DHQ: Digital Humanities Quarterly

Changing the Center of Gravity: Transforming Classical Studies Through Cyberinfrastructure 2009
Volume 3 Number 1

Digital Criticism: Editorial Standards for the Homer Multitext

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Abstract

In this article we argue for the necessity of a digital edition to most accurately represent the textual tradition of the Homeric epics and to better understand the oral performance tradition that created the poems. We demonstrate how such a digital criticism would differ from the traditional textual criticism as practiced for editions in print and suggest how a digital criticism might open new avenues for the interpretation of the poetry. In defining our needs and goals for a digital edition, we discuss what our project has in common with other digital editions of literary works, but how the oral, traditional nature of the poetry creates special requirements as well. In addition to elaborating the editorial approach for the project, we reaffirm the principles of collaboration, international standards, and open access that we have learned from Ross Scaife, the founder of the Stoa Consortium.

Digital Criticism: Editorial Standards for the Homer Multitext

The so-called Homeric Question (in reality, several related questions) that has animated and in various ways divided modern scholarship on the *Iliad* and *Odyssey* since the 18th century centers on the origins and transmission of the epics. How were they composed and by whom? How were they recorded in writing, and how were they then transmitted to the witnesses that have survived until today? How is it possible that such complex poetry stands at the very beginning of Western literature, even before writing as a technology was well developed? Editorial practice for critical editions of the epics will necessarily be affected by how each editor approaches and answers these questions [Nagy 2000].^[1] Yet a critical edition in the print medium will give a particular, and we would argue misleading, impression about the answers to these questions. A standard print edition will present a main text, and then record alternative readings in an apparatus (generally printed at the bottom of the page in smaller-sized font), giving the impression that there is the text — and then there is everything else. Compounding this problem and further obscuring the situation for nonspecialists, the apparatus as developed and practiced in classical textual criticism uses conventions and abbreviations that can only be deciphered by those who have received special training in these practices.^[2] In effect, the standard critical edition seems to offer only one answer to these questions: that the Homeric epics are just like any other ancient text in their composition and transmission.

A digital medium provides an opportunity to construct a truly different type of critical edition of the Homeric epics, one that better reflects the circumstances of its composition and transmission. The Homer Multitext of the Center for Hellenic Studies (CHS) in Washington, D.C., seeks to use the advantages of digital editions to give a more accurate visual representation of the textual tradition of Homeric epic than the current use of the printed page does. Most significantly, our digital design is also intended to reveal more readily the oral performance tradition in which the epics were composed, a tradition in which variation from performance to performance was natural and expected. The Homeric epics were composed again and again in performance: the digital medium, which can more readily handle multiple texts, is therefore eminently suitable for a critical edition of Homeric poetry — indeed, the fullest realization of a critical edition of Homer may require a digital medium. To achieve our goals, the digital Multitext must be fundamentally different from these print editions in conception, structure, and interface. In this article we would like to explain in more

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depth than we have elsewhere how the oral, traditional poetry of these epics and their textual history call for a different editorial practice from what has previously been done and therefore also for a new means of representation. We will also demonstrate how the Homer Multitext shares features with but also has different needs and goals from other digital editions of literary works that were composed in writing. These comparisons will help to highlight our editorial approach to the variations attested in the textual record. We will conclude by stating our commitment to three foundational principles of the Multitext project that are essential to this digital criticism.

Textual Criticism of an Oral Poem in a Digital Medium

When dealing with ancient texts, we never have access to the author's own manuscript; moreover, our witnesses are copies many iterations and many centuries removed from any such "original." The practice of textual criticism, in this case as applied to classical Greek texts, has the goal of recovering the original composition of the author [Reynolds and Wilson 1991]. To create a critical edition, a modern editor assembles a text by collating the various written witnesses to an ancient Greek text, understanding their relationship with each other, knowing the kinds and likelihoods of mistakes that can occur when texts are copied by hand, and, in the case of poetry, applying the rules and exceptions of the meter as well as grammar. The final published work will then represent what she or he thinks are the author's own words (or as close to this as possible). An editor may follow one manuscript almost exclusively, or pick and choose between different manuscripts to compile what seems truest to the original. The editor also places in the apparatus criticus what s/he judges to be significant variants recorded in the witnesses. The reader must rely on the editor for the completeness of the apparatus in reporting variants. For a text that was composed and originally published in writing, this goal of recovering the original text and these practices for achieving it have been valuable and productive, even if the author's original composition may never be fully achieved because of the state of the evidence.

A helpful comparison can be made to the critical editions of Shakespeare's plays known as the "Variorum" editions, which are sponsored by and overseen by the Modern Language Association (http://www.mla.org/variorum_handbook). Although the textual tradition of Shakespeare is far less old than that of Archaic and Classical Greek texts, editors for each play in much the same way painstakingly compare and evaluate readings from different sources, make choices as to which is most likely to be correct, and justify their decisions. The Greek New Testament is another group of texts for which a rigorous system of evaluation of the various readings and their witnesses has developed (see, e.g., [Aland 2005]). Some digital projects, such as the Cervantes Project digital library, while capturing variation in the textual tradition in an Electronic Variorum Edition, do so for the stated goal of producing "a more correct edition closer to Cervantes' original manuscript" [Monroy et. al. 2002]. Similarly, Stringer argues that a variorum edition of John Donne's poetry has allowed the restoration of a particular line "to its original form" [Stringer 1999, 91]. For an edition of Don Quixote de la Mancha or poems of Donne, this goal is appropriate to the fundamental notion of an original manuscript of an individual author and a text composed in writing.

Because the *Iliad* and *Odyssey* were not composed in writing, however, this editorial system cannot be applied in the same way. These epics come from a long oral tradition in which they were created, performed, and re-performed, all without the technology of writing. In the earliest phases of this tradition, the *Iliad* and *Odyssey* would never have been performed in the same way twice. In other words, in such a tradition in which the composition is occurring in the course of performance, there is no one "author's original composition" to try to recover, for there is not only no one composition, but also no one author. This fundamental difference in the composition and history of this poetry, then, means that we must adjust our assumptions in our understanding of the variations in the written record. What does it mean when we see variations, which still fit the meter and language of the poetry, in the witnesses to the texts? Instead of "mistakes" to be corrected or choices that must be weighed and evaluated, as an editor would do in the case of a text composed in writing, we assert that these variations are testaments to the system of language that underlies the composition-in-performance of the oral tradition. Textual criticism as practiced is predicated on selection and "correction" as it creates the fiction of a singular text. The digital criticism we are proposing for the Homer Multitext maintains the integrity of each witness to allow for continual and dynamic comparison, better reflecting the multiplicity of the textual record and of the oral tradition in which these epics were created.

The *Iliad* and *Odyssey* as Oral Poetry

We have learned from the comparative fieldwork of Milman Parry and Albert Lord, who studied and recorded a living oral tradition during the 1930s and again in the 1950s in what was then Yugoslavia, that the Homeric epics were composed in performance during a long oral tradition that preceded any written version ([Parry 1971], [Lord 2000], [Lord 1991], and [Lord 1995]; see also [Nagy 1996a] and [Nagy 2002]). In this tradition, the singer did not memorize a static text prior to performance, but would compose the song as he sang it. How is that possible, especially for a song such as the *Iliad*? As Parry and Lord were able to illustrate comparatively by way of the South Slavic tradition, the composition depends on a traditional system that can best be understood as a specialized language with its own specialized grammar and vocabulary. We refer to this specialized language as "formulaic," using Parry's terminology. This traditional language is most familiar to us in name-epithet combinations (e.g., "swift-footed Achilles"), but as scholarship over the past 75 years has shown, the whole epic is composed using this formulaic system. A singer trained in this system of language and in the traditional stories, as Parry and Lord themselves observed in action, can then rapidly compose while performing [Lord 2000].

One of the most important revelations of the fieldwork of Parry and Lord is that every time the song is performed in an oral composition-in-performance tradition, it is composed anew. The singers themselves do not strive to innovate, but they nevertheless compose a new song each time [Dué 2002, 83–89]. The mood of the audience or occasion of performance are just two factors that can influence the length of a song or a singer's choices between competing, but still traditional, elements of plot. The training of the singer or the pressures of performance may influence which traditional formulas he employs in any particular line in performance. The term "variant," as employed by textual critics when evaluating witnesses to a text, is not appropriate for such a compositional process. [5] Lord explained the difference this way: "the word *multiform* is more accurate than *variant*, because it does not give preference or precedence to any one word or set of words to express an idea; instead it acknowledges that the idea may exist in several forms" [Lord 1995, 23]. Our textual criticism of Homeric epic, then, needs to distinguish what may genuinely be copying mistakes and what are performance multiforms: that is, what variations we see are very likely to be part of the system and the tradition in which these epics were composed [Dué 2001a].

Once we begin to think about the variations as parts of the system rather than as mistakes or corruptions, textual criticism of the Homeric texts can then address fresh questions. Some of the variations we see in the written record, for example, reveal the flexibility of this system. Where different written versions record different words, but each phrase or line is metrically and contextually sound, we must not necessarily consider one "correct" or "Homer" and the other a "mistake" or an "interpolation." Rather, each could represent a different performance possibility, a choice that the singer could make, and would be making rapidly without reference to a set text (in any sense of that word).

Variation in the Homeric Corpus: Two Examples

Let's look at two brief examples of such multiforms and the questions they can raise for interpretation as well as what they add to our understanding of this system. These examples are intended to show why making the editorial choices that classical textual criticism demands can be disruptive for our understanding of the oral, traditional nature of this poetry, but they are not meant to be *exempla* in the sense of representing the whole range of multiforms. We will discuss the types and sources of variation further below.

In 3, Priam asks Helen about a man on the battlefield, whom Helen identifies as Odysseus. Antenor, a Trojan, then reminisces about an earlier meeting he had with Odysseus and Menelaos when they came to negotiate for Helen's return (*Iliad* 3.203–224). This whole episode is intriguing in terms of the storytelling, but we will limit our discussion here to just one recorded difference in one line of what Antenor says. He first compares the two Achaeans in terms of looks, and then on line 212 begins to compare the impression each made as a public speaker:

άλλ' ὅτε δὴ μύθους καὶ μήδεα πᾶσιν ὕφαινον/ἔφαινον
But when they began to **weave/bring to light** words and schemes among all...

Many of the manuscripts have ὕφαινον ("weave"), but other witnesses report ἔφαινον ("bring to light"), which some modern editors, such as Ludwich, have preferred. In the usual criticism of a text composed in writing, as described

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above, this kind of variation would present the editor with a choice. There is only one letter (and breathing mark) different between the two, so a text-based assumption would be that one is original and one is a mistake made by a scribe at some point in the transmission. Are Odysseus and Menelaos weaving their words and schemes, or are they revealing them? Using the methods we outlined above, a textual critic would examine the evidence of the manuscripts to determine in which manuscripts and how often each verb shows up and consider which one is most likely to be confused for the other by a copyist. She or he would then make a decision about which one s/he thinks the author originally wrote and which one was the mistake.

But when we think about these verbs as part of the traditional system of composition-in-performance, we can see that either verb is possible, and that either could be used in a performance. The two epics together provide our only "database," as it were, for seeing how the system of language works. In our Odyssey ἔφαινον is used in this final position in the line (Odyssey 4.12 and 19.25), but so is ὕφαινον (Odyssey 4.678 and 9.422). Thus, either is possible metrically in this position and is in fact used there within the compositional system. Considering the metrical position of the word in addition to its overall use helps to illustrate that a singer would be able to use it in this line in performance. Either is also equally possible in the context and sense of the line: Odysseus and Menelaos could be revealing their plans by telling the Trojans what they hope to achieve in meeting with them, or they could be speaking in a particular way for which the metaphor of weaving is used in this traditional language. The two line-final uses of ὕφαινον in the Odyssey are particularly telling in this respect: in both of those cases the object of the verb is μῆτιν "craft, scheme." (And this verb is also used with μῆτις in other metrical positions, such as at *Iliad* 8.324 or 9.93.) Thus we can see that the verb is often used in this metaphorical sense, and those instances can help us to better understand it at *Iliad* 3.212. If they are weaving their μήδεα, they are plotting, whereas if they are revealing their μήδεα, they are telling the Trojans their plans. According to the system of traditional language, either is possible, and thus the singer who is composing in performance may use either characterization. The question to be pursued here is not which is right and which is wrong, but how to understand the coloring that each multiform gives to Antenor's recollection. Thus we want readers to be able to easily be aware of both possibilities that have been transmitted and be able to see clearly which witnesses record them without taking the words out of their context within the source, as an apparatus does.

Another example of multiformity, but one which does not involve the possibility of a spelling or copying mistake, is present in the written record of *Iliad* 5.53. In this battle scene, Menelaos kills Skamandrios, the son of Strophios, whom, we hear, Artemis herself had taught to hunt (Iliad 5.49-52). One version of 5.53 picks up on this association when it says: "ἀλλ' οὕ οἱ τότε γε χραῖσμ' Ἄρτεμις ἰοχέαιρα, but Artemis who pours down arrows was no help to him then." This is a reading known to Aristarchus (for more on whom, see below), and is recorded both in manuscripts and in papyrus fragments. Aristarchus' predecessor as Librarian of Alexandria, Zenodotus, however, recorded a version of this line that reads "άλλ' οὔ οἱ τότε γε χραῖσμεν θανάτοιο πέλωρα, but portents of death were no help to him then." The name-epithet combination of Ἄρτεμις ἰοχέαιρα shows up several more times in our *Iliad* and *Odyssey*, mostly in this line-end position (e.g., Iliad 5.447, 6.428, 20.39, 24.606; Odyssey 11.172 and 15.478). We do not have the exact phrase θανάτοιο πέλωρα elsewhere in our *Iliad* and *Odyssey*, but each word does show up in these particular metrical positions in other verses (πέλωρα at Odyssey 10.219; θανάτοιο eleven times in our Iliad and four times in our Odyssey at that position), indicating that the two words could fit within a line together in those positions. Contextually, as well, the expression works, if perhaps a bit more mysteriously. Instead of asking how such a "mistake" or "interpolation" could have crept into the written record (or just ignoring it altogether, as is more likely), we can instead consider how Zenodotus might have known about that multiform and inquire into his editorial practices for recording these lesser known (to us) versions. Such questions will ultimately be far more enlightening about the textual tradition of the poems as well as the system that makes composition in performance possible.

Representing Multiformity

Yet it is difficult to indicate the parity of these multiforms in a standard critical edition on the printed page. As we noted in our introduction, one version must be chosen for the text on the upper portion of the page, and the other recorded variations must be placed in an apparatus below, often in smaller text, a placement that necessarily gives the impression that these variations are incorrect or at least less important. Within a digital medium, however, the Homer Multitext will be able to show where such variations occur, indicate clearly which witnesses record them, and allow users

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to see them in an arrangement that more intuitively distinguishes them as performance multiforms. Thus a digital criticism — one that can more readily present parallel texts — enables a more comprehensive understanding of these epics.

An approach to editing Homer that embraces the multiformity of both the performative and textual phases of the tradition — that is to say, a multitextual approach — can convey the complexity of the transmission of Homeric epic in a way that is simply impossible on the printed page. The variations that the textual critic of Homer encounters come from many different kinds of sources and many time periods. In his edition of the *Iliad* Allen included 188 manuscripts, dating from the 10th century CE on, and the relationship between manuscripts or manuscript families and their descent from earlier exemplars can be only partially reconstructed [Allen 1931]. From the scholia that survive in our medieval manuscripts which includes commentary that is derived from scholarship as old as the second century BCE — we learn of readings attributed to the texts of various cities (some as far away as Marseilles), texts in the collection of individuals, texts called "common" or "standard," and texts that are "more refined" [Nagy 2004, 20]. [6] In the literature that survives from Classical Athens, especially in the Attic orators and in Plato, we find quotations of Homer, some quite extensive, and these texts can vary considerably from the medieval texts of Homer on which we rely for our printed editions ([Dué 2001a] and [Dué 2001b]). Some of our earliest witnesses to the text of Homer are the fragmentary papyri that survived in the sands of Egypt from the third century BCE onwards. These texts too are often quite different than their medieval counterparts [Dué 2001a]. A multitextual approach can be explicit about these many different channels of transmission, placing each in its historical and cultural framework and allowing the reader to understand better their relationships to one another, rather than giving the false impression that they are all of the same kind and same time.

From these sources, we find a number of different kinds of multiforms as well. We looked at two examples of different, but equally formulaic, words and phrases, and this is one kind of multiform. There are also smaller cases of word change, differences in word division or accent, and other matters of orthography. These differences are important for what they can reveal about the textual tradition and the editorial practices of earlier stages of the transmission. As we look at the earliest sources, papyri from the 3rd century BCE or quotations in Classical authors, such as Plato or Aeschines, we also see differences on the level of entire lines of the poetry. There are numerous verses in the papyri that are seemingly intrusive from the standpoint of the medieval transmission. These additional verses, the so-called plus verses, are not present in the majority of the medieval manuscripts of the *Iliad*. Other verses that are canonical in the medieval manuscripts are absent from the papyri — these may be termed minus verses. Composition in performance allows for expansion or compression of the theme or episode that the singer is performing, and these plus and minus verses are evidence of what a performance might have included, how the system underlying the performance operates, and what the epic tradition included [Dué 2001a].

Yet even as we emphasize the historical significance of these multitudinous channels of transmission, we must be careful to acknowledge that there was never one *lliad* or one *Odyssey* at any given time or place in the ancient world that we can seek to reconstruct. In earlier stages of the project, we have ourselves been tempted to create and include such a reconstruction. For example, we had considered attempting to reconstruct what would have been the "common" or koine text at the time of Aristarchus, the great second century BCE scholar and editor who worked at the ancient library at Alexandria [Dué and Ebbott 2004]. Having this particular text would be a dream come true, for Aristarchus' critical work on the text of Homer is referred to throughout the scholia that survive in the margins of our medieval manuscripts. But here the situation is no less complex, no less multiform. As Gregory Nagy has demonstrated, Aristarchus had available to him at the library of Ptolemaic Alexandria a great number of Homeric texts (see especially [Nagy 2004]). Aristarchus' practice was to collate the many texts known to him and to comment on the various readings that he found, often asserting which reading he felt to be the correct one. Unlike a modern editor, however, Aristarchus confined his opinions to his commentary, which was published in its own separate volume. The text that would have accompanied this commentary was what Aristarchus and subsequent scholars refer to as the "standard" or "common" edition. But was this indeed a single edition that is reconstructable? Aristarchus himself does not seem to have ever published his own text of Homer, with his own preferred readings. But even if he had, we would know from his commentaries about the many other texts that were available to him, and so once again we are forced to confront the multiformity of the Homeric tradition.

An emphasis on actual, complete witnesses to the transmission has thus driven many of our considerations in building the Multitext. [7] Presenting the witnesses to the user without the obstacle of an apparatus entails a fundamental change from textual criticism as practiced for print editions. As Edward Vanhoutte says about his electronic edition of *De trein der traagheid*, which "guarantees the completely equal treatment of each version of the text in the generating processes invoked by the user," such an approach "deliberately puts some central concepts and issues of conventional textual scholarship in crisis. Amongst them the base text, the edited text, the textual apparatus, and the variant. All of these concepts are dependent on the static perception of the scholarly edition" [Vanhoutte 2007, 165–166]. The move from a static perception to a dynamic presentation is central to our editorial standards for the Homer Multitext: that is, a shift not just in offering the witnesses to users, but in giving them tools to make comparisons and other relational assessments. Such tools allow for "a relative concept of calibration," where there is no one text as the "base text" or "invariant" that the others are compared, but where comparison of multiformity happens dynamically in an ever shifting selection of texts IVan Hulle 2004, 5141. [8]

We share with many digital editions the value of including images of the sources, especially for wider access to fragile manuscripts ([Dahlström 2000], [Monroy et. al. 2002], [Kiernan 2005], [Robinson 2003], [Ulman 2006], [Porter 2007]; for examples of textual edition projects using images, see the Internet Shakespeare Editions and the Digital Donne project). The Multitext has now published for the first time digital images of three manuscripts of the *Iliad* housed in the Marciana Library in Venice, Italy: the tenth-century Marcianus Graecus Z. 454 (= 822), the eleventh-century Marcianus Graecus Z. 453 (= 821), and the twelfth/thirteenth-century Marcianus Graecus Z. 458 (= 841). (See http://zeus.chsdc.org/chs/manuscript_images.)

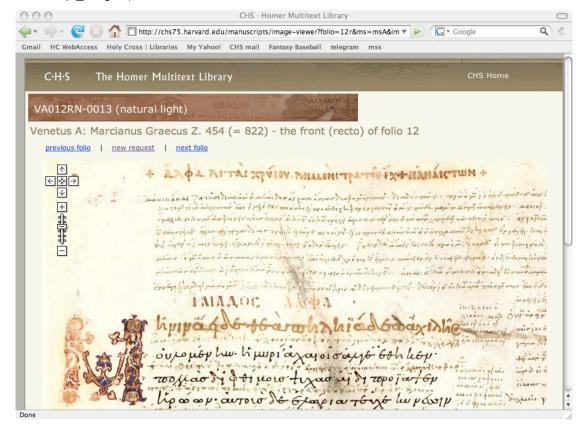


Figure 1. Screen shot of the manuscript browser

Each manuscript contains its own set of scholarly commentary in the margins. The initial publication of these images is focused on making them available as quickly as possible, ^[9] but as we work to integrate them with other components of the Multitext, an important question we will be facing is how to make them truly accessible, not just available, to a range of users broader than just those who happen to be experts in Greek palaeography (cf. [Kiernan 2005]).

Fluidity vs. Rigidity and a Diachronic Approach to Homeric Poetry

Here it is once again instructive to return to the comparison we made earlier to the transmission of the works of Shakespeare. Now that we have a better understanding of both the performance medium in which the Homeric poems were created and the complexities of their textual transmission, we can better appreciate how the two sets of texts share features but also differ in important ways. The transmission of Shakespeare's plays is indeed quite complex. Authoritative editions of the plays were not overseen by Shakespeare himself, and the earliest editions seem to have in some instances at least been made on the basis of faulty transcripts of actual performances, requiring substantial reconstruction of the text [Greg 1955]. The First Folio edition of 1623, which is the most authoritative of the early editions, was put together seven years after Shakespeare's death by two actors in the King's Men, the company for which Shakespeare wrote. The texts of the thirty-six plays included in the edition are of various provenance. Some derive from the heavily annotated copies prepared for prompters; others are based on Shakespeare's own working drafts. It is clear that some plays were revised for subsequent performances during the course of Shakespeare's lifetime, with the result that there are multiple versions of the same work that are equally Shakespearean. Editors of such important Classical authors as (Greek) Aristophanes and (Roman) Ovid face similar difficulties.

What the plays of Shakespeare share with the Homeric tradition is that they were created in the context of performance. Individual instances of performance could result in new texts, depending on the occasion of performance, the intervention of actors and/or others involved in the production, or the desire of Shakespeare himself. A transcript created on the basis of a given performance would no doubt vary from transcripts created on other occasions. Such variations can teach us a great deal about the performance traditions of Shakespeare's plays, the creative process, and Shakespeare's working methods. Scholars of recent decades have rightly seen the value in the variation that we find in the textual transmission, and several web-based projects have been developed that make the quartos and folios available to an interested public. Of particular note is The Internet Shakespeare Editions, which plans to publish high-resolution photographs of these early editions together with a variety of supplementary information, electronic texts, and fully edited (modern) editions.

But the Shakespeare analogy can only be taken so far. Homeric poetry was not only created *for* performance, it was created *in* performance. As we noted previously, in the earliest stages of the tradition no song would have ever been sung the same way twice. The content and form of the songs were traditional and the tradition was a highly conservative one, but the compositional process was nonetheless dynamic. As editors of the Homer Multitext, we are not seeking to recover the most authoritative performance, because such a performance does not exist. Rather than screen out variation in the search for the author's own words, we seek out variation for what it can tell us about Homeric composition-in-performance and the evolution of the texts we now recognize as our *Iliad* and *Odyssey*.

Perhaps unexpectedly, a much more modern text provides us with a different and interesting analogy. The Homer Multitext faces some of the same questions, problems, and demands as those laid out by Loranger for an editor of William Burroughs's *Naked Lunch* [Loranger 1999]. Loranger points out that there is no one definitive version of *Naked Lunch*, that none of the changes to the narrative "can be considered accidental variants ... [or] deliberate authorial revisions" (#2). The narrative underwent an evolution (#1), and its assembly has its own mythology, as she terms it (#6–7). She begins and ends by looking for a *reliable* edition, and argues that such an edition would have to allow readers to move, in any order, between the different textual elements, fragments, and even images, such as the drawings Burroughs produced for the U.S. edition (#1, 24). We are in no way looking to create a "postmodern" Homer, but what we know about oral composition-in-performance, in which each time the song is sung it is composed anew, requires a similar attention to the evolution as much as we can trace it and to the creation or application of tools for allowing the reader to explore and understand that evolution.

The texts on which modern printed editions of the *Iliad* and *Odyssey* are based date to the Medieval period, the earliest being the tenth-century CE manuscript known as the Venetus A (Marcianus Graecus Z. 454). These texts do not differ substantially from one another, although there is no "vulgate" text on which the others are based; there is some variation to be found among the different manuscript groups. If we proceed considerably back in time, to the fragmentary papyrus texts of the Ptolemaic era (third to second centuries BCE) we find substantial variation. Still earlier are the quotations of

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Homer in authors of the Classical era. These too are often substantially different from the medieval texts. Further back than that we cannot go, because of the lack of textual witnesses before the Classical period, but internal evidence indicates the poetic tradition extends as far back as the sixteenth century BCE, a date that, incidentally, long precedes most accepted dates for an historical Trojan War [Sherratt 1990]; [Watkins 1995, 499]. Needless to say, whatever songs were being created in the sixteenth century BCE would likely have resembled our *Iliad* and *Odyssey* only very vaguely, but they were nevertheless composed in the same system of language that produced these epics.

The questions of how much variation is natural to the Homeric tradition and how much variation can be recovered are complicated ones to answer, because they tie into all of the uncertainty surrounding the figure of Homer (if he ever existed) and the nature of Homeric authorship [Nagy 1996b], [Dué 2006]. It was at one time fashionable in Homeric Studies to apply statistics to the Homeric corpus. [10] Scholars attempted to use mathematical methods to find what parts of the Homeric diction are "formulaic" and what parts are innovations on the part of a master poet, imagined as Homer. Parry, for example, by way of demonstration analyzed the first 15 verses of the *Iliad* and found them to be over 90% "formulaic" [Parry 1971, 301–304]. Later, Albert Lord analyzed the same passage, and although his definition of the individual formulas involved differed slightly from Parry's the results were roughly the same [Lord 2000, 142–144]. The fundamental problems with this kind of analysis are twofold, as Lord himself pointed out already in 1960. First and foremost, it is based on faulty data. Only two of the large number of Archaic Greek epics that we know were current in antiquity have survived to the current day. If more of the Epic Cycle (as these other epics are commonly called) survived, we would have a much larger amount of material to work with. Partly because of the relatively small amount of comparison material, our understanding of the nature of the formula and the composition process is imperfect. Secondly, if the tradition in which the Greek poets were working was as Parry and Lord described, every verse should be formulaic, and there is much to suggest that this true of Homeric poetry [Lord 2000, 47, 147].

For Shakespeare, multiformity — that is to say, the existence of multiple versions of the same text — is an unintended accident of transmission. For most of the plays, there is only one version that Shakespeare himself would have considered definitive, even if he would acknowledge other drafts he produced and even though we today would no doubt consider those drafts worth saving. For Homeric epic, the relative uniformity of the medieval manuscripts is the accident of transmission, and multiformity is the natural result of the process by which they were created. Hundreds of the relatively uniform Medieval texts of Homer survive, whereas no complete text of Homer survives on papyrus, and only certain passages are quoted in Classical authors. In a 2001 publication, Dué examined in detail a Homeric quotation from the orator Aeschines together with some Ptolemaic papyri [Dué 2001a]. Dué found that the kinds of variation presented in those sources are of a formulaic nature. There are extra verses, alternative verses, and variation within lines, but the nature of the variations is such that they are equally "Homeric" as those that survived in our Medieval transmission. This kind of variation, which is primarily on the level of formula and fluctuation in the number of verses, would not interest all readers of Homer, but it is what is to be expected in a relatively late stage of the transmission, at a point when the poems were largely fixed. For even as early as the Classical period — whence the earliest textual evidence survives — the Homeric poems seem to have had a cohesiveness and unity that borders on the adjective "fixed".

Before we attempt to go even further back in time, and consider a far more fluid state of the text, it might be helpful here to consider the evolutionary model for the development of the Homeric poems that has been proposed by Gregory Nagy. Nagy traces the evolution of the poems in five stages, that go from "most fluid" to "most rigid" [Nagy 2004, 27]:

- 1. a relatively most fluid period, with no written texts, extending from the early second millennium into the middle of the eighth century in the first millennium BCE.
- 2. a more formative or "Panhellenic" period, still with no written texts, from the middle of the eighth century to the middle of the sixth BCE.
- 3. a definitive period, centralized in Athens, with potential texts in the sense of *transcripts*, at any or several points from the middle of the sixth century to the later part of the fourth BCE; this period starts with the reform of Homeric performance traditions in Athens during the régime of the Peisistratidai.
- 4. a standardizing period, with texts in the sense of transcripts or even *scripts*, from the later part of the fourth century to the middle of the second BCE; this period starts with the reform of Homeric performance

5. a relatively most rigid period, with texts as *scripture*, from the middle of the second century onward; this period starts with the completion of Aristarchus' editorial work on the Homeric texts, not long after 150 BCE or so, which is a date that also marks the general disappearance of the so-called "eccentric" papyri.

When we discuss the relative multiformity of the Classical and Ptolemaic eras, we are speaking of periods (3) and (4) in Nagy's model, the "definitive" period and "standardizing" period, respectively. It is interesting to compare Nagy's suggestion of the possibility of "transcripts" at this time to our discussion of the multiformity that we find in the textual transmission of Shakespeare, where we noted the influence of transcripts on the early printed editions of the plays. During these centuries, there was an interaction between performances and texts, with many performances (and state regulations of such performances) and many texts potentially influencing one another. The relative multiformity we see in our sources from these periods highlight the lasting dynamism of the performance tradition. The introduction of written texts did not shut this tradition down, but participated in it.

Can a Multitext of Homer tell us anything about Nagy's periods (1) and (2), the "most fluid" and "formative" phases of our *lliad* and *Odyssey*? This is our hope, that by making available the historical witnesses to the texts of these poems, as they circulated in antiquity and the Medieval period, we can allow users to understand with even more precision the workings of the traditional system within which our poems were created, and the semantic possibilities that are opened up when the system is viewed diachronically.

The most fluid and formative phases of Homeric poetry are only accessible to us through careful study of what survived through to later periods, and in this sense our project is somewhat speculative. Our knowledge of other oral traditions, studied by anthropologists working while these traditions were/are still flourishing, is another important resource that can help us go further back, as we consider the kinds of meaning that are conveyed and preserved by performance generated texts [Foley 1991], [Foley 1995], [Foley 1999]. The difficulties inherent in the enterprise should not deter us from the work, however, and that the answers revealed by a Multitext may at times makes us uncomfortable because of our own notions about Homer should not keep us from raising these questions.

It has frequently been asserted that the multiformity of the Homeric tradition is not interesting, and that the few variations we do find are banal and inconsequential. From our perspective, this assertion is simply untrue (see especially [Dué 2001a]). It seems that the expectation or desire would be for a recorded variation that would dramatically change the story — Achilles goes home! Odysseus dies at sea! But the idea that the manuscripts, coming so late in the tradition as they do, would have as much multiformity as earlier stages of the textual tradition, not to mention the full oral tradition itself, is both misinformed and misleading. What is interesting about the multiforms that are recorded in our textual sources — and let us emphasize again that the older the source, the greater the multiformity we see — is that they are both a window onto the underlying system of oral poetry as well as being crucial evidence for the textual tradition itself. It cannot be denied that the multiforms in the manuscripts, papyri, scholia, and quotations have much to teach us about the composition and transmission of the poetry. In turn, they also provide substantial food for thought in how we then interpret the poetry that has been transmitted. The profit to be gained here is not in the kinds of variants that would make a huge difference in any one line or episode, but that do make a significant difference in our understanding of the system of Homeric epic as a whole.

The multiforms go to the heart of the Homeric Question. It would be intellectually dishonest and scientifically invalid, moreover, to try to show how "multiform" our text of Homer is with percentages, charts and graphs — though as we have pointed out, such attempts have been made. It is more intellectually honest to assert that every verse in Homeric poetry is at least potentially a multiform, and to explore the implications of that potential whenever we analyze the text for its poetic possibilities. The Homer Multitext seeks to give users many of the tools they need to confront and explore the poetics of a multiform epic tradition.

We know, therefore, that the circumstances of the composition of the Homeric epics demand a new kind of scholarly edition, a new kind of representation. We believe that a digital criticism of the witnesses to the poetry provides a means to construct one. Now the mission is to envision and create the Multitext so that it is true to these standards. The

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framework and tools that will connect these texts and make them dynamically useful are, as Peter Robinson has frankly stated ([Robinson 2003] and [Robinson 2005b]), the challenge that lies before us, as it does for other digital scholarly editions. How shall we highlight multiforms so as to make them easy to find and compare? We cannot simply have a list of variants, as some digital editions have done, for this would take them once again out of their context within the textual transmission and in many ways repeat the false impression that a printed apparatus gives. [11] Another consideration is that the hexameter line in Homeric epic is a unit of composition, so we want to display and compare complete lines — not just point out what differences exist within the line, as an apparatus often does. [12] In addition to this need for easy comparison, we need to display lines as part of whole texts to maintain the historical contexts of the witnesses. But we also need a way for our users to find compositional multiforms without already being aware of their existence or without reading every line of every witness.

Foundational principles of the Homer Multitext

Given the complexity of the Homeric transmission and these challenges, one might well ask how such an ambitious project can be achieved. The technological infrastructure of the project has been described on the project website and a series of technological papers have been commissioned to document how we will proceed (see http://katoptron.holycross.edu/cocoon/diginc/techpub). As we continue to build our collection of texts, there are still questions to be answered about how to construct the architecture to achieve the visual representation we envision and that will achieve the results we have described here. But no matter what the details end up being, we have committed to three foundational principles: collaboration, open access, and interoperability. We would like to conclude this essay by emphasizing them, for these principles are essential to this project but also vital to the future of the humanities as a whole.

First and foremost is the collaborative nature of the project. Dozens of scholars of every rank and from many different kinds of institutions currently play vital roles, contributing their own areas of expertise. Although the model for Homeric research is most often that of the individual genius working alone, we suggest that the kind of collaboration that is at the heart of the Multitext allows for a higher quality of research and analysis that can be accomplished in a more timely manner. As other digital edition projects amply demonstrate, these large, long-term undertakings simply cannot be accomplished without this fruitful, energizing collaboration. We have been fortunate to collaborate with technologically informed classical scholars: indeed, one special aspect of our project is that the information architects, Christopher Blackwell and Neel Smith, are themselves Classics scholars, and we expect that this project will demonstrate how our sustained collaboration can lead to more thoughtful, thorough, and creative scholarship on the Homeric epics.

Second, the Homer Multitext project is an open access project: that is, it is on-line, free of charge to all, and free of most copyright or licensing restrictions. A prime example of our ideals of open access is the digital photographs of the three manuscripts. These images will be a significant element of the Multitext, but even before we have fully integrated them into the project, we want to make them available to any and all through the CHS website so that others may use them in their own research. As other digital scholarly editions have noted (e.g., the Cervantes Project, see [Monroy et. al. 2002]), providing users access to these rare and normally inaccessible manuscripts or other texts is an important goal for the project in and of itself.

Now that we have collaborated with so many scholars who share this ideal of open access (and learned from the many open access projects that now exist in the Humanities), it sometimes seems almost unnecessary to assert it. Yet almost as soon as we think so, we are once again faced with proprietary systems that cannot work with others, or a publishing ethos that believes barriers to access are either necessary, profitable, or at least acceptable. (The American Philological Association, for example, recently added a "Members Only" section of the website, which includes on-line access to the APA-sponsored journal, *Transactions and Proceedings of the American Philological Association*. "Members Only" requires an annual membership fee and perpetuates an elitist notion of the field.) We instead believe that it is in the best interest of all who work in the humanities to embrace open access. Doing so is a matter of survival for our field in particular. The popularity of movies like *Gladiator* and *Troy* and the HBO television series *Rome* indicates that the Classical world continues to fascinate and have relevance for our culture, and yet the importance of the study of ancient Greece and Rome at the university level has been questioned in recent decades by budget-minded administrators.

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Classicists have themselves partially to blame. Too often we cultivate that elite mentality that is off-putting to newcomers to the field and administrators alike. Indeed it is a sense of elitism that very often promotes barriers to access to our scholarly resources. We must reach out in order to sustain our discipline, and we must create resources for our discipline that adhere to open access standards. The Center for Hellenic Studies strives to be a model for other institutions in its support for digital scholarship and in its commitment to making that scholarship available and accessible, free of charge.

Third, we are committed to using international standards based technology. We want our project to talk to other digital initiatives in the Classics and in the humanities at large. We want scholars and readers to be able *easily* to find and use the texts and images that are part of this project, including re-using them for their own purposes. Toward this goal, we use TEI-conformant XML and Creative Commons Licensing in our publishing, and scholars affiliated with the CHS have developed the Canonical Text Services protocol, described on the Multitext website (see http://chs.harvard.edu/chs/technological_infrastructure). All three of these principles are themselves connected to a larger ideal of sharing these texts and our work with as large an audience as possible, and not allowing barriers or restrictions to prevent others from using them in their own research or in other creative endeavors.

For these foundational principles we are indebted to the ideals of the Stoa Consortium and its founder Ross Scaife. The Multitext was born in a summer meeting at the Center for Hellenic Studies, to which Ross was invited as a potential collaborator. He quickly became our mentor and guide in the ever-evolving world of electronic publishing in the Humanities. It was clear from the beginning that Ross had a vision that extended far past the point where most classicists were working at that time. He saw how Classics could fit into a global, interdisciplinary, and collaborative environment, and he was willing to be a pioneer in enforcing standards that today keep the web open and democratic. We are grateful for his leadership and guidance as we strive to maintain these standards and attain the ideals of all a digital medium can do for research on Homeric epic. We will miss his expertise and his patient and generous giving of that expertise, but most of all, we miss him as a cherished colleague and friend.

Notes

- [1] That an editor's assumptions and approaches will affect the edition is not particular to Homeric textual criticism, of course. Stringer makes an analogous argument about editions of John Donne's poetry [Stringer 1999, 87].
- [2] Dahlström, who is not focused on Homeric epic in particular, cites the "privileging of one particular work version" and the inscrutability of the apparatus as problems with a codex-based scholarly edition for any classical work [Dahlström 2000].
- [3] Dahlström notes that synoptic, variorum, or genetic editions that seek to be complete and inclusive "illustrate the very limitations of print media" and demonstrate the need for a change in media for scholarly, critical editions [Dahlström 2000]. Robinson argues "it is difficult to think of any genre that is so well adapted to the computer as the scholarly edition" because of the need to handle multiple texts [Robinson 2003, §12].
- [4] De Smedt and Vanhoutte made this point about digital editions in general: "Electronic editions, however, should essentially be organized differently" [De Smedt and Vanhoutte 2002]. Vanhoutte elaborates on this fundamental point, disagreeing with G. Thomas Tanselle in his MLA volume Electronic Textual Editing that "the conceptual status of the texts" does not differ in print and electronic editions [Vanhoutte 2007, 160–161]. Our argument for the need for the Multitext is that print editions cannot serve the purposes we envision for our digital edition, and that to achieve our goals for the Multitext we must indeed make a change on the conceptual level of what an edition of Homeric epic is, not simply how it is delivered to the reader.
- [5] See for Van Hulle for his discussion of objections to the term "variant" by practitioners of genetic criticism. Although Van Hulle himself will use "variant" as an "umbrella term for both compositional and transmissional variants," these objections arise when textual critics pay attention to the process of composition and the natural variation that may arise within that process [Van Hulle 2004, 514]. Working with texts by modern authors like Joyce and Beckett, as Van Hulle does, is of course very different from working with ancient works, and from working with orally derived texts as well. But the parallel concerns about highlighting compositional variants we share with the inclusive approaches of genetic criticism can perhaps promote shared progress in developing the infrastructure of digital editions.
- [6] Monella proposes a digital model in which what he calls "paratexts" (for example, commentary or glosses or the scholia such as we have in our manuscripts of Homeric epic) remain connected to the main texts of the document in which they are found, and then the various main texts and paratexts are aligned so that they can be compared [Monella 2008]. The Multitext has similar goals of presenting the scholia within their

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context as part of a specific manuscript and even in their particular place on the page. That is, we hope to be able to capture the spatial relationship of the comment and the main text on the page.

- [7] As Robinson notes, "Fundamental to the model of electronic scholarly edition as it has developed over the past decade is the inclusion of full transcripts of all witnesses to the text" [Robinson 2003, §26].
- [8] See also the discussion of this concept and its application in [Vanhoutte 2007, 166–168]. One concern for our project, as discussed further below, is that the large number of witnesses, and the complexity of their historical relationships to one another, could be overwhelming for a nonspecialist, and we want to address this potential problem with some sort of guidance to the witnesses that users may select and compare.
- [9] Thaller argues that one difference, and advantage, that digital editions have over print editions is that digitized resources can be made available to users while other aspects of the project are still in process. In contrast to a print edition, which is only available when finished and "as close to perfect" as possible, digital editions can take what Thaller calls a "layered" approach, publishing each stage of the process rather than waiting until it is "complete" [Thaller 2004, 504]. In fact, he argues, the edition should be seen as an ongoing process, not a "completed" product [Thaller 2004, 505–510]. We have taken a similar approach with publication of components of the Multitext even as we continue to add more and continue to develop tools for using them.
- [10] Besides the examples discussed here, two others should be noted. In 1924, T. W. Allen analyzed variations in early papyrus texts to come up with percentage degrees of difference from the Medieval texts of Homer [Allen 1924]. In 1982, Richard Janko published a statistical analysis of the dialects and other language features in Homer, Hesiod, and the Homeric Hymns and used them to argue (among other things) that our *lliad* was composed and fixed in the eighth century BCE [Janko 1982]. Unfortunately, the studies of both Allen and Janko are marred by their small sample size, which limits the strength of any inferences that can be drawn from analysis of the data. Allen himself admitted as much, noting that "many of the figures are meaningless" [Allen 1924, 300].
- [11] E.g., the Digital Donne project at http://digitaldonne.tamu.edu/00A-variants-list.html.
- [12] Dirk Van Hulle describes a digital edition of Samuel Beckett's *Stirrings Still* in which the reader can arrange all versions of sentences, paragraphs, or sections of different drafts in a vertical juxtaposition, or compare two versions in a parallel format [Van Hulle 2004, 517].

Works Cited

- **Aland 2005** Aland, Kurt. *Synopsis quattuor evangeliorum: locis parellelis evangeliorum apocryphorum et patrum adhibitis.* Stuttgart: Deutsche Bibelgesellschaft, 2005.
- Allen 1924 Allen, Thomas W. Homer: The Origins and Transmission. Oxford: Oxford University Press, 1924.
- Allen 1931 Allen, Thomas W. Homeri Ilias. Oxford: Clarendon, 1931.
- Dahlström 2000 Dahlström, Mats. "Drowning by Versions". Human IT 4 (2000), pp. 7-38. http://hb.se/bhs/ith/4-00/md.htm.
- **De Smedt and Vanhoutte 2002** de Smedt, Marcel, and Edward Vanhoutte. "The Best of Three Worlds: Eclecticism in Editorial Theory". *Sichtungen Online* (2002). http://www2.onb.ac.at/sichtungen/berichte/smedt-m-1a.html.
- **Dué 2001a** Dué, Casey. "Achilles' Golden Amphora in Aeschines' Against Timarchus and the Aftrerlife of Oral Tradition". *Classical Philology* 96 (2001), pp. 33-47.
- **Dué 2001b** Dué, Casey. "Sunt Aliquid Manes: Homer, Plato, and Alexandrian Allusion in Propertius 4.7". *Classical Journal* 96 (2001), pp. 401-413.
- **Dué 2002** Dué, Casey. *Homeric Variations on a Lament by Briseis*. Lanham, MD: Rowman and Littlefield Press, 2002. http://chs.harvard.edu/chs/du 1.
- **Dué 2006** Dué, Casey. "The Invention of Ossian". *Classics* 3 (2006). http://chs.harvard.edu/chs/files/classics issue3 due.pdf.
- **Dué and Ebbott 2004** Dué, Casey, and Mary Ebbott. "As Many Homers As You Please: an On-line Multitext of Homer". *Classics*@ 2 (2004).
- **Foley 1991** Foley, John Miles. *Immanent Art: From Structure to Meaning in Traditional Oral Epic*. Bloomington: Indiana University Press, 1991.
- Foley 1995 Foley, John Miles. The Singer of Tales in Performance. Bloomington: Indiana University Press, 1995.

- Foley 1999 Foley, John Miles. Homer's Traditional Art. University Park: Pennsylvania State University Press, 1999.
- **Greg 1955** Greg, Walter Wilson. *The Shakespeare First Folio: Its Bibliographical and Textual History*. London: Clarendon Press, 1955.
- **Janko 1982** Janko, Richard. *Homer, Hesiod, and the Hymns: Diachronic Development in Epic Diction*. Cambridge: Cambridge University Press, 1982.
- **Kiernan 2005** Kiernan, Kevin. "Digital Facsimiles in Editing: Some Guidelines for Editors of Image-Based Scholarly Editions". In Lou Burnard Katherine O'Brien O'Keeffe and John Unsworth, eds., *Electronic Text Editing*. New York: Modern Language Association of America, 2005. http://www.tei-c.org/Activities/ETE/Preview/kiernan.xml.
- **Loranger 1999** Loranger, Carol. "This Book Spills Off the Page in All Directions: What is the Text of Naked Lunch?". *Postmodern Culture* 10: 1 (1999). http://www.iath.virginia.edu/pmc/text-only/issue.999/10.1loranger.txt.
- Lord 1991 Lord, Albert B. Epic Singers and Oral Tradition. Ithaca, NY: Cornell University Press, 1991.
- Lord 1995 Lord, Albert B. The Singer Resumes the Tale. Ithaca, NY: Cornell University Press, 1995.
- Lord 2000 Lord, Albert B. The Singer of Tales. Cambridge, MA: Harvard University Press, 2000.
- **Monella 2008** Monella, Paolo. "Towards a Digital Model to Edit the Different Paratextual Levels With a Textual Tradition". *Digital Medievalist* 4 (2008). http://www.digitalmedievalist.org/journal/4/monella/.
- Monroy et. al. 2002 Monroy, Carlos, Rajiv Kochumman, Richard Furuta, Eduardo Urbina, Eréndira Melgoza and Arpita Goenka. "Visualization of Variants in Textual Collations to Analyze the Evolution of Literary Works in The Cervantes Project". Presented at ECDL 2002. Proceedings of the Sixth European Conference on Research and Advanced Technology for Digital Libraries (2002), pp. 638-653. http://www.csdl.tamu.edu/cervantes/pubs/ecdl2002.pdf.
- Nagy 1996a Nagy, Gregory. Poetry as Performance. Cambridge: Cambridge University Press, 1996.
- Nagy 1996b Nagy, Gregory. Homeric Questions. Austin, TX: University of Texas Press, 1996.
- Nagy 2000 Nagy, Gregory. "Review of Martin L. West (ed.) Homeri illias". *Bryn Mawr Classical Review* (2000). http://ccat.sas.upenn.edu/bmcr/2000/2000-09-12.html.
- **Nagy 2002** Nagy, Gregory. *Plato's Rhapsody and Homer's Music: The Poetics of the Panathenaic Festival in Classical Athens*. Cambridge, MA: Center for Hellenic Studies, 2002.
- Nagy 2004 Nagy, Gregory. Homer's Text and Language. Champaign, IL: University of Illinois Press, 2004.
- Parry 1971 ParryA., ed. The Making of Homeric Verse. Oxford: Clarendon Press, 1971.
- **Porter 2007** Porter, Dot. "Examples of Images in Text Editing". Presented at *Digital Humanities 2007*. Proceedings of the Nineteenth Joint International Conference of the Association for Computers and the Humanities, and the Association for Literary and Linguistic Computing (2007).
- **Reynolds and Wilson 1991** Reynolds, Leighton D., and Nigel G. Wilson. *Scribes and Scholars: A Guide to the Transmission of Greek and Latin Literature*. Oxford: Clarendon Press, 1991.
- **Robinson 2003** Robinson, Peter. "Where We Are with Electronic Scholarly Editions, and Where We Want to Be". *Jahrbuch für Computerphilologie Online* 5 (2003). http://computerphilologie.digital-humanities.de/jg03/robinson.html.
- **Robinson 2005b** Robinson, Peter M.W. "Current Issues in Making Digital Editions of Medieval Texts -- or, Do Electronic Scholarly Editions Have a Future?". *Digital Medievalist* 1: 1 (2005). http://www.digitalmedievalist.org/journal/1.1/robinson/.
- **Sherratt 1990** Sherratt, E.S. "Reading the Texts: Archaeology and the Homeric Question". *Antiquity* 64 (1990), pp. 807-824.
- **Stringer 1999** Stringer, Gary. "An Introduction to the Donne Variorum and the John Donne Society". *Anglistik* 10: 1 (1999), pp. 85-89. http://donnevariorum.tamu.edu/anglist/anglist.pdf.
- **Thaller 2004** Thaller, Manfred. "Digital Manuscripts as Base Line for Dynamic Editions". *Linguistica Computazionale* 20-21 (2004), pp. 489-511.
- **Ulman 2006** UlmanH. L. "Will the Real Edition Please Stand Out?: Negotiating Multi-Linear Narratives encoded in Electronic Textual Editions.". *Proceedings of the Code Conference* (2006).

http://www.units.muohio.edu/codeconference/papers/papers/Ulman-Code03.pdf.

Van Hulle 2004 Van Hulle, Dirk. "Compositional Variants in Modern Manuscripts". *Linguistica Computazionale* 20-21 (2004), pp. 513-527.

Vanhoutte 2007 VanhoutteE. "Traditional Editorial Standards and the Digital Edition". Presented at Learned Love, sponsored by Emblem Project Utrecht (November 6–7 2006). Learned Love. Proceedings of the Emblem Project, Utrecht Conference on Dutch Love Emblems and the Internet (2007), pp. 157-174. http://emblems.let.uu.nl/static/images/project/learned_love_157-174.pdf.

Watkins 1995 Watkins, Calvert. How to Kill a Dragon. New York & Oxford: Oxford University Press, 1995.



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