

**Introduction:
Reinventing Shakespeare in the Digital Humanities**

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1 Analog Voices in a Digital World

Shakespeare tends to be a strange attractor for information technology. Many decades before our present era of proliferating digital media and ubiquitous computing, Orson Welles and Roger Hill speculated that teachers of English literature might take the radical step of using recording technology in Shakespeare classrooms:

It is of course axiomatic that all poetry, and particularly all Shakespeare, was meant to be read aloud. So many teachers are incapable of reading Shakespeare aloud [...] that classroom renditions are doomed before they start. There is a considerable and growing library of phonograph recordings which are tremendously helpful. Gielgud, Barrymore, Ainley, and Forbes-Robertson readings of many Shakespearean parts are available. Columbia has now recorded almost a complete version of the *Mercury [Theatre]*'s current production of *Julius Caesar*. This type of material has found wide use in speech classes where, because of presumably expert instruction, it is little needed. It has failed to reach into the thousands of English classrooms struggling with murdered pentameter.

This is a pity. (468)

This early speculation on technology in the Shakespeare classroom was published in 1938, the same year that Welles perpetrated his wildly successful broadcast-radio Hallowe'en prank *The War of the Worlds*. (Only three years later he would create the film

that reinvented film, *Citizen Kane*.) Welles could therefore claim to know a thing or two about the effective use of new media, and despite the article's disparaging references to "murdered pentameter," teachers did take the suggestion to heart. Following up a year later, Samuel Weingarten, an English professor at a junior college, wrote that phonograph recordings had created "an interest in Shakespeare's plays as 'shows' by bringing the theater into the classroom" (57). The phrase *new media* was not in the late 1930s the value-conferring label it has become today—presumably this teacher likely felt none of the administrative pressure to invent uses for some new "phonograph lab" that Jeremy Ehrlich describes in this collection—but such moments make up the prehistory of our own digital present.

New media frequently stage encounters with old media, and with surprising frequency Shakespeare supplies the script. In 1938, just one year prior to Welles and Hill's suggestion to bring Shakespeare records into the classroom, the Smithsonian Institution in Washington D.C. staged the playback of what was believed to be the first surviving sound recording. The occasion was the opening of a box containing a prototype phonograph and documentation that had been deposited with the Smithsonian in 1881 by Alexander Graham Bell and his collaborators as insurance against any patent challenge from (or against) litigious competitor Thomas Edison. Newspaper accounts tell of the flawless playback of the long-sealed wax cylinder, from which emanated the words Alexander Graham Bell had recorded in 1881: "There are more things in Heaven and earth, Horatio, than are dreamed of in your philosophy [*sic*]," followed by an in-joke about their competition with Edison's design, "I am a graphophone and my mother was a phonograph" ("Original").¹ As in the example of Welles and Hill's suggestion, recording

technology and the Shakespeare text serve here to invest each other with authority: Shakespeare's ghost in the machine. The power of that connection in the cultural imagination was not lost on the Dictaphone Corporation, who soon after referred to the Smithsonian demonstration in vivid advertisements for its own office recording devices based on Bell's patent. Bearing the caption "The voice that was buried for 56 years," and opening with the recognizable *Hamlet* quotation, the ad copy's emphasis on the fidelity of the long-lost recording plays on the desires attending technologies that mediate cultural materials: to feel under our feet a secure bridge between historical events—to feel our present confirmed by our past.

From policing pronunciation in American classrooms to shilling for an office supplies company, the technologically remediated Shakespearean voice had become appropriated, contested, and reinvented even by the late 1930s. The small cluster of events described above happened a full decade before the first true electronic computer went into regular use after World War II, and a good forty years prior to the personal computer revolution that has shaped the experience of computing for most of us now. The legacy of early analog recording technology, however, serves to remind us that all new information technologies encounter Shakespeare within a long continuum of reinvention. As Gary Taylor asserts in the opening of his cultural history of Shakespeare, reinvention in various forms was likely a staple of the actor and playwright's professional life, and "we have been reinventing him ever since" (4). This continuum of Shakespearean reinvention has always manifested itself in ambitious textual projects just as much as in performances, beginning with the Pavier quartos and achieving an early landmark in the 1623 First Folio—itsself a risky and exciting publishing venture in a new

medium (the folio volume of collected plays), not unlike many of the digital projects described in the articles that follow.

Just as information technologies lay claim to Shakespeare as privileged content, so does the complexity of Shakespeare's texts prompt us continually to rethink concepts like *content*, *medium*, *record*, and *performance*, and to juxtapose the spaces where Shakespeare's influence can reach: theatre versus classroom; archive versus computer lab; museum versus corporate office. The articles in this special issue of *Shakespeare* all enact these reciprocal relationships in various ways, and offer fascinating insights into the productive entanglements that digital Shakespeare brings. Indeed, interpreting the historical and cultural significance of the application of digital technologies to Shakespeare's texts requires a breadth of perspective that resists compartmentalization into media history, performance studies, humanities computing, library and information studies, editorial theory, cybercultural studies, or literary criticism. The ubiquity of computing in all our professional engagements is productively matched by the diversity of people who identify as "Shakespearean." The perspectives offered here collectively examine how digital technology is increasingly a major force behind the reinvention of Shakespeare in the present.

2 Why Digital? (and Why Shakespeare?)

The phrase *digital Shakespeare* invites questioning, linking as it does two cultural phenomena freighted with myths of exceptionality: on one side, we have the received notion of Shakespeare as the singular creative genius, whose works allegedly transcend the confines of his historical period, education, language, class, religion, and profession;

mirroring this supposed Shakespearean singularity, we have the received notion of digital technology itself as a radical break from past forms, supposedly liberating the human record from the constraints of materiality, narrative linearity, intellectual property, and traditional models of authorship. Both claims to exceptionality deserve interrogation. What does it mean to take familiar terms like *Shakespeare* and *humanities* and prefix them with the broad keyword *digital* (as was fashionable with *cyber-* and *hyper-* a decade ago)? For now, the word *digital* still signifies something new, but what exactly? Given that the present generation of undergraduate students has grown up with the Web, cell phones, ubiquitous wireless networks, and other digital technologies as perfectly natural features of their landscape, there will certainly come a time—if it is not here already—when the adjective *digital* ceases to mark anything exceptional.

Since the book never had an exclusive claim on Shakespeare's plays, they have never fit neatly into successionist narratives of the wholesale transition from orality to literacy, or from manuscript to print to hypertext. Understanding digital Shakespeare therefore requires an appreciation of history's gaps, eddies, and back-formations, which trouble distinctions between old and new media. Any attempt to trace the life of a Shakespeare play from early modern material culture to present performances, editions, and adaptations runs up against a tangle of mediation: multiple versions; scribal and compositorial interventions; documents such as playhouse promptbooks, actors' parts, foul papers, fair copy, and printed quartos marked up for performance (some of which may never have existed outside of the New Bibliographers' hypotheses); theatrical adaptations; printed versions that Shakespeare may or may not have intended to publish; editions based on specific performances; editions with modernized spelling and

emendations; even phonograph (and graphophone!) recordings. All these and other forms of mediation come to bear on the ontology of the Shakespeare text, with the result that multiple authority is richness (in Randall McLeod's memorable phrase [421]), and that the life of the text refracts into many afterlives. Shakespeare studies admits none of the straight lines and unidirectional arrows implied by the conjunction *to* in a phrase like *manuscript to print to hypertext*.

No technology has an essential nature detached from cultural contexts and local practices, as we can see in Weingarten's proto-digital practice of querying, as it were, the analog Shakespeare records to extract a set of related clips. Weingarten anticipates a modern practice in Shakespeare classrooms, one that stands to develop beyond anything imaginable in 1939 in the projects that Peter Donaldson and Michael Best describe in this collection.² Although Weingarten's use of relatively new technology holds only minor historical interest, he invokes an idea that should never be far from any discussions of technology in the humanities: "The recordings of speeches by the same character spoken by different actors make comparisons of *interpretations* possible" (55). The impressionistic, taste-oriented interpretive apparatus deployed in Weingarten's article stands as a warning that technology in the humanities, digital or analog, earns its space only in the service of good questions—no matter how sophisticated our digital tools or quantitative methods, interpretation holds all humanities scholars to account sooner or later. It is perhaps easier to remember this fact—and to live comfortably with it—when the material is Shakespeare, whose cultural life on pages, stages, and screens depends upon constant reinterpretation and reinvention.

3 **Inventing, Thinking, and Making in the Digital Humanities**

Past invention provides a context for understanding the productive entanglements that have emerged between the digital humanities and Shakespeare studies. The year 1939 may seem surprisingly early to find Shakespeare becoming the subject of discourses about information technology. Even so, it was only a decade later, in 1949, that an electronic computer was first used on a humanities research project—an electronic concordance to the works of Thomas Aquinas, undertaken by the Jesuit scholar Roberto Busa.³ It is difficult for those who grew up with personal computers to appreciate the courage such a project must have required in 1949, but the results surround us in the humanities today. The field of *humanities computing* deals with the computational tools and methods that intersect with humanities research; *digital humanities*, a more recent development, names the broader context of disciplinary interactions that look to digital culture and technology to prompt new modes of humanities scholarship—and, in turn, to reassert the humanities’ value in those traditionally science- and business-dominated domains.⁴ This emerging interdiscipline joins the study of traditional humanities materials with innovative methods such as knowledge representation, which draws on the field of artificial intelligence and seeks to “produce models of human understanding that are tractable to computation” (Unsworth). To some, the discourse of the digital humanities may appear exclusively preoccupied with tool-development, such that the developers sometimes seem to have been at a great feast of acronyms. But the most important activity of digital humanists, as Unsworth suggests, is *modelling*: in Willard McCarty’s definition, “the perfective iteration of necessarily crude digital representations of knowledge” (“Anomalous” 3).⁵ We might gloss McCarty’s phrase “perfective

iteration” to mean the kind of reinvention described above. Indeed, such an epistemological process should sound familiar to Shakespeare studies, given its long and fraught history of competing editorial models. Sonia Massai, for example, likewise invokes the idea of perfectability—as distinct from achieved perfection—to describe how early modern stationers, authors, and readers understood the textual condition of their own knowledge representations in print (199-200; see also 3-10). Perhaps then it is no coincidence that McCarty closes his recent meditation on literary modelling using the language of *Henry V*: by attending to the productive imperfections of our models, “we indeed are ‘Minding true things by what their mock’ries be’” (“Knowing” 400).

Digital tools combined with computational tractability lend our productive “mock’ries” a scale, speed, and richness of detail that were unattainable in an analog world. As ever, the distillation of knowledge from information still depends on human acts of interpretation. But what distinguishes digital humanities approaches from purely interpretive work, and what unites the research represented in this volume with its precursors in digital Shakespeare studies, is a methodological investment in *thinking through making*: understanding ones’ research by constructing digital representations and implementations of it, thereby modelling the points of interaction through which we engage our materials. Digital humanists share this ethos with other fields like design, computer science, and even with the spirit of maverick technologists like Bell and Edison—all of whom invest as much in the serendipitous thought processes of invention as in the envisioned outcome. The strongest analogy for this ethos in the Shakespeare world may be performance: just as theatre practitioners model Shakespeare’s plays by staging them, so do digital humanists stage their constructed knowledge representations

in digital media like productions of plays—some better than others but none finally definitive, each another’s audience outside the limits of the page.

Shakespeare studies has had considerable engagement with digital scholarship over the past twenty years, and it is worth noting some early touchstones that anticipated topics covered in this special issue. Phillip Brockbank’s 1989 proposal for a proto-Electronic New Variorum Shakespeare is now seeing fulfillment in the work Paul Werstine describes here. The usefulness of such projects to focus thinking is also evident in Whitney Bolton’s 1990 review of three early electronic editions and archives: the *WordCruncher Bookshelf Shakespeare* (derived from the 1974 text of the *Riverside Shakespeare*); *William Shakespeare: The Complete Works, Electronic Edition* (reproducing the 1986 modern-spelling Oxford text); and *Shakespeare’s First Folio and Early Quartos* from the Oxford Text Archive (created by Oxford University Press and Trevor Howard-Hill). The 1997 Arden Shakespeare CD-ROM is also a key chapter in this history, discussed at length in Peter Holland and Mary Honorato’s article in this volume. Ian Lancashire’s 1992 Modern Language Association conference paper, “The Public Domain Shakespeare” (since published online; see Works Cited), argued for what we might call today *open access* in a discussion of the need for a series of digital Shakespeare editions that are freely accessible and accurately represent the original texts (now largely realized in the Internet Shakespeare Editions’ transcriptions and facsimiles). Stephen Matsuba’s 1998 virtual reality performance of *A Midsummer Night’s Dream* likewise has an ongoing counterpart in *Arden: the World of William Shakespeare*, an open-ended simulation using gaming technology.⁶

The two-part structure of *Reinventing Digital Shakespeare* reflects the dialectic between thinking and making, recognizing that each is implicit in the other even as the distinction opens ways to see familiar material with new eyes. The opening cluster of four short articles surveys the project-oriented research that drives the making and remaking of digital Shakespeare. Paul Werstine contextualises both text encoding and user interface issues as they relate to the ongoing electronic work associated with the MLA's Electronic New Variorum Shakespeare, the most exhaustive historical record of the Shakespeare text. Michael Best in turn considers the evolving nature of questions relating to scholarly approaches to Shakespearean text, performance, and context in the Internet Shakespeare Editions, with an eye to the promise held by collaborative Web 2.0 applications like blogs and wikis. Peter Donaldson discusses how encounters with new media across one and a half decades have shaped the possibilities for the scholarly and pedagogical goals of the Shakespeare Electronic Archive, offering a glimpse of exciting new developments such as the XMAS annotation system and the *Shakespeare Performance in Asia* multimedia collection. These three articles also provide rich visual tours of the projects they describe. (In true digital fashion, each of these documents has a multiple existence: images in the print version of the journal are greyscale while those in the online version are in colour.) The discussion of projects closes with an academic-publisher narrative told in two voices. Writing together, Peter Holland and Mary Onorato offer valuable insight into the collaboration on the Gale Shakespeare Collection. This article brings the all-too-rarely heard voice of the publisher to the discussion of large Shakespeare publications in new media. Collectively, these projects embody the best

tradition of thinking through making, as the authors connect pragmatic matters of digitization to questions that preoccupy all Shakespeareans.

The articles in the second section employ the complementary strategy of stepping back from specific projects and approaching the field topically, considering in turn performance, criticism, and pedagogy within the broad scope of digital Shakespeare. Christie Carson situates us within the evolving history of digital performance projects, and asserts critical models for engaging with performance materials in the changed landscape of social networking and the media-rich Web. Martin Mueller's exploration of the benefits of the "digital surrogate" takes us from pre-digital computational practices (such as concordancing) to the interpretive possibilities offered by digital tools—the sum of these new tools being the possibility of a literary informatics. Jeremy Ehrlich considers the future of Shakespeare studies in its most literal form: the classroom full of Shakespeare students who have grown up thoroughly immersed in computing and digital technology. As Ehrlich describes, these are the "digital natives" of the brave new world that appears equally rich and strange to the eyes of the previous generation of "digital immigrants"; Ehrlich equips us with both a valuable guidebook and a persuasive argument for bridging the digital divide.

Collectively the authors take us from stage, to researcher's workspace, to classroom, and outward to the social world that invests so much in Shakespeare. While by no means an exhaustive engagement of all things digital and Shakespearean, the volume nonetheless provides critical focus for current questions about pedagogy, textuality, performance, access, and analytical engagement of Shakespeare's works in a digital world. The actor, the teacher, and the critic are of digitization all compact—not to

mention the publisher, the student, the editor, and all those who contribute to Shakespeare's continual reinvention.

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Even the smallest editorial endeavour can reflect the effort of a significant number, and this dedicated issue of *Shakespeare* most certainly embodies that maxim. The editors would like to thank the authors for bridging different worlds so energetically, and those who have provided support and advice, including Anne Correia, Gabriel Egan, Brett Hirsch, Lisa Hopkins, John Lavagnino, Sally-Beth McLean, our anonymous reviewers and all those at *Shakespeare*.

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¹ Two caveats must be observed here. First, there is doubt as to whether the dramatic moment of the cylinder's playback upon opening could have happened as the popular accounts describe. Read questions whether the apparatus required for playback was available on the occasion, and suggests the text attributed to the recording actually came from a transcription originally sealed with the graphophone (31). Second, we know now that the earliest surviving recorded sound is unfortunately not Shakespeare but the French folk song "Au Claire de la Lune," recorded on paper in 1860; see Rosen.

² On the function of the clip in Shakespeare classrooms, see also Osbourne.

³ On Busa's work and the history of humanities computing, see Hockey.

⁴ For general introductions to these fields, see Schreibman, Siemens, and Unsworth, as well as McCarty, *Humanities Computing*, and Rockwell; a good entry-point to the diverse approaches within the field is the Blackwell *Companion to Digital Humanities*, which, in the spirit of the field it describes, is available online on an open-access basis:

<<http://www.digitalhumanities.org/companion/>>.

⁵ For useful introductions to the idea of modelling see McCarty, "Knowing" and "Modeling," and for a more detailed discussion see his *Humanities Computing* (20-72).

⁶ See the Synthetic Worlds Initiative at Indiana University: <<http://swi.indiana.edu/>>.