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Leaders: Paul Budra, Simon Fraser University;
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Rebecca Bushnell, University of Pennsylvania

Gesture and Performance in Virtual Reality

In 1997 Janet Murray entitled her prescient book, on “the future of narrative in cyberspace,” *Hamlet on the Holodeck*. Her opening example comes from a fantasy virtual reality performance of a romance narrative staged in *Star Trek Voyager*, but she ends by considering whether “cyberdrama” can become theater like Shakespeare’s. Murray is primarily with the interaction between cybernetic authorship and agency and with drama as narrative; in contrast, I want to speculate what it would be to *perform* Shakespearean drama now in virtual reality, investigating the interface between the playing space, the playing body, and the virtual world. The connection between the player’s body, the controlling technology, and the player’s avatar in videogames has been described in terms of the function of a prosthesis, where the technology and the avatar both extend as the “prosthetic proxy embodiment” of the player. Game theorists have also drawn on ideas of embodied cognition or “projective embodiment” to describe this effect, invoking Maurice Merleau-Ponty’s work on the phenomenal body and Martin Heidegger’s discussion of tool use in *Being and Time*. Inspired by work done by Katherine Rowe and Farah Karim-Cooper on hands in early modern performance, I will focus on the function of the hand in virtual reality games (as it is now commercially available through the Oculus Rift with Touch controls). With the current affordances of VR, what are the performative implications for the hand’s function as both an instrument and a means of expressive communication?

Amy Cook

**Interfacing with Casting:
how casting builds character in Shakespeare**

It was Helen’s face that launched the ships and it is the face that we call the person. The face is a compression of the person to a part: all we need is a face to recognize grandmother or Tom Hanks. The face, like the name, gives us a character anchor. The process by which we compress and categorize a whole into a more manageable part is similar to how we unite the factors of casting into a unit that facilitates and encourages interaction. I focus on the face in order to locate biological analogs to the process of casting. My argument is that the research on how we process faces, and what happens when we fail to process them, gives us a way to understand casting not as a creative matching between actor type and character type but rather as a cognitive process of categorization. Most of us are extraordinary readers of faces and film directors count on this to decrease the cognitive load of making sense of Shakespeare: Anthony Hopkins baring his teeth in the trailer for *Titus* gives us far more character and plot information than trying to explain the play. As a medium of Shakespeare’s characters, film focuses on faces. I would like to spend some time with the faces that have played Shakespeare’s parts in films and how the director conducts the attention and interpretation of the audience through these casting choices.

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Christy Desmet

Facsimile, Interface, and Pedagogy in the Folger Digital Texts

When I teach Shakespeare these days, I generally use the Folger Digital Texts, either as the sole classroom text or as a resource for specific exercises. But while I have thought a fair amount about the affordances and constraints of such online editions as databases + search engines, and as narratives vs. databases (Lev Manovich's formulation), I've not looked specifically at the role played by digital interfaces. In online editions, interface mediates between reading and search behaviors; at the same time, the power of the printed page as organizing schema remains strong. In this way, online Shakespeare texts are positioned, aesthetically and functionally, between the computer interface and the tradition of facsimile texts. Recent developments in the Folger Digital Texts add a new wrinkle to the reader's experience of them. Readers can now choose among a variety of formats, such as PDF, HTML, XML, and plain Word Doc. These new formats interrupt what Michael Ulliot has called the FDT's "bookish appearance." Will the text become more fluid in these new formats, or will the aesthetic urge for a bookish facsimile still guide readers of online texts?

Patrick Finn

Interface, Interface, Interface: *Hamlet*, Media, and Cognition

My paper explores the background of 'Shakespeare, media, interface, and cognition' using *Hamlet* as a guide. The *OED* records the word "interface" entering the English language in 1882 as a scientific term referring to a barrier between two areas of the same substance. Interface as described in our seminar did not appear until 1962. It arrived in Marshall McLuhan's *Gutenberg Galaxy*, "the interface of the Renaissance was the meeting of medieval pluralism and modern homogeneity and mechanism." Interface as a verb, came five years later, again through McLuhan. In, *The Medium is the Massage*, he says, "a strange bond often exists among antisocial types in their power to see environments as they really are. This need to interface, to confront environments with a certain anti-social power, is manifest in the famous story 'The Emperor's New Clothes'." The word "media" appears in 1841, again as a scientific term describing blockage. It did not hold its current meaning until 1923 when it appeared in an article on advertising strategy. James Joyce's *Ulysses* (1921), captures the transition when Leopold Bloom, the first "adman" in English literature says, "There's a medium in all things," while describing balance, and transference related to gifts and favours. "Medium" entered the English language while Shakespeare was in school in Stratford, carrying the Latin root's description of a fluid meeting place. Exploring *Hamlet*'s epistemological frame, and etymological trajectory, my paper questions the idea that separation is an ontological norm requiring interfaces and media to traverse barriers.

Janelle Jenstad

Remediating the Play: Stage, Print, Code, Interface

I am currently engaged in designing a new digital repository, codebase, and interface for the Internet Shakespeare Editions. ISE3 is a complete re-architecting, re-encoding, and remediation of the ISE, DRE, and QME old-spelling texts, critical materials, modern texts, critical apparatus, digital surrogates, and supplementary materials. The process is merely the latest in a long series of remediations that make up what Alan Galey has called the “Shakespearean Archive.” Performances were remediated as single-volume playbooks, which in turn became folio-sized collections and editions in various sizes. Print was transformed into binary code and marked up with tags. Code was remediated via processing instructions and rendered on screens. This paper is therefore in part a reflection on how digital remediation might learn from past remediations about the limitations and opportunities of new media: what do we gain and lose when we change the medium that bears witness to the work? More specifically, however, I will take the opportunity presented by this seminar to set out the challenges of, and possible approaches to, building a better interface for the ISE. I take the ISE as my case study, whose editorial guidelines still imagine the projects’ readership as the 1990s netizen. I argue that the digital edition has its own form of “barbed wire” (in Wilson’s infamous phrase)—reading rooms and multiple clicks that frame and defer access to the text. How—and how much—do we want the interface to mediate access to the text and resources of the digital edition? The mise-en-page of the screen—consisting of menus rather than tables of contents, breadcrumb trails rather than running titles, tool boxes rather than indices and glossaries, mouseovers rather than marginal notes or footnotes, footers instead of acknowledgements, and metadata instead of cataloguing information—is dynamic. Where we render and how we generate the bibliographic codes in our digital interface matters in that they instantiate a particular kind of reading experience. I also set out some principles for encoding (markup) that give us maximum flexibility and computation power at the time of rendering: (1) tell the truth in encoding; (2) because encoding is a form of descriptive bibliography, we must not code with an eye on rendering; and (3) do not omit in encoding anything you will later rely upon in your rendering.

Laurie Johnson

Internal Time, Distributed Time, and Cognition in the Playhouses

Edmund Husserl’s phenomenology of internal time-consciousness has only recently become popular with thinkers seeking to explain how early modern audiences experienced time, how (or if) this differed from modern time, and how Shakespearean play texts engaged with or shaped this experience. For Husserl, people are only conscious of time by virtue of internal retention of things past and protention of things to come; time can never be isolated as an external object possessing qualities that are separate from each person’s intentionality towards it or perception of it. With recent developments in the study of early modern playhouses as distributed cognitive systems, the problem of applying Husserl’s work on internal time-consciousness is exacerbated: how can we speak of internal consciousness within a system in which cognition is distributed among (and therefore extended between) both participants and properties? I have described

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elsewhere how early moderns understood consciousness in a fundamentally distributed fashion courtesy of the principle of *theatrum mundi*, for which the apposite maxim is “*of that which I am conscious, I am also a piece*” (Johnson in Budra and Werier, 2016, 135). In this paper, I want to begin to explore ways in which early modern plays and playing shaped the audience’s experience of time. It strikes me that if consciousness was understood by the early moderns to be distributed, then there is no system as such to speak of that may set the early modern theatre apart; yet I propose that by identifying the way time was manipulated and distributed in the playhouse, we can begin to glimpse a distributed cognitive system at work, in which audiences are drawn out into a field of external time-consciousness, as it were. One example of a temporal cue that has puzzled me, but which may participate in shaping time-consciousness, is in the regular use of “two o’clock” as the time of day in *I Henry IV*, despite the abundance of action in the interim—does Shakespeare’s play frequently wipe and reset dramatic time according to a notch on the clock that would also have signalled the time of commencement of the play?

Gabrielle Linnell

Mapping minds:

Navigating interfaces with *Theatrum orbis terrarum* on the Folger digital image repository

Contemporary encounters with a seventeenth-century map like the ones found in Abraham Ortelius’ *Theatrum orbis terrarum* (1606) will likely take place on a screen, framed by the interface of a digital repository for rare materials. The Folger Shakespeare Library’s own STC 18855 has been digitized and available through its LUNA image repository. Readers can scroll, zoom in, examine the color of the framing border against the color dotting many of the cities listed, while referring back to the column of metadata on the left-hand side of the image viewer and scrolling down to read the provenance information that locates the physical book within a history of making, selling, and buying across the very continents described within the object adjacent. The LUNA interface becomes a map of a map, presenting a (virtual) page of two dialectics in tension with each other even as both require navigation on the part of the reader. Taking the Folger’s digitized Ortelius as a case study, this paper seeks to first situate the early modern map and its digital interface as parallel entities in the same knowledge-producing framework; they function as a form of the “extended mind” and through the use of color, icon, line, and paratext, constitute particular forms of spatial imagination. Second, and briefly, I will consider how this joint understanding of early modern map and image viewing interface as participating in the same activities, might change the ways that interfaces for such objects should be designed.

Rebecca Munson

The Stuff of Thought:

Annotated Plays, Data Modeling, and Cognition

Attention is an expensive commodity. We live in an age of distraction, a time of “information overload”, which, as critics like Ann Blair have demonstrated, shares much with the early modern period. Shakespeare’s contemporaries, too, were overwhelmed by having “too much to

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know” and devoted time to structuring and managing the information the encountered in resources like diaries, journals, and commonplace books. Shakespeare’s plays proved no exception as, at every stage in their lifecycle—commission, composition, rehearsal, production, publication, circulation, interpretation—they were treated first and foremost in parts. The underlying contention of this paper is that not only did readers and audiences alike find meaning through the breaking and rendering of Shakespeare, but that structuring meaning itself was an epistemological and therefore inherently ideological act. An inquiry into partiality must, however, begin and end with the concept of attention. Attention is given selectively, partially in all senses, and studies of the ways in which Shakespeare is broken facilitate analyses of *who* was paying attention to *what* and *when*.

Attention is a property of consciousness and it is controlled and directed by both structures of thought and the interfaces of mediated objects. “Interface” is a term most readily associated with recent technologies; in fact, the digital object can be characterized as the result of the user’s attention, called into being by human cognition and just as soon lost by it. Digital objects are not static but are, in the words of N. Katherine Hayles, “constantly changing assemblages” that tend toward entropy. As a theory of the text this assertion is almost the inverse of Walter Ong’s claim that “writing restructures consciousness”; consciousness, we might say, restructures writing. This paper investigates attention as the juncture of writing and consciousness, of text and reader, to discuss how early modern theories of attention accounted for the kind of “information overload” experienced by Shakespeare’s readers and how that, in turn, manifested in their reading habits. It analyzes early annotations in Shakespeare’s printed plays and approaches them as material traces of attention that can help us understand the role of interface—in printed and digital incarnations—in harnessing, directing, and recording attention. It concludes by reflecting on the implications of this in building digital interfaces that either display previous annotations or enable new ones.

Richard Preiss

Expectation and Expectoration in 2 *Henry IV*

Rather than explore the cognitive dissonance introduced by the translation of early modern plays into other media, this essay, like the larger project from which it derives, attempts fully to problematize the media environment of early modern performance itself: in particular, the structuring and destructuring effects of watching plays in repertory. The nature of repertory theater dictated that plays were experienced – and, crucially, were written to be experienced – seldom just once, but multiple times, by repeat audiences, across discontinuous enactments whose cumulative force may have exceeded their sum; every play was “intertheatrical,” in the sense that it not only recycled material from other plays (scenarios, plot devices, character types, phrases, etc.), but quite literally recycled itself. Shakespeare’s history plays inhabit a complex relationship to this phenomenon: as two sets of tetralogies, they follow a more or less organic narrative trajectory, and depend upon sequential viewing; at the same time, if the records in Henslowe’s *Diary* reflect standard industry practice, they would have been subject (or at least adaptable) to non-consecutive, often randomized reperformance. In many ways, *2 Henry IV* (c. 1598) straddles the fulcrum of these ambiguities. While it could count on most playgoers to be

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broadly familiar with the plays of the First Tetralogy (Parts 1, 2, & 3 of *Henry VI*, *Richard III*), they might not have yet seen its immediate predecessor, 1 *Henry IV* – but would nonetheless have remembered from the Queen’s Men’s *The Famous Victories* (and from popular history) the narrative arc that would terminate in its immediate successor, *Henry V*. Thanks to the recirculative operation of repertory, moreover, they might at some future date *go on* to see any of these earlier and later plays – or later and earlier – in unpredictable order. Both sequel (to 1 *Henry IV*) and prequel (to *Henry V*, but also to the *Henry VI* plays, *Richard III*, *Richard II*, 1 *Henry IV*, and thus, inevitably and paradoxically, to itself), 2 *Henry IV* comes to be about this problem of anticipating the future from a past that renders it simultaneously unknowable and already known; the most thoroughly interstitial of Shakespeare’s histories, it thematizes and epitomizes the estranged condition not just of those histories but of all early modern theatrical performance – in which, precisely by virtue of its iterability, every play is disidentical with itself. This paper investigates the forms that knowledge takes in 2 *Henry IV*: in its phenomenological aversion to the present tense; in its obsessive structures of verbal and spatial repetition; in its self-conscious engagement with circular dramatic economies; and most pointedly, in the figuration of its own recapitulative narrative work as bodily reflux, liquefaction, regurgitation, and re-ingestion.

Michael Ullyot

**“Wear your eyes thus”:
Toward a Cognitive Ecology of VR Shakespeare**

How will immersive virtual reality (VR) cognitively affect the audiences who interface with it to interpret Shakespeare performances? Current theories of performance and cognition are based on theatre and film audiences, but VR performances combine features of both media: a disembodied spectral presence, like a theatrical audience; and a flexible range of locations and vantage points, like a film audience. This paper imagines how VR might adapt a sequence from Orson Welles’ 1952 film *Othello*. It asks not only what would be lost and gained in the transition, but what cognitive ecology results from a medium that limits our interaction with and our movements within a performed narrative.

Lina Perkins Wilder

**Fully Charactered:
Sense Perception and Text in Sonnet 108**

This essay explores Helkiah Crooke’s theory of sense perception in relation to early modern audiences’ memories of performance. There are relatively few detailed records of early modern performances, a fact that I connect to the principle in performance studies that performance is that which “disappears into memory.” For Crooke, sense perception operates through a process of gradual de-materialization:

Imagination . . . conceyueth, apprehendeth and retayneth the same images or representations which the common sense receiued; but now more pure and free from all

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contagion of the matter, so that though those things that moue the senses be taken away or other wise do vanish, yet their footsteps and express Characters might remain with vs. And this conception or apprehension we call *Phansie*.

The “footsteps and express Characters” are literal *impressions* (thus, *characters*), engraved absences stamped into the surfaces of the brain. This elegant cognitive model suggests a way of conceptualizing the sensory experience of performance and its traces in memory and in the textual record. What is left behind is the absence of the thing itself.

In Shakespeare’s plays, *character* generally refers to external rather than internal impressions: written *characters* tend to function as record or evidence; metaphorical characters—such as the Captain’s “fair and outward character” in *Twelfth Night*, which is contrasted with his “mind”—are also external marks. In some ways, this seems like the opposite of what Crooke is describing: it is the archive, in Diana Taylor’s terms, rather than the repertoire. However, I will suggest that these records in fact take the form of absences akin to those imagined by Crooke, and I will link these to the idiosyncratic records of performance left behind by Thomas Platter, Simon Forman, and others.