have sufficient knowledge of either primary materials or those that serve as their context to create adequate treatments of more complex issues, they often produce excellent brief discussions of relatively limited, specific topics, such as aspects of technique in specific texts or ways in which one text relates to others. Students in the survey contributed relatively little original material to *Context32*, in contrast to those in English 61, the Victorian poetry seminar. I offer as examples three instances of student work that now have become part of the Intermedia materials: Rebecca Fletcher's "Sections 7 and 119 of Tennyson's *In Memoriam*" (see Appendix 4), an InterText file, Kristen Langdon's "Relations of *In Memoriam* 60 to Other Sections" (see Figure 8), an InterDraw file, and Jacqui Olkin's "Lady of Shalott" (see Figure 9), another InterDraw file that takes the form of an overview or directory. I draw the reader's attention to the quality and amount of information in the materials created by Fletcher

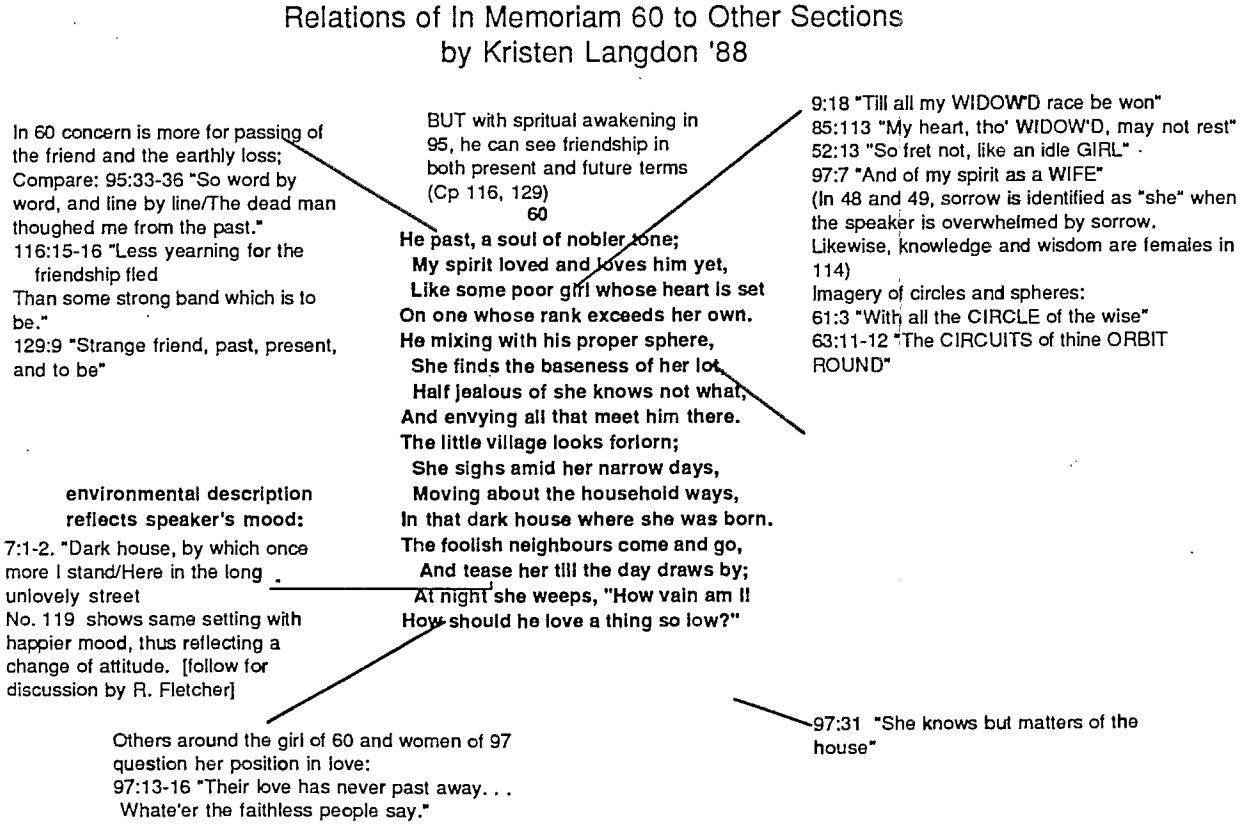

Figure 8

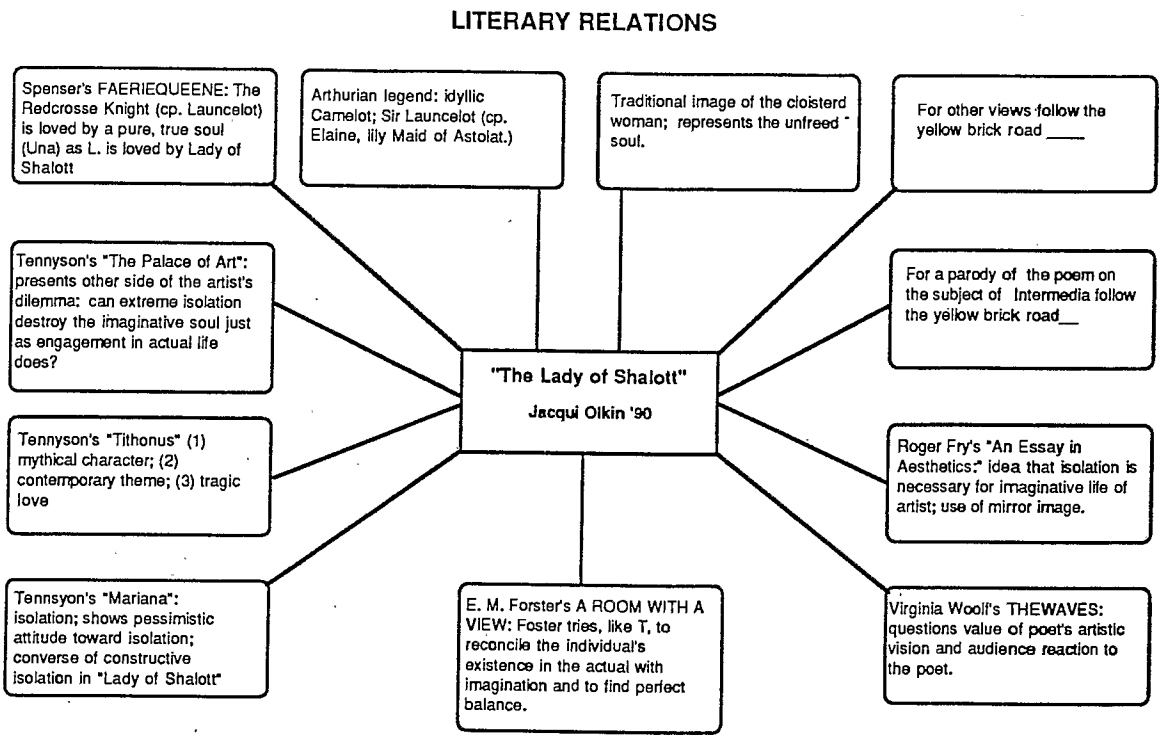

Figure 9

and Langdon and also to the fact that Olkin's contribution, which fulfilled an assignment during the opening weeks of the course, connects a Victorian poem to works she had read in other courses. Intermedia's emphasis upon connections and relations encourages students to integrate materials from a single course with everything else they know.

(d) *Hypertext and Boundaries of the Individual Work*

Of note is another form of democratization or absence of hierarchy: in hypertext systems links within and without a text — intertextual and intratextual connections between points of text (including images) — become equivalent, thus bringing closer together texts and blurring the boundaries among them. Consider the case of intertextual links in Milton: examples could be created by linking Milton's various descriptions of himself as prophet or inspired poet in *Paradise Lost* or by linking his citations of Genesis 3:15. Extratextual and intratextual links in contrast are exemplified by links between a particular passage in which Milton mentions prophecy and his other writings in prose or poetry that make similar or obviously relevant points as well as biblical texts, commentaries throughout the ages, comparable or contrasting poetic statements by others, and scholarly comment. Similarly, Miltonic citations of the biblical text about the heel of man crushing the serpent's head and being in turn bruised by the serpent have obvious links to the biblical passage and its traditional interpretations as we comment upon all these subjects. Hypertext linking simply allows one to speed up the usual process of making connections while providing a means of graphing such transactions — if one can apply the word "simply" to such a radically transformative procedure. The speed with which one can move between passages and points in sets of texts promises to change both the way we read and also write, just as powerful computers changed various scientific fields by making possible more time consuming or risky investigations.

One does not know what such changes will

entail. One possible change comes from the fact (or possibility) that linking will permit the reader to move with equal facility between points within a text and those outside. Once one can move with equal facility between, say, the opening section of *Paradise Lost* and a passage in Book 12, thousands of lines "away," and between that opening section and a particular anterior French text or modern scholarly comment, then, in an important sense, the discreteness of texts — which print culture creates — has radically changed and possibly disappeared.

These observations about hypertext suggest that computers bring us much closer to a culture whose qualities have much in common with those of preliterate man than even Walter J. Ong has been willing to admit. *In Orality and Literacy* he argues that computers have brought us into what he terms an age of "secondary orality" that "has striking resemblances to the old [oral, preliterate culture] in its participatory mystique, its fostering of a communal sense, its concentration on the present moment, and even its use of formulas" (Ong, 1982, p. 136). Nonetheless, although Ong finds interesting parallels between a computer culture and a purely oral one, he still insists: "The sequential processing and spatializing of the word, initiated by writing and raised to a new order of intensity by print, is further intensified by the computer, which maximizes commitment of the word to (electronic) local motion and optimizes analytic sequentiality by making it virtually instantaneous" (Ong, 1982, p. 136). In fact, hypertext systems, which insert every text into a web of relations, produce a very different effect, for they allow nonsequential reading and thinking.

One major effect of such nonsequential reading is to weaken the boundaries of the text, an effect that can be thought of as either correcting the artificial isolation of the texts from its contexts or as violating one of the chief qualities of the book. According to Ong, writing and printing produce the effect of discrete, self-contained utterance:

> By isolating thought on a written surface, detached from any interlocutor, making utterance in this sense autonomous and indifferent to attack, writing presents utterance and thought as uninvolved with all else, somehow self-contained, complete. Print in the same way situates utterance and thought on a surface disengaged from everything else, but it also goes farther in suggesting self-containment. (Ong, 1982, p. 132)

We have already observed the way in which hypertext suggests integration rather than self-containment, and another possible result of such hypertext may well be disconcerting. As Ong also points out, books, unlike their authors, cannot really be challenged:

> The author might be challenged if only he or she could be reached, but the author cannot be reached in any book. There is no way to refute a text. After absolutely total and devastating refutation, it says exactly the same thing as before. This is one reason why "the book says" is popularly tantamount to "it is true." It is also one reason why books have been burnt. A text stating what the whole world knows is false will state falsehood forever, so long as the text exists. (Ong, 1982, p. 79)

The question arises, however, if hypertext situates texts in a field of other texts, can any individual work that has been addressed by another still speak so forcefully? One can imagine hypertext presentations of books (or the equivalent) in which the reader can call up the reviews and comments on that book, which would then inevitably exist as part of a complex dialogue rather than as the embodiment of a voice or thought that speaks it unceasingly.

(e) *Developing Rhetorics and a Stylistics for Hypertext and Hypermedia*

As one might expect at this relatively early stage in the history of hypertext systems, those involved in their development have devoted most attention to the simple fact of linking and to the effects upon discourse of electronically linked text. Now we need to develop a rhetoric and stylistics of hypertext that begins with the recognition that although hypertext redefines some of the basic characteristics of page-bound printed discourse, such as the rigidly hierarchical distinction in scholarly works between a main text and its annotation, it still depends upon many of the same organizing principles that make page-bound discourse coherent and even pleasurable to read.

Designers of hypertext and hypermedia materials confront two related problems, the first of

which is how to indicate the destination of links, and the second, how to welcome the user on arrival at that destination. Drawing upon the analogy of travel, one can say that the first problem concerns exit or departure information and the second arrival or entrance information. In both cases the designer must decide what users need to know at each end of a hypertext link in order to make use of what they find there. The general issue here is one of interpretation — namely, how much interpretation in the form of encoding or markup must the designer-author attach to the points at which one both leaves and enters a text?

In attempting to answer these and related questions, I have found useful the following rules or axioms (see Landow, 1987b):

Rule 1: Hypertext links condition the user to expect purposeful, important relationships between linked materials.

Rule 2: The emphasis upon linking materials in hypertext stimulates and encourages habits of relational thinking in the users.

Rule 3: Since hypertext systems predispose users to expect such significant relationships among files, those files that disappoint such expectations appear particularly incoherent and nonsignificant.

Rule 4: Linked graphic materials must appear with appended texts that enable the between file of departure and that of arrival. The solution I have adopted in *Context32* appears in Figure 5, whose text (a) provides factual information, (b) encourages users to relate that information to a problem on which they are working, and (c) contains links that allow them to pursue various investigations. From this follows two further principles:

Rules 5: The entire text accompanying visual material serves as an introduction, not just the opening sentence or so. And:

Rule 6: The accompanying text does not have to specify all relevant information the designer wishes the user to have; rather, emphasizing that a relationship exists at all may be enough. From which follows:

Rule 7: Texts serve not only to provide information but also to reassure the user that the link embodies a significant relationship and to provide some hint, however incomplete, of how that relationship can be formulated by the user.

Rule 8: Any file in a hypermedia (or hypertext) system is a directory file. From this characteristic of *Context32* follows a point at which hypermedia becomes a de-centerable system:

Rule 9: Regardless of what kind of directories the authors and designers include in a hypermedia system, users can organize it according to their individual interests.

Rule 10: Such freedom, which derives from hypertext's fundamental lack of sequentiality, can disorient the user. To prevent the phenomenon of "being lost in hyperspace," a hypertext system must create a sense of security for users by allowing them at any time to return to the initial point of departure, the previous document examined, or both.

7. General Conclusions and Thoughts about Teaching with Intermedia

Developing the hypermedia materials has demanded greater self-awareness of my goals and methods as a teacher. In particular, my work on this project has made me think much more both about my role as teacher and about the kinds of information that students could use. Normally in a survey course, instructors have the chance to provide some background, perhaps a few interesting facts about the author's life and some broadly sketched aspects of the political, religious, philosophical, and scientific changes taking place at the time the work was written.

However, most of their time and energy must be devoted to close readings of the text and teaching the students how to read. Intermedia provides more opportunities and hence more

choices. When providing the materials for a hypermedia system that offers the student far more detailed information than possible by other means, the teacher must think carefully about the nature of the materials. One constantly encounters new questions because of the new possibilities of presenting information, in terms of both quantity and quality. The instructor must therefore continually re-examine instructional goals. This rethinking, like the actual preparation of materials, has turned out to be both extremely exhilarating and extremely demanding.

The semester before I joined the Intermedia project I had already decided to move away from my usual mixture of lectures and discussions to a different format. Convinced that students, particularly at this level, benefit most from discussions they initiate themselves, I experimented with ways of promoting such discussion. Finally, announcing that students had to take larger responsibility for their education, I warned my section of English 32 that at the next class meeting, I would not speak for the first twenty-five minutes of class, and I gave them reading and discussion questions related to that week's assigned reading. At the next class meeting, I entered the class, took a seat among the students, and waited. For the first three or four minutes, no one spoke, but finding the silence more painful than the embarrassment of speaking in the presence of their fellow students, several asked questions, offered interpretations, and argued with others. At times the discussion lagged, and as one whose many years of teaching had trained him to leap into these pauses in discussion and "help" the students, I found it extraordinarily difficult to sit quietly.

To my surprise, I discovered that the quality of discussions was far better than I had been able to achieve using a Socratic method, and the improvement derived in part from the students' willingness to argue with one another. Soon after introducing this method I began participating in class discussions about half way through each session to summarize or suggest new directions. Students immediately displayed their former passivity and hesitancy. However, after a few weeks I found that I could interrupt briefly without markedly affecting the quality of discussion. My teaching assistant and I noted that frequently these beginning students would discuss issues with a sophistication normally encountered only in graduate seminars.

Nonetheless, despite all this obvious improvement, the student-directed discussions could not solve certain fundamental problems, the most troublesome being that students had no way of obtaining information they needed for discussion. Intermedia offered an obvious solution to this central problem.

Intermedia clearly does not require any one particular philosophy and technique of teaching, for the successful biology course that employed it had a more traditional lecture format as, on occasion, does my seminar on Victorian poetry. One aspect of my pre-computer experiment with student-directed discussion does seem to mesh perfectly with Intermedia: in both cases students take more responsibility for their education. As a result, in relation to student-directed discussion and to use of *Context32*, my role as instructor — as observed by the OPA evaluators — becomes more that of coach than teacher. Furthermore, as students contribute increasingly to the corpus of documents in *Context32*, the distance continues to narrow between teacher and student, author and reader, designer and user.

8. Future Plans and Projects

The first five planned modifications to Brown University's Intermedia involve new equipment and creating new software to add to the hypertext capacities of the system; the remaining items involve ways of either improving and extending the course materials or carrying out scholarly and critical experiments with them.

(a) *Adding Interactive Videodisc to Intermedia*

The IRIS staff has already integrated interactive videodiscs into Intermedia. The system's present capacity to convey digitized information is limited to black-and-white illustrations, hence excluding color images and monochromatic images that emphasize tonal range. Consequently, although *Context32* has fine examples of Victorian book illustrations ranging from Phiz to Beardsley, it has almost no Romantic art, which would often require adequate reproduction of chiaroscuro or color. This lack is particularly serious since *Con-*

text32 uses such visual material to examine the usefulness of various stylistic and period terms.

Ultimately we would like to have images created by interactive videodisc appear within a window of the user's monitor. At present this application requires a second screen or monitor, and cost limits the number of machines we shall be able to make available.

(b) *Activating Intermedia Local Tracking Map*

When Intermedia was first used to help teach English 32, programmers at IRIS already had plans to create active local tracking maps on Intermedia. For the first two years Intermedia generated a local tracking map (see Figure 10) that served to indicate the nature of the field of connections within which any file situates itself. When one moved to a file, either by opening it for the first time or by activating it by clicking the file window, the local tracking map registered what other documents connect to that file. This graphic file served only to represent items connected to the active file. During the summer of 1988, Kenneth Utting created a new version of the tracking map that activates the icons themselves, so that the reader can travel to the file represented by a particular icon by clicking on it with a mouse.

(c) *Adding User's Pathway to Local Tracking Map*

The activated tracking map, or web (as it is now called), adds to the local tracking map a history of the path the user created to get there. Thus, if the user has moved from Tennyson OV to Victorian OV, and then to a file discussing Victorian views of the eighteenth century and finally to file on Pope's use of Horatian satire, the user could recall the path taken by clicking on the local tracking map, which would now record the icons representing the files that one had traversed. By clicking on one of these "historical" icons, the user returns immediately to a file examined earlier. Students will use this new Intermedia navigational feature for the first time during the second semester, 1988—89 (see Figure 11).

(d) *Filtering Capabilities and Intermedia as a Model of Cooperative Learning*

For Intermedia to have the full educational potential of a complete hypertext system, it must have some means of allowing users to filter out certain information because only then could they use the system to write and link documents. At present, Intermedia has already blurred some of the distinctions between author and reader, for unlike readers of books, those who work on Intermedia can modify not only the order in which they read but also the form in which materials appear. They can, for example, choose the form of Intermedia timelines by modifying both graphic representation of the materials and the chronological intervals on the timelines themselves.

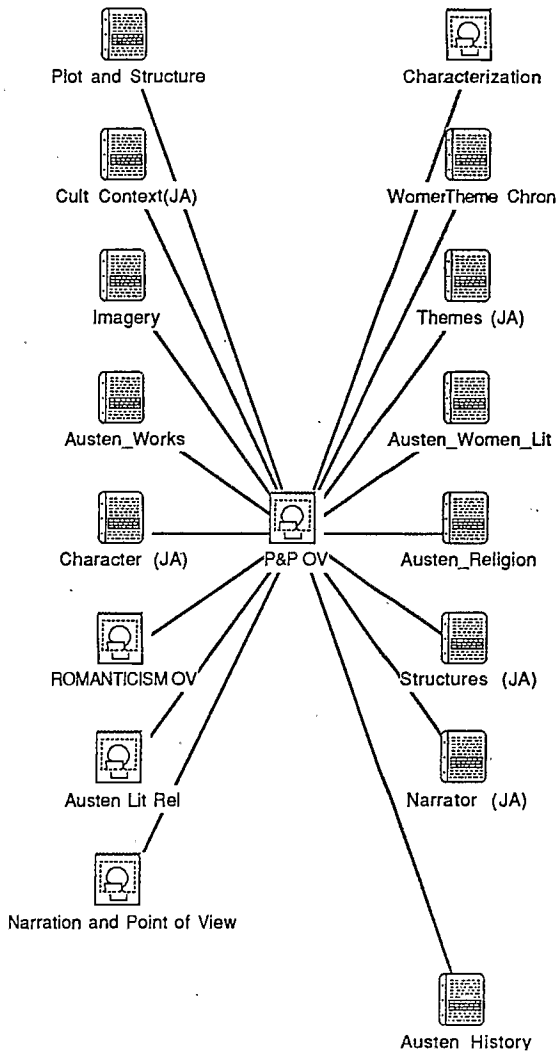

Figure 10

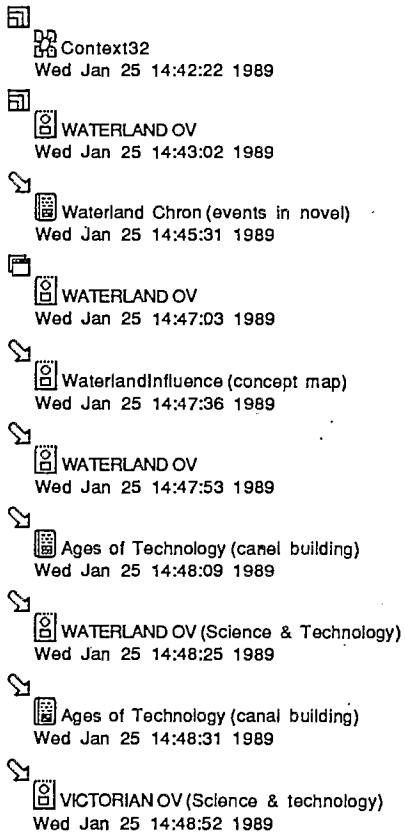

Figure 11

Far more important, Intermedia users can also create documents. In fact students have created both graphic and text documents, both concept maps and essays. Furthermore, users can also create personal webs of information by creating their own networks of links. Nonetheless, despite the user's ability to shape it, Intermedia still does not fulfill all the requirements of a complete multi-user hypertext system, because it cannot filter webs, and without such filtering Intermedia has no workable way of permitting all readers to add their links to the main system. Thus, although students can create their own webs of information, they cannot merge their contributions with those created by faculty or other students. If, however, Intermedia possessed filters, users could examine the corpus of documents in any way they choose. One might request the links that define the survey course set out over the years by various faculty members, and another might ask for all links created by students during the present semester as well as those "in" the course.

As use of the course increases at different educational levels — a process that has already begun — filters permit freshmen and sophomores to choose more basic materials, whereas graduate students can define the system according to their own needs, requesting, for example, links to annotated bibliographies in various literary and nonliterary fields, reviews of current work, or other more advanced materials. At the same time this filtering enables both advanced and beginning readers to work in their own way. Under a joint study-contract sponsored by Apple Computer, work on a filtering system has already begun.

(e) *Porting Intermedia to the Macintosh II*
During the first two years *Context32* and Intermedia resided on a networked system of IBM RT PCs. IRIS ported Intermedia to Apple Macintosh IIs during summer, 1988, and the system has been distributed to a number of alpha-test sites on this platform.

(f) *Tennyson Project*
The capacity of hypertext to graph intertextual relations offers students and teachers of literature enormous possibilities. As an experiment to determine precisely how one would go about creating, maintaining, and using hypertext to study the internal and external intertextualities of a major literary work, I have begun to place one particularly complex work on *Context32*. Tennyson's *In Memoriam*, a radically experimental mid-Victorian poem, perfectly suits this experiment, in part because it creates new versions of traditional major poetic forms, such as the elegy, from 133 separate sections. In so doing, it makes extensive use of echoing, allusion, and repetition. Repeating words, images, and entire lines permits the poet to create great richness and complexity with comparatively simple forms. For readers to experience the many complexities of *In Memoriam* they must perceive the many connections. Hypertext linkages permit one to record chains of imagery, including those of ship and shipwreck, dream and nightmare, hand, young lovers, cityscapes, house and doors, and so on.

These instances of internal intertextuality can be complemented in hypertext by external representations as well. *In Memoriam*, for example, alludes or refers to pastoral elegies, Dante's *Divine Comedy*, contemporary geology, and events in the poet's own life, all of which Intermedia can link to specific passages in the poem. The participants in my graduate seminar and I placed the individual sections of Tennyson's poem in *Context32* on Intermedia during semester II, 1987—88, and they added their own annotations as well as commentary from contemporary criticism. During the summer of 1988, Shoshana M. Landow, one of my research assistants, added variant readings, analogues, and possible source texts. The undergraduates and graduates using Intermedia this year will be working for the first time with this amplified hypertext version of *In Memoriam*.

(g) *Making Context32 Non-course Specific*

By the end of the first term in which English 32 used Intermedia materials, *Context32* consisted of approximately 1,000 documents and 1,300 links, and since then the number of links and documents has continued to grow. Thus far *Context32* has required the efforts of myself, three graduate students, and a post-doctoral fellow, and a great deal more effort will be required to add materials to make the system match our expectations. Obviously it is not cost effective to create these materials for a single course.

For a hypertext system such as *Context32* to achieve anything approaching its full potential, it cannot remain course-specific. In fact, although IRIS and the English department received support from the Annenberg/CPB Project specifically to create materials for English 32, during Autumn 1987, I already used it for English 61, Victorian Poetry, and (to a lesser degree) for English 137, Anglo-American Non-Fiction, a course covering writers from Swift and Johnson to Didion and Chatwin. The next term, when I again used *Context32* to support the survey course for which it was originally designed, I also used it for a graduate seminar in Victorian poetry, and (moving from freshman students of English to advanced graduate students in the same field) several have used it to prepare for the examinations that precede the doctoral dissertation. *Context32* now needs to extend beyond my courses and indeed beyond those taught by the Department of English to History, Classics, Art History, and other disciplines, all of whose materials could support one another.

(h) *Creating an Educational Consortium to Add Materials to Context32*

One way to extend *Context32* beyond its present narrow bounds lies in a consortium of educators who would write materials and guide the system's growth. Both ideally and practically, such a consortium would be composed of educators and students in various colleges and universities — ideally, because the system can benefit from a range of interests and, practically, because experience suggests that in their early days such hypertext systems will be supported actively by a comparatively small number of contributors at any one institution. With support from the Annenberg/CPB Project, IRIS spent the second half of 1988 planning for such a consortium, which we have called *The Continents of Knowledge Project.* Thus far some fifty faculty members from approximately twenty American and Canadian colleges and universities have joined the project.

Again to contrast the ideally desirable and the practically workable, one can point out that ultimately one would want all members of such a consortium to join in a network, so that any one contribution by any student or faculty member would be immediately accessible by anyone else anywhere on the system. In practice, one would probably have to settle at the present time for a series of independent versions of Intermedia (or similar systems) which would share materials, including links, until economic and practicable networks become widely available.

Acknowledgments

Intermedia is the culmination of two years of intense effort by a large team of developers at IRIS led by Norman Meyrowitz. I would especially like to thank him and Nicole Yankelovich, our Project Coordinator, for their continual resourcefulness, tireless effort, and unfailing good humor. I would also like to thank Helen DeAndrade, Tim Catlin, Page Elmore, Charlie Evett, Matt Evett, Ed Grossman, Nan Garret, Paul Kahn, Karen Smith,

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Notes

[1] I do not wish to suggest either that all CAI projects encourage such passivity or that only hypertext presentations succeed with complex subjects. Three outstandingly successful projects come immediately to mind: Lougee's Stanford University *The Would-Be Gentleman: A Historical Simulation of the France of Louis XIV, a role-playing game for the Apple Macintosh* (Carolyn C. Lougee, 1986); Miller's Carnegie-Mellon University *Great American History Machine* (David W. Miller, 1986); and Jones and Smith's University of Illinois *Computer Assisted Video-Disc Instruction for Chemistry.*

[2] The materials, all of which I have edited, were written by David Cody, Glen Everett, Shoshana M. Landow, Kathryn Stockton, and Robert Sullivan and myself.

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APPENDIX 1: READING LIST FOR ENGLISH 32, SPRING 1987

Assignments:

Week 1 (Wednesday, 21 January, through Monday, 26 January) **Graham Swift** (1949—), Waterland (1983).

Week 2 (Wednesday, 28 January, through Friday, 30 January) **Jonathan Swift** (1667—1745), "A Modest Proposal" (1729), Gulliver's Travels, parts 1 and 4 (1735). (Suggested additional reading: parts 2 and 3 of *Gulliver's Travels* and Swifts's "An Argument Against Abolishing Christianity" (1711), "A Description of the Morning" (1709), "A Description of a City Shower" (1710), "Phyllis, Or, the Progress of Love" (1727), "Cassinus and Peter" (1734).

Week 3 (Monday, 2 February, through Friday, 6 February) **Alexander Pope** (1688—1744) and **Samuel Johnson** (1709—1784), (Pope) *The Rape of the Lock* (1712—14), "An Essay on Man" (1733), and "An Essay on Criticism" (1711), (Johnson) "London: A Poem" (1738), "The Vanity of Human Wishes" (1749), selections from *The History of Rasselas, Prince of Abyssinia* (1759), *The Rambler* (1751), *The Idler* (1758—60). (Suggested additional reading: selections from *The Dunciad* (1743), and "Imitations of Horace" (1733—38; Boswell, entire; sel. from Johnson's *Lives of the Poets*, 1779—81.)

Week 4 (Monday, 9 February, through Friday, 14 February). **Jane Austen** (1775—1817) and others. (Austen) *Pride and Prejudice* (1813). On handouts: Anne Radcliffe (1764—1823), selections from *Mysteries of Udolpho* (1794) (handout) and from **Mary Howitt** (1799—1888); **Charlotte Bronte** (1816—55); and **Hannah Cullwick** (1833—1909).

(Long weekend: 14—17 February)

Week 5 (Wednesday, 18 February through Friday, 20 February) **William Wordsworth** (1770—1850), **Samuel Taylor Coleridge** (1772—1834), and **William Blake** (1757—1827). (Wordsworth) "Prospectus" to *The Excursion* (1814), "Lines Composed a Few Miles Above Tintern Abbey" (1798), "My Heart Leaps Up" (1807), "Resolution and Independence" (1807), "I Wandered Lonely as a Cloud" (1807), "Ode: Intimations of Immortality from Recollections of Early Childhood" (1807). (Coleridge) "The Eolian Harp" (1796), "The Rime of the Ancient Mariner" (1798), "Kubla Khan" (1816), "Frost at Midnight" (1798), "Dejection: An Ode" (1834). (Suggested additional readings: Selections from William Blake's *Songs of Innocence and of Experience*; Wordsworth's "The Solitary Reaper," "Mutability," and selections from *The Prelude*; Coleridge's "Frost at Midnight" and prose, Lamb's "Christ's Hospital Five and Thirty Years Ago," "Sanity of True Genius.")

Week 6 (Monday, 23 February, through Friday, 27 February) **John Keats** (1795—1821) and **Percy Bysshe Shelley** (1792—1822). (Keats) "Sleep and Poetry" (1817), "When I have fears" (1818), "The Eve of St. Agnes" (1820), "La Belle Dame sans Mercy" (1820), "Ode to a Nightingale" (1819), "Ode on a Grecian Urn" (1820), "Ode on Melancholy" (1820); (Shelley) "Alastor" (1816), "Mont Blanc" (1817). (Suggested additional reading: (Keats) "To Autumn," "Bright Star," "This Living Hand," and letters (pp. 762—87; (Shelley) "Hymn to Intellectual Beauty," "Ozymandias," "Ode to the West Wind," "Adonais," and *A Defence of Poesie.* Look at poems by Peacock, Hood, and Beddoes).

Week 7 (Monday, 2 March, through Friday, 6 March) **Thomas Carlyle** (1795—1881), **Charles Dickens** (1812—70), **Harriet Marti-**

neau (1802—76), and **Florence Nightingale** (1820—89) (Dickens) *Great Expectations*. (Carlyle) "Signs of the Times" (handout) and "The Everlasting No"; (Martineau and Nightingale).

Week 8 (Monday, 9 March, through Friday, 13 March) **Alfred Lord Tennyson** (1809—92) "Mariana" (1830), "The Kraken" (1830), "The Lady of Shalott" (1832, 1842), "St. Simeon Stylites" (1842), "Ulysses" (1842), "Tithonus" (1860), "Morte d'Arthur" (1842), "Tears, Idle Tears" (1847), *In Memoriam* (1850), Percivale's quest from The *Idylls of the King* (1869), and "Crossing the Bar" (1889).

Week 9 (Monday, 16 March, through Friday, 20 March) **Elizabeth Barrett Browning** (1806—61) and **Robert Browning** (1812—89) plus **Matthew Arnold, Arthur Hugh Clough** (1819—61), and **James Thomson** (1834—82) (E. Browning) selections to be distributed; (R. Browning) "Johannes Agricola in Meditation" (1836), "My Last Duchess" (1842), "The Bishop Orders His Tomb at St. Praxed's Church" (1845), Fra Lippo Lippi" (1855), "'Childe Roland to the Dark Tower Came'" (1855), "Andrea del Sarto" (1855), "Cleon" (1855), "Caliban Upon Setebos" (1864). (Arnold) "Dover Beach," "The Buried Life"; (Clough) entire. (Recommended additional reading: (Browning) "How It Strikes a Contemporary," "Popularity," "Two in the Campagna," "Love Among the Ruins"; (Arnold) "Memorial Verses" and "The Scholar-Gipsy" and Thomson.

(Spring recess: 21—29 March)

Week 10 (Monday, 30 March, through Friday, 3 April) **John Ruskin** (1819—1900), the **Pre-Raphaelites** and **Gerard Manley Hopkins** (1844—89) all prose by Ruskin plus handouts and all poems by Dante Gabriel Rossetti (1828—82), George Meredith (1828—1909), Christina Rossetti (1830—94), William Morris (1834—96), A. C. Swinburne (1837—1908), and Gerard Manley Hopkins (1844—89).

Week 11 (Monday, 6 April, through Friday, 10 April) **William Butler Yeats** (1865—1939) and **Thomas Hardy** (1840—1928). (Yeats) all. (Hardy) "Hap," "The Darkling Thrush," "Channel Firing," "In Time of the Breaking of Nations," "And There Was a Great Calm." Recommended reading: poets of the 90s, entire.

Week 12 (Monday, 13 April, through Friday, 18 April) **Rudyard Kipling** (1865—1936), **Joseph Conrad** (1857—1924), and **D. H. Lawrence** (1885—1930). (Conrad) *Heart of Darkness* (1902); (Lawrence) "The Prussian Officer" (1914) and poems; (Kipling) "Mary Postgate" (1915).

Week 13 (Monday, 20 April, through Friday, 24 April) **James Joyce** (1882—1941) and **Virginia Woolf** (1882—1941). (Joyce) all selections in anthology; (Woolf) to be distributed.

Week 14 (Monday, 27 April, through Friday, 1 May) **T. S. Eliot** (1888—1965) and recent poetry: (Eliot) "The Love Song of J. Alfred Prufrock," "The Hollow Men," and the two prose selections. Read (and try to understand) as much as you can of *The Wasteland*, to which we'll return next week. W. H. Auden (1907—1973) "Letter to a Wound," "In Memory of Sigmund Freud," "In Memory of W. B. Yeats"; (Dylan Thomas, 1914—1953) "A Refusal to Mourn . . . ," "Fern Hill," "Do Not Go Gentle into That Good Night"; Suggested additional reading: the "War" Poets — Owen, Thomas, and Rosenberg.

Week 15 (Monday, 4 May) **Aspects of Modernism in Prose and Poetry**. (Eliot) *The Wasteland*; (Woolf) "Modern Fiction." Refresh your memory with regard to reading and discussions of Woolf, Joyce, and Eliot.

APPENDIX 2: FIRST INTERMEDIA ASSIGNMENT FOR ENGLISH 32

1. Open the folder entitled "Swift-G."
2. Open "Waterland OV." (OV = Overview)
3. Follow the link to "History, His Story . . ." Find three explanations or theories of history in the novel? Which do you think the book finally supports?
4. Return to "Waterland OV" and then go from there to "Chronology of Events in the Novel." Leaving open "Chronology of Events in the Novel," go to the "Topics" folder and find the four timelines that sit beside the four subfolders. Open one and then place it to the right of "Chronology

of Events" for *Waterland*. Suggest two links that might prove useful to readers of the novel. Those that seem helpful will be installed.

5. Close timeline and "Chronology of Events" and return to "Waterland OV." From there follow a link to "Literary Relations." Which two novels in the course appear most related to *Waterland*? Follow a link to any one of them. What do you find?

6. Return to "Waterland OV" and from there go to "Science and Technology." What do the maps of the railroads and canals tell us about the novel? (If the map window appears empty or weird when you open it, try resizing it by dragging the lower right corner before requesting help.)

7. Open folder entitled "Maps," which resides inside that one entitled "Gallery." Which map or maps do you think would help in reading *Waterland*? What text would you attach to it (either a sentence or two of your own or a passage from the novel)?

APPENDIX 3: SAMPLE INTERTEXT FILES

Point of View in "The Prussian Officer" (by K. Stockton)

Point of View [Follow link for definition]

The first paragraph of Lawrence's short story focuses upon "they," but this focus changes to "he" in the second paragraph.

Who provides this focus, and who narrates the story and from what angle or consciousness? Is the narrator omniscient? Is this story pitched in favor of the consciousness of one character over the other? Are we seemingly "inside the mind" of one character or two? To answer these questions, analyze the shifting point of view in the following passage:

> To his orderly he [the captain] was at first cold and just and indifferent; he did not fuss over trifles. So that his servant knew practically nothing about him, except just what orders he would give, and how he wanted them obeyed. That was quite simple. Then the change gradually came.
>
> The orderly was a youth of about twenty-two, of medium height, and well built. He had strong, heavy limbs, was swarthy, and a soft, black, young moustache. There was something altogether warm and young about him. He had firmly marked eyebrows over dark, expressionless eyes, that seemed never to have thought, only to have received life direct through his senses, and acted straight from instinct.
>
> Gradually, the officer had become aware of this servant's young, vigorous, unconscious presence about him. He could not get away from the sense of the youth's person, while he was in attendance. It was like a warm flame upon the older man's tense, rigid body, that had become almost unliving, fixed.

How does this very complex passage position the point of view between the consciousness of the characters? The first paragraph situates us in the mind of the orderly ("to the orderly"); yet the narrating voice soon appears to take away what it gives, for "his servant knew practically nothing about him." We are told of a change at the end of this paragraph, and just as swiftly the point of view changes to a more omniscient perspective, in which we receive a description of the orderly. **But who does the describing? Does the captain perceive the orderly this way? Does the orderly see himself in this way?**

With the next paragraph we already shift into the officer's point of view, being now privy to his perspective on the youth. **What does such fluid narrative movement between the officer's and orderly's thoughts imply? How do you as the reader interpret this shifting?** Find other instances of shifting point of view in the text. **Where do they occur and what is the significance of their placement?**

Tennyson's "Morte d'Arthur" by G. Everett and G. Landow

First draft written early 1834; published in *Poems* (1842); incorporated into *The Idylls of the King* in 1870 as "The Passing of Arthur." This is the first of Tennyson's poems to be based on Sir Thomas Malory's *Morte d'Arthur*. (He had written "The Lady of Shalott" in 1833 before he read Malory.)

1. Like "The Lady of Shalott," this poem represents one of Tennyson's early contributions to medievalism in poetry. In what sense does "Morte d'Arthur" appear escapist and in what committed and immediately relevant to his own age? Does the poem suggest ways in which the modern poet living in an urban, technological society can use myth or an idealized past?

2. Tennyson here employs a standard medieval romance literary structure that puts the protagonist through a serious of trials that test and educate him. What in particular does Bedivere learn about the relation between keeping faith and beinging able to believe or have faith? What does this lesson have to do with Carlyle?
3. Arthur the King is, at least in small part, also Arthur Henry Hallam (see Tennyson Biography). What parts of the poem does your knowledge of the poet's grief for his friend amplify?
4. Do you find a second debt to Carlyle in the connection between Arthur's benediction to Bedivere ("The old order changeth, giving place to the new, /And God fulfills Himself in many ways, /Lest one good custom should corrupt the world" and these passages from Carlyle's "Signs of the Times":

> We have a faith in the imperishable dignity of man; in the high vocation to which, throughout his earthly history, he has been appointed. However it may be with individual nations, whatever melancholic speculators may assert, it seems a well-ascertained fact, that in all times ... the happiness and greatness of mankind at large have been continually progressive. ... That admiration of old nobleness, which now so often shows itself as a faint dilettantism, will one day become a genrous emulation, and man may again be all that has been and more than he has been.

What similarities can you find between Carlyle's work and Tennyson's?

APPENDIX 4: CREATED BY STUDENTS FOR CONTEXT32

Sections 7 and 119 of Tennyson's In Memoriam by Rebecca Fletcher '89 (English 61, 1987)

Tennyson has come to grips with Hallam's death by section 119, and he reapproaches Hallam's house, the same house he visits in section 7. Now amid the industrial city he smells the "meadow in the street," whereas earlier in section 7 he had experienced that same city and street as "ghastly," "bald," and empty of beauty and meaning. Tennyson projects his emotional state upon the city, which is a typically negative symbol antithetic to nature. He can find in the city surrounding him either "noise" or "the chirp of birds," either dawn of blankness or a "light-blue lane."

In section 7, Tennyson walks in a trance to Hallam's house early one dawn. This section is the first in *In Memoriam* in which Tennyson acts, openly revealing his emotions. Sections 1—6 intellectualize his grief; 7 presents him in a state of shock. The house stands before him a symbol of security, now ironically protecting nothing. Just as Hallam's body remains without his soul, so only the external shelter, the house, remains. Tennyson's inability to accept his new lot is mirrored by an oblivious world devoid of meaning. In section 119, on the other hand, we find a Tennyson at peace with himself and his fate. And he, in turn, finds a peaceful, joyful world.

Both lyrics address the idea of return, or coming back to a place after one's previous perception has been altered [Follow link to Wordsworth's "Tintern Abbey"]. "One more" Tennyson stands in 7; he comes "once more" in 119. Between 7 and 119 he changes, and with these changes he returns to a fixed symbol and sees it in a new light. The doors he speaks of in both lyrics reinforce this notion. Although doors close Tennyson off from his old world, when he returns in 119, he has arrived at that second place without the aid of a door, for he feels Hallam within him.

Furthermore, where once he had crept to the door hoping to feel a hand come to him he now feels the hand within him. In both lyrics we find the symbolic hand that represents the strength, giving, and comfort of friendship. In 7 Tennyson waits for the old hand to lead him through the door, to clasp him and reaffirm the tie between friends. In 119 he feels "the pressure" of Hallam's hand within him. Section 94 explains that the dead will haunt "the silence of the breast" when one's "conscience [is] at rest." Tennyson thus internalizes Hallam by section 119 because he has been able to come to grips with himself and with mortality. Therefore, his acceptance of Hallam's death paradoxically enables him to feel his friend's support. [Query: how do the (a) poetic structure, (b) use of rhythm, and (c) other techniques support the contrast between these key two sections?]