

Herodotus in the Labyrinth: REED and Hypertext

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*'I, Herodotus of Halicarnassus, am here setting forth my history, that time may not draw the color from what man has brought into being, nor those great and wonderful deeds, manifested by both Greeks and barbarians, fail of their report, and, together with all this, the reason why they fought one another.'*¹

An act of resistance against the bleaching of time that draws the colour from past human experiences, the writing of history is itself an act that directly shapes the past that it attempts to preserve. Seeking to transmit the past, to make it available across the distance of time, history is a subsidiary document of the original experience. And from this distanced observational stance at one stratum removed from the original, history necessarily involves the interpretation and condensation of that lived experience for its later reification. Given this inherent reconstitution, the choice of apparatus used for historical recording and representation is critical. The means whereby we recount history shapes our understanding of the past as history. In taking up his pen, Herodotus (c.484–c.425BCE) as the first 'historian' declares that his purpose is to promote the survival of knowledge of the past into the future. Through the selected recording medium of writing, he achieved his aim. Compared to transmission by oral repetition, written history is less susceptible to the corrosion of time that Herodotus sets himself against. In that time, the medium of the written word offered a particular set of conditions for the conveyance of knowledge, one of which is durability. Likewise in recent decades, electronic hypertexts present a new medium for recording history by arranging words and images in a web-like network. Inevitably this new arrangement carries with it another set of potentially transforming conditions concerning not only the longevity of historical knowledge but also its reception and comprehension. It is in this cognitive aspect of reception and comprehension of history that the new medium of hypertext offers perhaps the most significant impact.²

As other writers have shown with regard to the print revolution of the mid-fifteenth century, significant cognitive shifts are associated with new forms of information processing.³ The process-innovation of printing using moveable type and the associated product-innovation of the bound codex form shaped human thoughts through the staging of words and ideas in a particular technology – the book. Over the past five centuries, readers in Western societies have assimilated the codex form so successfully that we tend not to think about books as technology. As an arbitrary framework for holding words together, the printed book is a cultural tool that has

definite facilitating and restricting characteristics that shape the presentation of language and so the understanding of its meaning. In not-so-subtle ways since the moveable-type revolution, the pre-eminent framing technology of the book has influenced the thoughts that readers are capable of thinking in print. Hypertext as a new framing technology generates a recurrence of the same revolutionary potential to think new thoughts in links and lexias.

With the launch of the Patrons and Performances Web pilot site in July 2003, the Records of Early English Drama as a corporate entity is dipping its metaphorical toes into the water of the hypertext revolution.⁴ As REED's first foray into electronic publishing, the Patrons Web marks a major departure from the established format of the series of weighty red volumes which has long been a hallmark of the project. This strong association with the codex form makes the introduction of a new non-physical medium by this research group all the more notable. Given the radical potential cognitive shift implied by a move to a new communication medium, the question, then, with which this essay is concerned is the nature and significance of REED's fledgling hypertext enterprise. And through this first enterprise, as REED transforms its historiographical method from ems to bytes, what consequences can be discerned by the writing of hypertext history for theatre studies in general and for REED-derived research in particular?⁵

The appearance of the Patrons and Performances Web Site as a hypertext is the result of two disparate sets of goals concerning access to the selected data. In the beginning, the impulse to move to a hypertext format for this novel REED publication was generated by an interest in the particular records concerning the patronage of touring performers. Cutting across the established geographical division between volumes, this research focus served to highlight restrictions implicitly imposed on the records by the conditions of their publication in printed volumes. Typically, each REED volume (or part thereof) contains the relevant excerpts from primary source material for a given location. After this first division, for example, by county, there is within each volume further geographical divisions according to the provenance of the records.⁶ Then, each grouping of records is listed chronologically. So although there is some tertiary chronological sorting, the project privileges the site of the records' performance location as the organizing principle at the primary levels. Records indicating payments to a single troupe in a single season might be scattered across several volumes as the players travelled from town to town. And also like troupes of players, patrons' interests also crossed geographical boundaries, frequently holding seats and regional offices in several locations, so the notation indicating a performance (whether it be a payment, or a deposition in a court case, or a diary entry) that occurred at one seat may be recorded in manuscript accounts preserved at another.

The result is that with this segmented structure in place, tracing the travels of an individual company of players is a line of inquiry that works against the grain of the established organizational method, requiring laborious cross-referenced searching through every volume in the series.

The first accommodation made to facilitate this interest in professional touring was in the inclusion of a patrons appendix in *REED Norwich 1540–1642* published in 1984. Here, each patron entry lists selective personal data for the patron, along with the most significant titles and regional appointments held. Another section lists the seats and properties that the patron is known to have held. The last section provides an index of known performances by the patron's company of players or other entertainers in the city or at various locations within the relevant county, with page references to the full record entry. This became a standard feature for all succeeding volumes. The second accommodation to research on the itineraries and performance habits of touring players was the consolidation of all the available county data in one place in a searchable electronic format. At first, the database was constructed using BASIC. As technology advanced, the database migrated from dBasell to dBaseIV. In 1998, the patrons' information was converted to MS Access format and housed principally on a computer at the REED office.⁷ During this time, the database operated as an internal resource used by REED scholars and visitors. One limitation to a broader readership for the database, even in Access format, was the level of technological knowledge required to generate a search query and extract the desired information. Now that electronic searching had made the data accessible in one way, a new goal arose to make the data available to a larger user base. It was at this point that the formerly private database was reconceived as an online publication accessed via a free URL. Throughout the evolution of the technological frame for the touring data the concern has been with how reading scholars access information, but the focus shifted slightly over the two stages. In the early stage, when the content material was first being assembled, considerations concerning information-processing took precedence over issues of the medium of transmission and reception of that information. In the later stage, the ease of front-end reader access became the priority. Gradually through the progressive moves to indexing, to electronic searching and finally to hypertext, the reader's engagement with the changing media of the records data has become as important as the records themselves.

Now publicly accessible on the Internet, the Patrons and Performances Web Site is comprised of four modules – patrons, events, troupes and venues. A search tool permits readers to pose directed queries and to sort the records data based on these four primary fields. At the core of the web lies the original events database, where it appears in Event Details

pages. These pages break down the information from the REED transcription of the manuscript record into a number of data fields listing the troupe, its patron, the location of the event, the type of the event (usually a performance but also occasionally an appearance in court or a bequest) and the payment received. From here, readers can link to the other three modules for more information on the patron, the venue or other events involving the same troupe. Through the links to the venues or patrons modules, the events records text has been augmented with biographies listing patrons' titles, offices and land holdings, and detailed venues descriptions. Although the underlying programming structure for the venues branch simulates a database format with individual entry fields, the resulting presentation is one of fixed non-searchable pages.⁸ The venues pages consist of an encyclopaedia-style entry describing the location, history and current condition of the performance site, augmented by architectural plans and historical and contemporary images. Associated with the venues module is a powerful mapping tool which enables the reader to view any venue's location along with medieval and Renaissance roads, topographical features and nearby towns or villages. The combined result of these modules is a hybrid hypertextual form fusing an informational database that responds dynamically to reader queries with static supplemental pages. Having achieved the explicitly targeted pragmatic characteristics of searchability and simplified user access, the web site is also shaped in terms of the user reception experience by other implicit characteristics inherent in the chosen hypertextual medium, characteristics which are not manifest in printed materials, at least **not** to the same degree. It is these stylistic qualities that function to shape the readerly experience of hypertext and thereby control the kinds of messages that might be communicated by this electronic medium. So in tandem with the capability of processing data about patronized players and their travels, the rhetorical strategies of hypertextual stylistics underlying that data shape the reading experience in ways that are radically distinct from traditional print rhetoric.

A term coined by Theodor (Ted) Nelson in the 1960's, 'hypertext' describes 'non-sequential writing – text that branches and allows choices to the reader.'⁹ The branching hypertext is composed of two basic elements: blocks of information (composed of words, images, music, or any object that can be delivered electronically) called lexias; and pathways connecting these blocks of information to each other called links. As a single block of information, be it visual or aural, textual or pictorial, the lexia is the primary atomic component of hypertextual writing. This is where the hard content of a hypertext resides. Lexias are akin to a single paragraph or single page in a conventional book. This equivalency means that despite the rhetoric of non-linearity that pervades hypertext theory, conventional reading habits persist at this atomic level within each lexia. Moreover, the layout of disjointed lexias is not entirely new

to hypertexts. Footnotes, for example, are linked lexias – a separate block of text physically removed from the main line, linked by a parenthetical reference or superscript numeral. In a hypertext environment, digressions of this kind may be multiplied exponentially through the insertion of links. Connecting the lexias, links can proceed in a single path linear fashion, lining up the lexical blocks head to tail like a line of elephants. Used in this manner, links resemble nothing so much as the turning of pages in a book. However, hypertextual links need not be limited to one-to-one linkages proceeding sequentially or to simple back-and-forth asides in footnotes and marginalia. To open up the branching capabilities of hypertext, one-to-many and many-to-one links are created.

In this ideal text, the networks are many and interact, without any one of them being able to surpass the rest; this text is a galaxy of signifiers, not a structure of signifieds; it has no beginning; it is reversible; we gain access to it by several entrances, none of which can be authoritatively be declared to be the main one; the codes it mobilizes extend as far as the eye can reach, they are indeterminable...¹⁰

When turning the page is no longer an automatic action, when the reader is compelled to make an associative curious choice as to what to read next, the entire nature of the reading experience changes.

Although some electronic books are simply replicas of conventional books where choice is restricted and the text proceeds in a fixed linear fashion, the electronic components of lexias and links make other structures possible. The dominant structural characteristic of hypertext is that it is non-linear. This non-linearity is made possible by the multiplicity of linkages. Each time more than one link appears in a lexia another branch is created, activating another possible reading pathway. And so hypertexts are non-linear in that there is no predetermined single path. The reader is continually confronted with navigational choices. These choices are not hierarchical, with one privileged over another. As a result, conflicting statements can coexist in a hypertext without cancelling each other out. For example, in *afternoon*, a hypertext novel by Michael Joyce, a car crash both is and is not fatal.¹¹ A second related hypertextual stylistic characteristic that arises as a factor of branching links is fragmentation. Because the reading order is not fully controlled, each lexia must stand as a relatively independent entity, capable of being coherent in a variety of reading contexts. To make this comprehension possible, each lexia may contain only one or two main ideas. And so hypertexts tend to become atomized as a result of the shortness of the lexias. The result is

hypertextual webs that are made of many small pieces. What was once 'the text' becomes 'texts.' The effect of the dispersal of the formerly single unitary text into many smaller texts is fragmentation. Fragmentation, however, need not be synonymous with chaos. Although a strictly linear order is abandoned by hypertextual writing, a new order derives from the juxtapositions of the fragments. The fragments that lie in close proximity form constellations of meaning. Another stylistic aspect resulting from fragmentation and non-linearity is that the multiple networking of disparate pieces prevents hypertexts from possessing either a stable centre or a determined end point. Whereas printed books emphasize a teleological frame of mind with a fixed beginning and ending, hypertexts are non-teleological, actively resisting this kind of linear singular arrangement. Creating patterns of lexias, the branching connections of links emphasize the value of the margins. As the reader travels through the hypertextual network, the centre keeps shifting and as a result so do the margins. What is at the centre becomes a matter of perspective, determined as relative to the reader's current position. J. Yellowlees Douglas has written about the possibility of hypertextual closure in fiction and the conclusion that she draws indicates that closure is dependent on the reader's goals – how the text establishes those goals and at what point they can be said to have been fulfilled.¹³ Finally, hypertexts are also permeable. Links can connect any available electronic information¹⁴ and so hypertexts are not bounded between covers as books are.¹⁵ The optimal realization of this interlinked blurring is concretized in the idea of the hypertextual docuverse where all texts would be interlinked electronically.¹⁶ With these identified four principal characteristics of hypertextual style – non-linearity, fragmentation, decentredness and non-teleology, and permeability – the first question is how does the REED Patrons hypertext fulfill or deny these basic characteristics? And secondly, given the placement of the Patrons Web on the spectrum of rhetorical tendencies between print structures and hypertext structures, how do its formal hypertextual qualities support the reader's experience of the data?

Drawing on the diverse entries from the foundational records text in the REED volumes, the Patrons Web is naturally constituted of fragments. Through its database core, the Web is founded on records excerpted from an original manuscript context and reassembled in the volumes still in their fragmentary state. The preservation of these data fragments as fragments is sustained and promoted by the framework of the project as a database composed of thousands of individual records and by the hypertextual organization of linked lexias. Fragmentation here can be seen to be a distinct advantage to the project's hypertextual situation since there is no pressure exerted by the medium to unify, to create a cohesive

pattern. Structural fragmentation permits and encourages the cautious and thoughtful maintenance of gaps in the record.

The relation of the Patrons Web to the red REED volumes also speaks to the characteristic permeability of the hypertext. The first source that the Web draws on is the red volumes with the original manuscript records standing behind. At a number of points inside the Web, reference is made to the page and volume location of the printed record, linking the hypertext to its print ancestor. Ultimately, the seemingly natural extension of this linkage in hypertextual terms would be to make those records available electronically, possibly also with facsimile scans of the original manuscript documents. And although this massive digitizing project is within the sights of REED's organizational thinking, the reality is some ways off.¹⁷ However, at this time, even without full permeability to the records text, the Patrons and Performances Web actively forges connections to selected extant electronically enabled documents. The maps, hosted by the geography department at the University of Toronto, on a different server than the rest of the patrons data archive, are perhaps the most intimate of these crossings. Reaching outside the core site, the performance venue overview pages feature links to official Internet sites, where available, for many venues. On the other hand, quotations on the site use a conventional citation system rather than following targeted links to a whole secondary text. This bibliographic circumscription continues in the print tradition preventing more sophisticated permeability to the docuverse. However, given the current lawless and ephemeral state of the World Wide Web docuverse, the idealistic goal of fully permeable text is perhaps not compatible with academic priorities.¹⁸ In that light, a conscious philosophical decision was made on the part of the editors to attempt to maintain some kind of boundary of scholarly accountability around the REED site. In this way, exhibiting a selective permeability, the Patrons Web is still an early hypertextual endeavour enmeshed in print structures and cultural ideas about print. And until online publication in the hypertextual docuverse reaches the level of respectability accorded to books from scholarly presses this boundary is likely to stay in place.¹⁹

Regarding the stylistic lack of centre or conclusion, the modular geographic organization of the original REED volumes is well suited to the non-teleological non-centred characteristics of hypertext. Few people read the volumes from start to finish. Rather they are grazed. In this manner, the volumes can be seen as proto-hypertexts and as such the migration of the data to a hypertextual decentred medium is quite fluid. The Web (like the books) features an entry page (as do most webs) but from that initial page the options are myriad. Hypertext, where there is no expected conclusion or end page, is ideal in this respect for the REED Web Site directors who intend to continue to expand the Patrons and Performances Web Site in the future as new

volumes are published and new research is made available for inclusion. The hypertext can be published and continually re-published at frequent intervals as fresh data become available without any suggestion of incompleteness.²⁰ In this manner, the three secondary characteristics of being fragmented, permeable and, non-centred and non-teleological merge well with the REED Patrons Web supporting both its content and its development. However, it is the dominant hypertextual characteristic of non-linearity that has the most significant rhetorical consequences for the web site and for the lived experience of the reader.

From this structural situation that shapes the reading experience, hypertexts are commonly described as labyrinthine journeys. The name 'web' is also particularly descriptive of hypertextual non-linearity, conjuring images of spidery networks. Since hypertexts resist the imposition of single meaning delivered in a linear fashion, meaning arises through the organization of these networks and clusters set by the author(s) and through the unpredictable juxtapositions made by readers' choices. In addition to the new ways of reading content through searching, sorting and collecting, made possible by hypertexts, it is also possible to read hypertexts through their structures, through the macro-level arrangements of their links and lexia. Communicative patterns at this level function as hypotexts²¹, lying below the surface of words, generating meaning through structural organization. By tracing the possibilities for reading hypotexts in the Patrons and Performances Web Site, two different kinds of reading experiences emerge – one in which the innate structure of the Patrons Web exposes something that is lost and one in which another aspect of the same particular substructure of this site highlights what is gained.

Joseph Donohue has written on a couple of occasions about the role of computers in the discipline of theatre history.²² In an article on the storage of evidence in an electronic format, he looks at the use of databases and considers the extent to which the medium of data storage effects the eventual interpretation of that data. He asks, 'How does one construct a database of theatre history so as to take into account features of the subject that may not be amenable to description in a database?'²³ The primary inhospitable feature of databases that he identifies revolves around the recording of the performance experience. Donohue phrases the problem this way:

Placed in the context of theatre studies [the] charge is, in plain language, that the computer database of theatrical history does not invoke any of the experiential contexts – artistic, social, cultural – that make the theatre profitable and interesting to study in the first place. That is, computers do not really help us to

get at the real life of the form, the theatre itself, that the database purports to be about.²⁴

Donohue assigns this argument to those who resist coming to terms with the limitations of computing in the Humanities. Critics of the computer database as a research tool target as its primary weakness a failure to reify the theatrical event. They say, 'A computer database is no substitute for experience.'²⁵ Donohue for his part simply asks that as scholars of theatre history we not overextend our expectations of the computer. Whether electronic or print, no secondary communication can adequately represent the lost ephemeral theatrical event. This is one of the basic problems of performance studies in general whether the medium of historiography is printed or electronic. However, hypertext historiography does offer one novel insight into the issue of the lost performance.

Certain types of theatrical historiography come closer to reifying the original object-experience than others, depending on what that original object is. For example, in one very common form of theatrical hypertext – the annotated script – the text under discussion is itself incorporated into the hypertext. And so, both the object of analysis and the analysis share the same constitutive medium. Even in print, literary criticism retains this advantage over performance criticism. In theatre history, the event-object can never share the same medium as the criticism unless the criticism itself takes the form of a performance and even then the original performance still remains inaccessible, locked in the past, unable to occupy the same mediated environment as the assessment. What happens therefore is that the lost performance renders a hole, an inevitable absence, in the centre of any theatrical historiography. Given the pre-eminence of the hypotextual structure as a locus of meaning in hypertextual writing, this hole becomes a defining characteristic for hypertextual historiography. Hypertext historiography, therefore, whatever its other hypotextual characteristics, will always be some kind of a torus, where the critical lexias encircle through their critical linkages the referenced as a central but absent performance.²⁶ In terms of the lived performance experience that is always already lost in the study of theatre history, hypertext writing makes that loss immediately apparent and actualizes the performative lacuna in its structures. So although the reader cannot experience the lost performance, through his active engagement as a reader in the hypertextual environment, he can experience the phenomenon of loss. Through this enactment of loss, the Patrons and Performances Web Site as a representative hypertext reiterates in its structure this characteristic of all theatre historiography.

The experience of the absent performance relates generically to all works of hypertext theatre historiography, but in terms of what might be gained experientially in the use of hypertext to tell theatre history, the REED Patrons and Performances Web Site benefits in a very specific and serendipitous way. In *Writing Space*, Jay David Bolter describes the role of a networked lexia: 'Each paragraph [lexia] has become a unitary sign. Whatever else the first paragraph means as prose, it now has an added meaning as the source of a textual connection, and the second paragraph now takes on the meaning of destination.'²⁷ This rhetoric of the hypertextual docuverse as a series of destinations, a space to be navigated, or a journey to be undertaken, pervades theories of hypertext discourse. But in addition to the individual roads taken, the docuverse can be read as a static map. Every hypertext presents two maps. One is a fixed virtual map indicating all potential reading paths, depicting every lexia and every link out of those lexias. This map, which is often invisible to the reading experience in a hypertext environment by virtue of its vastness and complexity, is the map of the author. The second map is instantiated by the reader. This is the map that arises as the result of a particular reading experience. Both of these patterns – the virtual and the actual – can be analysed for hypotextual significance.

In this constellation, each lexia forms a single unit of meaning, functioning just as a letter or word does. These individual units are strung together in lines or webs to articulate ideas in sentences or in hypertextual environments. Meaning is determined by the spatial relationship of one semantic unit to another. If the printing press is a letter processor, hypertext is a paragraph processor. And so rather than constructing an argument as a lengthy chain, hypertext lends itself more to argument built in related clusters. Unconventional as the building blocks of a scholarly argument, this approach of constructing complex meaning in clusters finds its kin in organic chemistry as the building blocks of life.

David Kolb, in a seminal essay for hypertext theory 'Socrates in the Labyrinth,' attempts to test the idea of an argument constructed in clusters. In the first sentences of this early hypertextual article, he asks, 'Can we do philosophy using hypertext? What kind of work might a philosophical hypertext do?'²⁸ This essay (and its hypertextual ancestor) asks the same questions about history, and specifically about theatre history, and so Kolb's insights are central. On the one hand, the simple lexia is too small to develop a complex argument. The granularity of content at the lexical level 'makes it difficult to show two units co-constituting each other.'²⁹ Yet on the other hand, the web at the macro-level is too detailed to read, too vast. The map structure is too dense. What Kolb ultimately suggests is the employment of meaningful structures which exist at a level above the individual lexia and below the total map of the

docuverse, using what he calls 'intermediate forms' to construct arguments. 'We need to understand better the ways in which links and paths can enact forms and figures...that bring pressure to bear on the "internal" being of individual lexias.'³⁰ Beyond this intriguing invitation, Kolb himself, however, does not engage in a specific discussion of what these intermediate forms or structures might be.

By organizing lexias into clusters, short linear paths, circles or other rhetorical patterns yet to be devised, hypertextual meaning shifts away from the individual lexical units. Meaning is translated to a higher order. The patterning of arguments determined by intermediate structures creates a kind of meta-criticism. Criticism still exists at the lexical level but it is overlaid by a second set of cues for reading meaning. So although we live in what Jay David Bolter calls 'the late age of print,'³¹ here in the infancy of hypertextual writing, it is difficult to say exactly what this will entail. To some extent, this new mode of communication functions similarly to reading the argument of a print essay purely from its paragraph structure. Does it proceed linearly? Or does it present two options, evaluating one against the other? Or is it circular? If the pattern is sufficiently complex it can possess an autonomous meaning, transmitting messages in spatial metaphors. Residing at the level of intermediate forms, just below the overall macro-structure of the docuverse, meaning can be designed and discerned among the patterns of links and lexias. To date, this kind of spatial metaphor has been used primarily in works of hypertext fiction. In Shelley Jackson's *Patchwork Girl*, one section of the non-linear narrative is structured spatially as a quilt with multicoloured lexias generating their own patterns.³² These patterns not always apparent at the surface invoke a 'meta-sense of pattern recognition.'³³ Swimming just below the surface of the large scale Web structures, these patterns form a hypotext. To effectively write/read hypertext, both authors and readers will need to develop a secondary literacy, to be aware not only of the meaning embedded in the lexias but in the hypotextual meanings created by the links.

'No fixed center, for starters – and no edges either, no ends or boundaries. The...line vanishes into a geographical landscape or exitless maze, with beginnings, middles and ends being no longer part of the immediate display.'³⁴ Robert Coover picks up the common analogy of hypertext as a maze or labyrinth and aligns it here with the 'geographical landscape.' This is where the non-linear aspect of hypertext connects on a thematic level to the geographic organizing principle of the REED Patrons and Performances Web Site. In the REED site, a strong metaphor of journeying through geography pervades the hypertext, fusing the content to its structure. Branching pathways from lexia to lexia mimic the criss-crossing tours of the players across England. At the level of the fixed author-structure, the overall patterns of both the

hypotextual structure and the data adhere to the map metaphor. At an intermediate level located in the reading experience, however, both the lexical structures and the data become linear. The reader moving through the Web experiences a linear journey. Likewise, the scholarly reader works to trace a linear path in the attempt to reconstruct the travels of itinerant performers. In this manner the two maps coexist. Linear threads will emerge as the players' itineraries are developed, but the overall structure continues to be map-like in its tracery of linkages.

The maps included in the REED Patrons Web are central to the web's structure and to its philosophy. Geography has always been an organizing factor in the REED project, through the assignment of editors and the production of the red volumes of performance records. The covers of each volume replicate the county divisions, creating boundaries amongst the data. By transferring the patrons data to a hypertextual format, it is possible to transcend these particular geographical limits. And yet, there is no escaping from geography. On the one hand, the project as hypertext breaks down arbitrary boundaries by enabling searching across geography – and so the travels of Leicester's men as they trooped across the country can be accessed easily without resorting to browsing multiple volumes of records. On the other hand, because the focus of the project is touring, that is, travelling through geography, geography remains a central theme. Geography in the form of maps is the central organizing motif of the Patrons and Performances Web. The map both in its incarnation as a physical entity reproduced through interactive and antiquarian maps and as a structuring principle of the reading experience pervades the project.

The map metaphor which is so frequently applied to hypertexts is very exciting in conjunction with the REED Patrons and Performances hypertext because the maps are not merely a metaphor. This aspect of the data is transmitted through the hypertextual structure of the data in the web. Maps also structure the patrons database side of the web. Patrons as individuals are also keyed to geography through their land holdings, regional offices, and through the journeys of their players. At a thematic level, the REED Patrons and Performances Web Site with its affinity for maps and journeys is a perfect match for hypertext with its linked lexical destinations and readers navigating branching journeys. The details of the individual performance events and performance venues function as stops in a journey like lexias in a web. The idea of journeying through a field of information is replicated in the journeys of the players. This lived kinship between the original theatrical events under study and the mode of representing the fragmentary data concerning those events helps to defray the charge that works of theatre history and databases in particular are unable to reify history. Here, the reading experience doubles the original journey.

Reading and writing with an awareness of the underlying hypotextual structures and the sense that everything is connected and that meaning resides in those connections instigates a kind of 'creative paranoia.'³⁵ Meaning resting in the links between the lexias encourages readers to connect the dots, to create constellations out of seemingly random groupings of stars. In a lexia called 'speak memory' from *afternoon*, Michael Joyce tries to describe the experience of accumulating knowledge:

<That's not true, I swear. It is simply that there is more now to know, all these indices pointing somewhere, and the thing becomes a web. You feel the vibration as something snags itself and then crawls, tortuously, expectantly out to the margins.>

<It is like music, when you write like this, all the interconnected notes, the counterpoint.>³⁶

¹ Herodotus, *The History*, David Grene, trans. (Chicago: University of Chicago Press, 1987), 33.

² This article itself was originally conceived and executed as a hypertext, comprised of approximately 100 multiply linked text segments. The 'unravelling' of this work into a strictly linear traditional print form has had a significant impact on the thesis which attempts to illustrate the communicative potential in the unique interdependent relationship between form and content in electronic media. So whereas in its previous form, the text was able to both show and tell, it is now limited to simple telling.

³ Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change: Communications and cultural transformations in early-modern Europe*, 2 vols (Cambridge: Cambridge University Press, 1979); Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man*, (Toronto: University of Toronto Press, 1962); Walter J. Ong, *Orality and Literacy: The Technologizing of the Word* (London: Methuen, 1982). Although Eisenstein, McLuhan and Ong all describe a profound impact of the technological revolution in communication on the intellectual and cultural development of Western society, they take opposing stances regarding the causal relationship between the new technology and subsequent cognitive change. Whereas McLuhan and Ong are technological determinists, seeing new forms directly affecting meaning ('the medium is the message'), Eisenstein perceives print technology as augmenting or distorting already extant intellectual characteristics. Rather, it was the speed and the scope of

change in the arrangement and dissemination of knowledge made possible by the advent of the printing press that acted as a social catalyst.

⁴ The site can be accessed from its home page located at <<http://link.library.utoronto.ca/reed/>>.

⁵ At this early stage in its development, the state of electronic publications in the field of theatre history is very like a toddler – energetic in its diversity but unrefined in its presentation. The scholarly sites take a variety of forms. The most basic uses are encyclopaedia-type sites (Perseus digital library <<http://www.perseus.tufts.edu>>, image collections, and gateways, e.g. *Mr William Shakespeare and the Internet* <<http://shakespeare.palomar.edu>>) and electronic journals (*Early Modern Culture* <<http://eserver.org/emc/>> and *Renaissance Forum* <<http://www.hull.ac.uk/renforum/index.html>>). Both of these types present material in a predominantly linear fashion using links for footnotes and for navigating between static pages. Annotated texts offer a more sophisticated use of hypertextual technology, applying the linking ability of the web to create multiple non-hierarchical editions (among the best of these are the *Internet Shakespeare Editions* <<http://ise.uvic.ca>> Michael Best general editor). In this company, the REED Patrons and Performances Web Site is certainly at the forefront of the field in terms of the integration of hypertextual capabilities to make possible the presentation of original data.

⁶ For example, in the *Lancashire* volume, the records showing the extant sections of the journal of Nicholas Assheton which recount the visit of James I to Hoghton Tower in August 1617 immediately precede the 1581 will of Alexander Hoghton providing consideration for several players then living in his household, including one 'William Shakshafte' (George, ed., *Lancashire*, 154–6).

⁷ In the fall of 2004, the data migrated once again from MS Access to a new database management system called MySQL. As the vehicle responsible for handling all the site requests, this new system is better suited to manage greater amounts of data as the web site expands both its content and user population. My thanks to Sian Meikle for her explanations of these technical issues.

⁸ Currently, the venue pages can only be searched directly by 'name.' However, because of the database substructure of the venues pages, the potential exists for future expansions of the search capability to include the sorting of performance venues by particular characteristics such as size or other architectural features.

⁹ Theodor Holm Nelson, *Literary Machines: The report on, and of, Project Xanadu concerning word processing, electronic publishing, hypertext, thinkertoys, tomorrow's intellectual revolution,*

and certain other topics including knowledge, education and freedom (South Bend, Indiana: Distributors, 1981), 0/2.

¹⁰ Roland Barthes, *S/Z*, Richard Miller, trans. (New York: Hill and Wang, 1974), 5–6.

¹¹ Michael Joyce, *afternoon, a story* (Environment: Storyspace. Watertown, MA, Eastgate Systems, 2001)

¹³ J. Yellowlees Douglas, "'How do I Stop This Thing?": Closure and Indeterminacy in Interactive Narratives,' *Hyper/Text/Theory*, George P. Landow, ed. (Baltimore and London: Johns Hopkins University Press, 1994), 159–88.

¹⁴ If the hypertext is made 'live' and uploaded to the Internet, then any item on the World Wide Web could be incorporated into any other text.

¹⁵ Despite the boundaries of a book's covers, which appear on the surface to promote a closed environment, Foucault observes this quality of permeability through connectedness in printed books: 'The frontiers of a book are never clear-cut' because 'it is caught up in a system of references to other books, other texts, other sentences' (*The Archaeology of Knowledge*, A.M. Sheridan Smith, trans. (London: Tavistock Publications, 1972), 23). So, whereas the physical entity of a book suggests self-containment, the understanding of its signs presupposes links with other signs and other texts. In general the distinctions between reading structure in books and in hypertexts are far from absolute, since the differentiating characteristics of hypertexts do sometimes manifest in books. One such example is *Hopscotch* by Julio Cortázar (Gregory Rabassa, trans. (New York: Pantheon, 1969)) which offers different reading paths among the numbered short chapters. And print characteristics do also leak into hypertexts. A single lexia is often an uninterrupted linear block presenting a traditional reading experience within each segment.

¹⁶ The term 'docuverse' – a universe of documents – was coined by Theodor Nelson (*Literary Machines*, 4/15) as part of his conceptualizing of the Xanadu project, the goal of which was to collect all available electronic information in one place. Currently, the most comprehensive docuverse exists in the World Wide Web. But despite the extensive nature of the content accessible on the Internet, the ideal of a complete docuverse encompassing all materials, past and present, in an immense electronic library, is a long way from realization.

¹⁷ Recently, REED has struck an electronic text subcommittee to generate a blueprint for this digitizing project. Beyond the primary obstacles of the cost of such a project and the need for increased staff with electronic expertise, hypertext mark-up protocols will need to be developed to preserve the detailed orthographic, linguistic and historical data embedded in each record.

See James Cummings' essay 'REED and the Possibilities of Web Technologies' in this collection, pp 000–00.

¹⁸ 'Link rot' (broken links resulting in a 'page not found' message) is a significant problem for hypertextual publications that take advantage of this characteristic of permeability and reach out to external sites. The World Wide Web is a shifting landscape and sites which are viable on one day, may disappear the next.

¹⁹ It is a very realistic possibility that hypertextual permeability will never reach the zenith of its stylistic promise. Whereas the unlegitimized nature of much online material is an obstacle to the scholarly confidence that we place in printed books, the 'lawlessness' of the web is to many one of its most attractive and positive characteristics. However, I can imagine at some future point that other alternate docuverses may come into being and that these might be subject to gate-keeping in the same manner as the contemporary print publishing industry.

²⁰ This characteristic of non-centredness applies to the catholicity of the documents published by REED as a whole. See Tanya Hagen's 'Thinking Outside the Bard: REED, Repertory Canons, and Editing Early English Drama' on REED's role in the development of alternative dramatic canons beyond Shakespeare and beyond authorship. In contrast to the non-London, non-Shakespeare orientation of the accumulated records, the image of Shakespeare on the Patrons and Performances Web Site home page linking to the Shakespeare 'feature' performs the opposite function by overtly aligning REED with this symbol that marks the 'centre' of early modern theatre history.

²¹ 'The way nodes are divided to accommodate the data structures and display strategies, or the types of linkage available and the ways they are apparent to the reader.' Stuart Moulthrop, 'You Say You Want a Revolution: Hypertext and the Laws of Media,' In Eyal Amiran and John Unsworth, eds., *Essays in Postmodern Culture* (New York and Oxford: Oxford University Press, 1993), 87.

²² Joseph Donohue, 'Evidence and Documentation,' Thomas Postlewait and Bruce A. McConachie. eds., *Interpreting the Theatrical Past: Essays in the Historiography of Performance*, (Iowa City: University of Iowa Press, 1989), 177–97. 'Theatre Scholarship and Technology: A Look at the Future of the Discipline,' *Theatre Survey* 22.2 (1981): 133–9.

²³ Joseph Donohue, 'Evidence and Documentation,' Thomas Postlewait and Bruce A. McConachie. eds., *Interpreting the Theatrical Past: Essays in the Historiography of Performance* (Iowa City: University of Iowa Press, 1989), 187.

²⁴ Donohue, 'Evidence and Documentation,' 189.

²⁵ Donohue, 'Evidence and Documentation,' 190.

²⁶ A torus is a geometrical object resembling a doughnut. In its original hypertextual form, this article was importantly in one sense not a doughnut in that the primary object under discussion is itself a hypertextual object, the Patrons and Performances Web Site. However, the Patrons Web is a torus, manifesting the ephemeral medieval and Renaissance performances at its core as absent. And so from that point of view, the hypertextual version of 'Herodotus in the Labyrinth' was also a doughnut.

²⁷ Jay David Bolter, *Writing Space: The Computer, Hypertext, and the History of Writing* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1991), 60.

²⁸ David Kolb, 'Socrates in the Labyrinth,' George P. Landow, ed., *Hyper/Text/Theory* (Baltimore and London: Johns Hopkins University Press, 1994), 323. Although the citations to Kolb's article here refer to a printed version of this work, 'Socrates in the Labyrinth' was first published electronically using Storyspace, a primitive hypertext authoring system which predates the widespread use of HTML.

²⁹ Kolb, 'Socrates in the Labyrinth,' 333.

³⁰ Kolb, 'Socrates in the Labyrinth,' 336.

³¹ Jay David Bolter, *Writing Space: The Computer, Hypertext, and the History of Writing* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1991), 2.

³² Shelley Jackson, *Patchwork Girl* (Environment: Storyspace. Watertown, MA, Eastgate Systems, 1995)

³³ Stuart Moulthrop, 'You Say You Want a Revolution?: Hypertext and the Laws of Media,' Eyal Amiran and John Unsworth, eds., *Essays in Postmodern Culture* (New York and Oxford: Oxford University Press, 1993), 82.

³⁴ Robert Coover, 'The End of Books,' *New York Times Book Review* (21 June 1992): 23.

³⁵ This phrase originates in Thomas Pynchon's *Gravity's Rainbow* (New York: Viking, 1973), 638. Since then it has been widely circulated in writings about hypertext theory as a particularly apt description of the overstimulating experience of living life in hypertextual environments.

³⁶ Joyce, 'speak memory.'