

Renaissance and Reformation Renaissance et Réforme



A Comparator for the First and Second Editions of John Milton's Paradise Lost

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Volume 44, numéro 3, été 2021

Digital Approaches to John Milton
Approches numériques de l'oeuvre de John Milton

URI : <https://id.erudit.org/iderudit/1085822ar>
DOI : <https://doi.org/10.33137/rr.v44i3.37990>

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Éditeur(s)

Iter Press

ISSN

0034-429X (imprimé)
2293-7374 (numérique)

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Citer cet article

Cunningham, R. (2021). A Comparator for the First and Second Editions of John Milton's Paradise Lost. *Renaissance and Reformation / Renaissance et Réforme*, 44(3), 45–80. <https://doi.org/10.33137/rr.v44i3.37990>

Résumé de l'article

Dans cet article, Cunningham propose une approche visant à examiner les différences entre la première édition, composée de dix livres, du Paradis perdu et la seconde édition, qui compte douze livres – approche destinée à des personnes qui n'ont pas de connaissances préalables en programmation. L'outil de comparaison mentionné dans le titre de l'article fera partie de ce qui sera en réalité un nouveau type d'édition savante en ligne, qui facilitera l'annotation des textes par les étudiants, tout en posant des questions pertinentes sur la façon dont l'outil banal qu'est le navigateur pourrait contribuer à transformer la façon dont nous interagissons avec les textes. Le processus d'élaboration de cet outil de comparaison par Cunningham suggère que ce type de travail peut être accompli avec des moyens modestes et un niveau limité de connaissances en humanités numériques.

A Comparator for the First and Second Editions of John Milton's *Paradise Lost*¹

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In this article, Cunningham offers a non-programmer's approach to building a means of examining the differences between the ten-book first edition of Paradise Lost and the subsequent twelve-book second edition. The Comparator referenced in the article title will form part of what, in effect, will be a new kind of online scholarly edition, one that facilitates student annotations of texts while also asking salient questions about how the commonplace tool of a web browser might help transform how we interact with texts. Cunningham's workflow in building the Comparator suggests that this kind of successful and useful digital humanities work can be achieved with modest means and only a modest level of DH knowledge.

Dans cet article, Cunningham propose une approche visant à examiner les différences entre la première édition, composée de dix livres, du Paradis perdu et la seconde édition, qui compte douze livres – approche destinée à des personnes qui n'ont pas de connaissances préalables en programmation. L'outil de comparaison mentionné dans le titre de l'article fera partie de ce qui sera en réalité un nouveau type d'édition savante en ligne, qui facilitera l'annotation des textes par les étudiants, tout en posant des questions pertinentes sur la façon dont l'outil banal qu'est le navigateur pourrait contribuer à transformer la façon dont nous interagissons avec les textes. Le processus d'élaboration de cet outil de comparaison par Cunningham suggère que ce type de travail peut être accompli avec des moyens modestes et un niveau limité de connaissances en humanités numériques.

As of the 1985 publication of Gordon Moyles's *The Text of Paradise Lost: A Study in Editorial Procedure*, John Milton's epic poem had “been printed, in complete and distinct editions, at a rate equivalent to once every year” since it first appeared: probably, Moyles wrote, “more often [...] than any other work of literature in the English language.”² And why not? “*Paradise Lost* is the single

1. I am greatly indebted to Harvey Quamen for suggesting the conference session “Digital Humanities Approaches to John Milton,” co-sponsored by the Canadian Society for Renaissance Studies and the Canadian Society for Digital Humanities, at the 2019 Congress of the Humanities and Social Sciences conference in Vancouver, British Columbia, 3 June 2019, in which a version of the present article was originally given, and even more for his editorial and other assistance rendered since.

2. R. Gordon Moyles, *The Text of Paradise Lost: A Study in Editorial Procedure* (Toronto: University of Toronto Press, 1985), ix, [dx.doi.org/10.3138/9781487576653](https://doi.org/10.3138/9781487576653).

greatest poem in the English language. Its influence is pervasive.”³ Surely its publication history helps explain that pervasiveness. In its 1667 first printing, *Paradise Lost* was divided into ten books and consisted of 10,549 lines of iambic pentameter blank verse. The print run for this first edition was contractually set at 1,300 copies, and initially the poem began immediately after the title page.⁴ By that I mean there were no preliminary pages or paratext of any kind interposed between the title page and the poem itself.⁵ When the second edition appeared in 1674, it appeared in twelve books at the length at which most people read it today, 10,565 lines. And while readers do quite reasonably find a poem of 10,565 lines daunting, it should be noted that the difference between the first and second editions—the only editions Milton himself was alive to “see”—is only sixteen lines.⁶ But while revising the poem in a manner that resulted in an only marginally higher line count, Milton also changed the poem’s internal divisions from ten books to twelve. This tells us that the more important qualities of revision from the first to the second edition occurred above the poem, as it were: not in its language but in the way the author conceived of his poem. In a 1954 article, Robert Adams notes that the “opinion is a little better than two centuries old that Milton was an exacting corrector of the proofs of *Paradise Lost*” after which Adams then challenges this assertion.⁷ Adams uses Harris Francis Fletcher’s facsimile edition, in which the second volume contains a reproduction of the 1667 first edition of the poem and the third volume contains a reproduction of the 1674 second edition, to assert his challenge to that long-held orthodoxy.⁸ While Fletcher “estimates the number of variations [between the first and second editions] at something like 900,” in Adams’s opinion the majority of these variations are not substantive, and so

3. Paul Stevens, “Freedom and the Fall,” in *Paradise Lost: A Theatrical Adaptation of Paradise Lost by John Milton*, by Erin Shields (Toronto: Playwrights Canada Press, 2018), ix.

4. Harris F. Fletcher, *The Complete Poetical Works of John Milton* (Boston: Houghton Mifflin, 1941), 149.

5. Moyles, 12.

6. Having gone blind years before 1667, Milton of course could not physically see his poem in print. For those who question the metaphor of Milton’s “seeing” the product of his mentation after it left the printshop, see Mindele Treip, *Milton’s Punctuation and Changing English Usage, 1582–1676* (London: Methuen, 1970); for a counterargument, see also Robert Martin Adams, “The Text of *Paradise Lost*: Emphatic and Unemphatic Spellings,” *Modern Philology* 52.2 (1954): 84–91, doi.org/10.1086/389035.

7. Adams, “The Text of *Paradise Lost*.”

8. Harris F. Fletcher, ed., *John Milton’s Complete Poetical Works, Reproduced in Photographic Facsimile*, 4 vols. (Urbana: University of Illinois Press, 1943–48).

ought to be dismissed.⁹ While this may be something to consider for established scholars and bibliographers, for students and new readers it is always instructive and sometimes self-affirming to see that famous authors revise more or less as do they themselves. Admittedly it is important to communicate to such new readers the possibility that these non-substantive changes may not be Milton's, that they may be the result of a printer's or a compositor's actions. But that itself opens a window on the material process by which an authorial manuscript becomes a printed text, and the importance of that kind of instruction ought not to be underestimated.

But to return to the question of the more immediately evident revision from ten books to twelve, John Hale has argued that Milton's decision to "cut [...] up the two longest of the ten books to make twelve" was due to his desire to lead readers toward seeing the generic similarities between Virgil's *Aeneid* and *Paradise Lost*.¹⁰ As Hale compellingly argues, Virgil's reputation in England was on the ascendent in the middle of the seventeenth century until at least 1674.¹¹

The first edition appears behind seven subtly different title pages, but the poem itself in those seven releases is in fact the same first edition originally printed in 1667. It is the poem issued in various states, but these variants are not successive: i.e., not different editions. One of the major variations is the inclusion of preliminary material between the title page and the text of the poem. This particular variation was uniformly present behind 1668 title pages, but three copies held by the University of Illinois under the call number 821 M24M11667a suggest that a few 1667 title pages remained to adorn the poem by the time the preliminaries were printed.¹² More commonly, though, one will find those fourteen pages of Preliminaries in copies of the poem published behind the 1668 title page on which the author is identified as "The Author || JOHN MILTON," the printer as "S. Simmons," and the sellers as "S. Thomson at the Bishops-Head in Duck-lane, H. Mortlack at the White Hart in Westminster

9. Adams, 85; Fletcher, 3:55.

10. John K. Hale, "Paradise Lost: A Poem in Twelve Books, or Ten?" *Philological Quarterly* 74.2 (Spring 1995): 131–49, 138.

11. Since Hale's 1995 intervention, it seems the only extended consideration of the first and second editions relative to each other has been Jonathan Randall Olson, "Paradise Revised: The Formal and Material Revision of *Paradise Lost*" (PhD thesis, University of Liverpool, 2009).

12. Hanan Jaber, email message to the author, 25 February 2020.

Hall, *M. Walker* under *St. Dunstons Church in Fleet-Street*, and *R. Boulter* at the *Turks-Head* in *Bishopsgate street*, 1668.” In this 1668 imprint, Samuel Simmons added a very brief note, “*The Printer to the Reader*,” that read: “*Courteous Reader*, There was no Argument at first intended to the Book, but for the satisfaction of many that have desired it, I have procur’d it, and withall a reason of that which stumbled many others, why the Poem Rimes not.” It was signed “*S. Simmons*,” and thus is provided the reason for what, by 1674, appeared as headpieces to each book.¹³

While it is beyond us to discover the essence of Milton’s thought processes, and by now uncovering any exchanges between the Simmons’ printshop and the author is so unlikely as to be unthinkable, it does remain possible for the twenty-first-century reader to ponder the essence of the differences to be found between the first and second editions themselves.¹⁴ But to ponder those differences one must first see what they are, and to start such an inquiry requires taking a close look at the two different editions. Using two volumes of Fletcher’s four-volume facsimile edition—could people but access it—would make it possible to compare the two editions. But Fletcher’s edition is long out of print, and not itself readily available to many readers of Milton. And, sadly, the much more recently published “*Paradise Lost: A Poem Written in Ten Books*”: *An Authoritative Text of the 1667 First Edition* is similarly out of print. This version was published by Duquesne University Press, but the material to re-print it was sold to Penn State University Press, and I have not been able to learn of any plan to use that material to do so.¹⁵ Currently a work in progress, *A Paradise Lost Portal*—to be published at the URL paradiselost.ca—will address

13. John Milton, *Paradise Lost* (London: Samuel Simmons, 1668). Wing-M2139-609_06. There is more than one version of this note.

14. The reference is to the “Simmons’[s]” print shop because D. F. McKenzie offers a convincing argument in “Milton’s Printers: Matthew, Mary and Samuel Simmons,” *Milton Quarterly* 14.3 (1980): 87–91, [dx.doi.org/10.1111/j.1094-348X.1980.tb00220.x](https://doi.org/10.1111/j.1094-348X.1980.tb00220.x); that after the 1654 death of Matthew Simmons, the founder of the print shop, his wife Mary took over its operations. According to McKenzie, *Paradise Lost* was one of only three publishing projects overseen by Samuel, and the business was Mary’s until her death in 1687. Her son Samuel died within two months of his mother.

15. John T. Shawcross and Michael Lieb, eds. and transcribers, “*Paradise Lost: A Poem Written in Ten Books*”: *An Authoritative Text of the 1667 First Edition*, 2 vols. (Pittsburgh: Duquesne University Press, 2007). The information about the sale of material was obtained from Jeffrey McCurry, email message to the author, 9 February 2021. Attempts to contact Penn State University Press for information about this material have so far been unsuccessful.

this lacuna in Milton studies through the inclusion of a Comparator that enables ready, immediate, line-by-line comparison of these first two editions (see figs. 4–6, below). Being able to easily compare the first two editions will enable readers to conceptualize Milton's revision from his Lucanian, republican, ten-book epic to his Virgilian and therefore potentially imperial twelve-book edition.¹⁶ It will also enable readers to compare, consider, and possibly choose between Mindele Treip's vision of Milton as a careful revisor of his master work and Adams's position that what has been taken for at least two centuries to be careful revision is more likely to be merely printed accidentals.¹⁷ Finally, it will also enable readers to apply their own critical principles to the poem as a text by examining the two slightly different documents that, along with the many other "complete and distinct editions, [published] at a rate equivalent to once every year" since 1674, make up the text we know as *Paradise Lost*.¹⁸ Each of these uses will be expanded on below.

Statement of purpose

As noted at the outset of this article, in 1985 Gordon Moyles wrote that *Paradise Lost* "has been printed, in complete and distinct editions, at a rate equivalent to once every year" since it first appeared. Since Moyles's 1985 publication date, new editions of the poem have continued to appear, despite the undeniable travails in the late twentieth- and early twenty-first-century publishing industry.¹⁹ Given this profusion of attention it would be reasonable to ask why anyone should create yet another edition. The answer lies in the

16. On the Virgilian structure of the poem, see Hale, "Paradise Lost: A Poem in Twelve Books, or Ten?"

17. See Treip, *Milton's Punctuation*, and Adams, "The Text of *Paradise Lost*."

18. Moyles, ix.

19. A very small sample of more recent editions could include the following: *Paradise Lost: An Authoritative Text, Backgrounds and Sources, Criticism*, ed. Scott Elledge, 2nd ed. (New York: W.W. Norton & Company, 1993); *Paradise Lost*, ed. Alastair Fowler, 2nd ed. (New York: Longman, 1998); *Paradise Lost*, ed. John Leonard (London: Penguin Books, 2003); *Paradise Lost*, ed. Stephen Orgel and Jonathan Goldberg (Oxford: Oxford University Press, 2004); *Paradise Lost*, ed. David Scott Kastan and Merritt Y. Hughes (Indianapolis: Hackett Publishing, 2005); *Paradise Lost: Authoritative Text, Sources and Backgrounds, Criticism*, ed. Gordon Teskey (New York: W.W. Norton & Company, 2005); *Paradise Lost*, ed. Barbara Kiefer Lewalski (Malden, MA: Blackwell, 2007); *Paradise Lost: A Poem Written in Ten Books*, ed. John T. Shawcross and Michael Lieb (Pittsburgh: Duquesne University Press, 2007); *Paradise Lost: The Biblically Annotated Edition*, ed. Matthew Stallard (Macon: Mercer University Press, 2011);

historical moment. Moyles published when the Internet was barely formed and the World Wide Web was still more idea than reality. Since then, an evolving and excellent addition to the history of Milton publication has been prepared and is maintained by Thomas Luxon as part of Dartmouth College's The John Milton Reading Room.²⁰ As Luxon puts it in his introductory text ("About"), that site "like most websites, is (and always will be) a work in progress." Luxon adds that "Almost all of the works presented [as part of The John Milton Reading Room] have been fully annotated; [and] most have solid introductions as well."²¹ With such substantial representation in the digital realm, there might seem to be little need and even less room for yet another edition. But *A Paradise Lost Portal* has been planned from the outset to offer affordances other than those available to a reader in The John Milton Reading Room (see fig. 1).

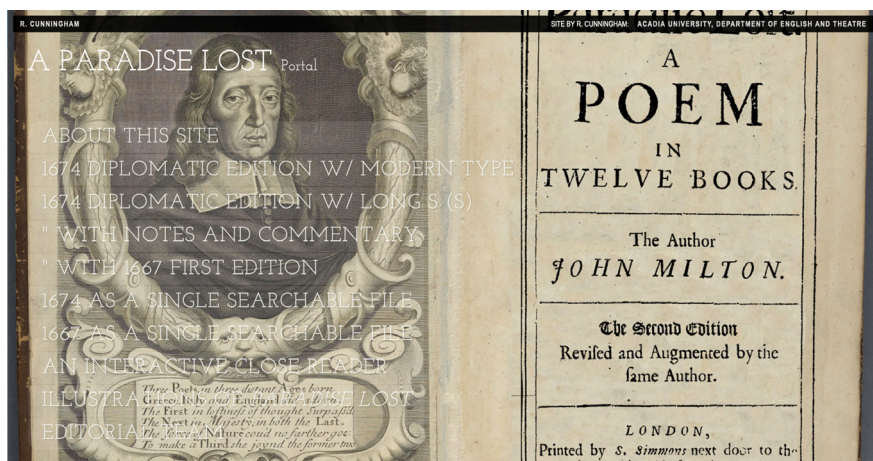


Figure 1. The title page of the *Paradise Lost Portal*.

Like the version of *Paradise Lost* offered through Dartmouth College, the primary text to be made available through the *Paradise Lost Portal* will be not

Paradise Lost: Parallel Prose Edition, John Milton and Dennis Danielson (Peterborough, ON: Broadview Press, 2012).

20. Thomas Luxon, The John Milton Reading Room, developed 1997, accessed 5 February 2020, dartmouth.edu/~milton/reading_room/contents/text.shtml. Updates ongoing.

21. "About," accessed 5 February 2020, dartmouth.edu/~milton/reading_room/contents/about_mrr.shtml.

the 1667 first edition but the 1674 second edition of *Paradise Lost*. But on the *Paradise Lost* Portal site, the HTML-encoded text of the poem will sit beside photographic reproductions of a surviving copy of the original 1674 imprint, thus allowing readers to satisfy themselves as to the accuracy of transcription (see fig. 2).²² Speaking of HTML, now might be as good a time as any to explain why instead of using Text Encoding Initiative (TEI)-conformant eXtensible Mark-up Language (XML) I decided to create this edition using HTML rather than TEI-XML, as might be widely expected. Firstly, I am more familiar with HTML than I am with TEI-XML. I have been writing and teaching HTML since the late 1990s, and despite having taken courses devoted to TEI I have never developed an affinity for that type of mark-up. Described as “a defining feature of the methodological framework of the Digital Humanities,” TEI is the better form of mark-up for, in brief, “algorithmic processing,” but for direct communication between an author (with or without an editor) and a reader, I hold HTML to be the better choice.²³ TEI is mark-up for a text, without actually being the text itself. Its purpose is “to express a truth about a document or a document’s intentions,” with the key term being “about.” Expressing anything “about” something is not the same as articulating the thing itself; for the former, unquestionably TEI would be the better choice, but for the latter, HTML is the better, because the more direct, route to take. Furthermore, an examination of the SSHRC-funded “Endings Project” shows us a series of page-links under the “Code” link in the menu on its home page.²⁴ One of those page-links connects the reader to a GitHub repository devoted to testing TEI projects for correctness and completion.²⁵ Within the ReadMe file in that repository you will find the following sentence: “This project provides an Oxygen project which you can open, then press a button, select a folder, and run a diagnostic process against your TEI XML project files, generating an HTML page showing

22. The photographic reproductions are of the 1674 edition of *Paradise Lost* held in Special Collections – Rare Books in the University Library of the University of Saskatchewan. Thanks are due to Brent Nelson for providing the author with these images.

23. Lou Burnard, “What is TEI Conformance, and Why Should You Care?” *Journal of the Text Encoding Initiative* 12 (July 2019–May 2020): 1, 3, dx.doi.org/10.4000/jtei.1777.

24. “projectEndings,” accessed 20 March 2021, endings.uvic.ca; github.com/projectEndings/.

25. “diagnostics,” accessed March 20, 2021, github.com/projectEndings/diagnostics.

statistics, errors, and warnings based on an analysis of your XML documents.”²⁶ What this means is that even proponents of TEI recognize that TEI-XML is not a language that prioritizes human readability, while HTML is. And HTML, or Hyper-Text Mark-up Language, is older than TEI and is wedded to the World Wide Web more intimately than TEI ever will be. So, historically speaking, perhaps HTML is likely to have the greater staying power of the two. Finally, as the amount of energy needed to run anything, including single-topic websites, comes under the microscope as we all work to reduce global energy demands, the more direct route between writer and reader is likely to be the better choice. HTML requires less energy than does any schema that places extra demands on its systems to get a readable page into a browser.

Seeing through the Portal

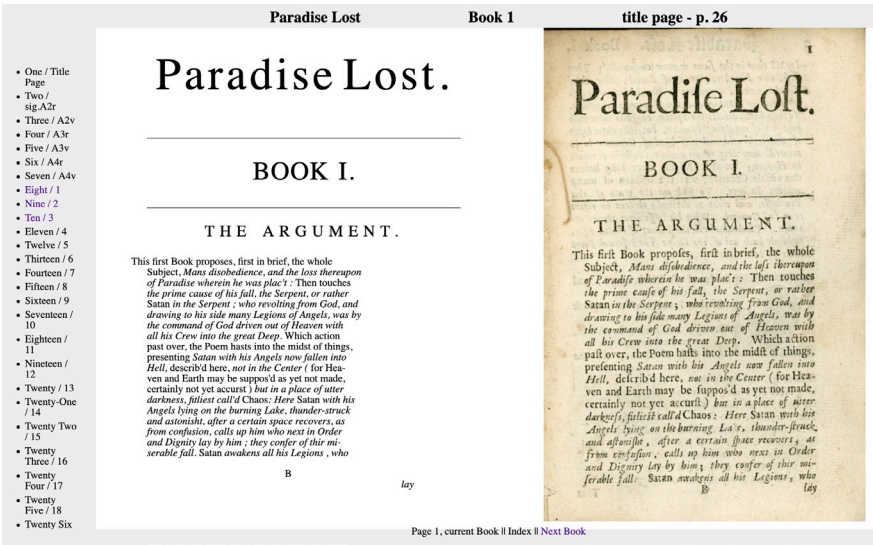


Figure 2. With transcription on the left, photographed page images sit to the right.

26. “README.md,” accessed 20 March 2021, github.com/projectEndings/diagnostics/blob/dev/README.md.

Along with these photographs there will be a section of the Portal site in which commentary describing the dramatic action of the poem can be accessed by readers who want to assure themselves that they are following the argument of the poem. These commentaries will also explain to whom specific passages are attributed (see fig. 3).

Readers at any level of study can struggle upon first encountering *Paradise Lost*. Those who have been re-reading it for years can often forget how hard they too had to work simply to understand the action of the poem, to answer the questions of “who is speaking?” and “what’s going on, right here, at this point in the poem?” Given that *Paradise Lost*, a 10,565-line epic poem, is dense and difficult to understand, the commentary available through the Portal edition will treat it as though it were still the drama Milton originally conceived. As William Riley Parker explains in *Milton: A Biography*, Milton had gone so far in envisioning a tragedy about the loss of paradise that among seven pages of notes “following *Lycidas* in the Trinity Manuscript [... is] a page containing notes on ‘Paradise Lost’ as a tragedy” that dates from “within a year or so

Paradise Lost, A poem in Twelve Books, by the author John Milton

Notes	BOOK 1	Commentary
<p>Book 1 Notes</p> <p>this Book To a modern reader, books contain poems, not the other way around. But <i>Paradise Lost</i> is an epic, and epic poetry. ...</p> <p>man's disobedience On the surface, “man’s disobedience” refers to Adam and Eve’s failure to obey God’s instruction not to eat the fruit of the Tree of Knowledge of Good and Evil (Gen. 3). <i>Paradise Lost</i> will offer a deeper explanation, inviting you to inquire into the nature of that disobedience, and of the relationship of man and woman to each other, and of humanity to God.</p> <p>Man’s Disobedience of Paradise As a result of their disobedience, Adam and Eve were expelled from the Garden. The details Milton provides in his account of the expulsion stay very close to the over-arching and explicitly stated goal of the poem: to “justify the ways of God to men.” (1.26). These details also invite the thoughtful reader to consider the very concept of justice as it applies to Adam and to Eve; this is true whether or not Milton intended to raise such thoughts in his reader’s mind.</p> <p>prime cause of his fall The implication of this sentence is that “man’s disobedience” is not the primary, the first, cause of expulsion from the Garden of Eden. Indeed, the first cause does not even seem to be located in humanity itself, does it?</p> <p>Satan in the serpent As you will see at Book 1.10.771, the serpent’s role in the Temptation initially offers yet another opportunity to question God’s judgment, but upon deeper consideration the poem also provides an answer to that</p>	<p>THE ARGUMENT</p> <p>This first Book propoſes, firſt in brief, the whole Subject, <i>Mans diſobedience, and the loſs thereupon of Paradife</i> wherein he was plac’d: Then touches the <i>prime cauſe of his fall</i>, the Serpent, or rather <i>Satan in the Serpent; who revolting from God, and drawing to his ſide many Legions of Angels, was by the command of God driven out of Heaven with all his Crew into the great Deep</i>. Which action paſt over, the Poem haſts into the <i>miſt of things</i>, preſenting <i>Satan with his Angels now fallen into Hell</i>, deſcrib’d here, <i>not in the Center (for Heaven and Earth may be ſuppoſ’d as yet not made, certainly not yet accurſt) but in a place of utter darkneſs, fittiſt call’d Chaos: Here Satan with his Angels lying on the burning Lake, thunder-ſtruck and aſtoniſht, after a certain ſpace recovers, as from conſuſion, calls up him who next in Order</i></p>	<p>BOOK 1 COMMENTARY</p> <p>Lines 1–26: In the first 26 lines of the poem the narrator, in keeping with the tradition of <i>epic poetry</i>, invokes the aid of his “Heavenly Muse.” More importantly, though, in line 26 the reader is furnished with the poem’s over-arching purpose: to “justify the ways of God to men.” It is important to note that the promise is to justify God’s ways not to the (supposedly) inclusive singular “man,” but to a subset of humanity identified as men. Arguments over gender inclusion or exclusion can be made, but Milton’s apparent sexism aside, his text is aimed not at all people but only at that “fit audience though few” referred to at line 31 of Book VII. This audience would probably be the Elect, those justified through God’s Grace as accorded with Milton’s highly personal form of Christianity, derived from but not identical to <i>Calvinism</i>, either before or during Milton’s life time.</p> <p>Lines 27–53: In lines 27–53 the speaker calls on his muse to first explain the cause of Adam and Eve’s (our Grand Parents’) [1.29] original sin. The speaker characterizes the muse as virtually all-knowing, thanks to heavenly permission. In phrasing the speaker’s request, the poet calls attention to the belief that Adam and Eve (and, by implication, subsequently all of humanity) would have ruled the world, subject to only one injunction: the original commandment not to eat the fruit of the tree of the knowledge of good and evil. In asking his final question of the muse—“Who first seduced them?”—the speaker introduces a cause and effect relationship that might suggest Adam and Eve, and again all humans by implication, are not fully and not initially responsible for their sin(s). What might this imply about the doctrine of original sin, and about the natural state of the human creature?</p>

Books: Home Preliminaries Book I Book II Book III Book IV Book V Book VI Book VII Book VIII Book IX Book X Book XI Book XII

Figure 3. With the poem in the middle, notes and commentary sit to the left and right, respectively.

after [Milton's] return from the Continent."²⁷ According to Barbara Lewalski, Milton was on his personal "Grand Tour" of Europe "from late April or early May, 1638 to late July or early August, 1639" which would place this early planning for what would become *Paradise Lost* in 1639–40.²⁸ Parker also reminds us of an assertion from John Aubrey's "Minutes of the Life of Mr John Milton" according to which Milton's nephew Edward Philips "remembers, about 15 or 16 yeares before ever his Poem was thought of," seeing a proposed opening to the version of *Paradise Lost* that would have been a tragedy.²⁹ These lines survive as lines 32–41 of the second edition's book 4 in *Paradise Lost*.³⁰ In an endnote, Parker writes that "the Cambridge Manuscript entries are proof enough that Milton was considering a drama on 'Paradise Lost' c. 1640–2."³¹

In "*Paradise Lost: A Poem in Twelve Books, or Ten?*" John Hale reminds us that Arthur Barker had already "reason[ed] that although the poem was Virgilian from the outset in many respects, it was not so in its book-divisions, because these at first sought a five-act structure."³² Although Hale follows Barker's reasoning in suggesting that the 1667 edition was a poem in ten books largely because it had been conceived originally as a five-act drama, Lewalski suggests that Milton opted for "the ten-book model of the republican Lucan" due to an initial political distaste for the "Roman imperialist and royalist associations" of a

27. William Riley Parker, *Milton: A Biography*, 2 vols. (Oxford: Clarendon Press, 1968), 1:190. See also Hale, 138.

28. Lewalski, 87.

29. John Aubrey, "Minutes of the Life of Mr John Milton," in *The Early Lives of Milton*, ed. Helen Darbishire (London: Constable & Co., 1932), 1–16, 13.

30. O thou that with surpassing Glory crownd,
Look'st from thy sole Dominion like the God
Of this new World ; at whose sight all the Starrs
Hide thir diminisht heads ; to thee I call,
But with no friendly voice, and add thy name
O Sun, to tell thee how I hate thy beams
That bring to my remembrance from what state
I fell, how glorious once above thy Speare ;
Till Pride and worse Ambition threw me down
Warring in Heav'n against Heav'ns matchless King. (1674 edition: 4.32–41).

31. Parker 2:857.

32. Hale, 132.

Virgilian twelve-book epic.³³ David Quint and William Poole also call attention to Lucanian qualities in *Paradise Lost*, but do so without attributing the ten-book structure to Lucan's *Pharsalia*.³⁴ In any event, no one can reasonably deny that, despite the poem's generic status as an epic, the originally imagined dramatic structure stuck to Milton's composition through to its appearance as an epic. Thus, it makes sense to elucidate the poem to new readers as though it actually were a drama, despite Milton's ultimate decision to author an epic. I place an emphasis on "as though": as though it were a drama. Reading it as almost a closet drama (a drama never intended to be performed but always simply to be read) helps new readers to understand the basic action of the poem: to know who is speaking, to whom, and on what occasion. Reading the epic as if it were a closet drama is not to claim that *Paradise Lost*, like *Comus*, is a closet drama, just that approaching the poem in this way during readers' earliest encounters with it can help their understanding of the characters and the action of the poem. With such an approach, students can more readily engage, and sooner, with the poem on the deeper and more fulfilling levels available to more experienced readers. The commentaries proposed as one of the affordances of A *Paradise Lost* Portal will enable those deeper levels of engagement.

Given its enduring popularity, it is no surprise that *Paradise Lost* has inspired a number of artists to produce images based on particularly evocative lines in the poem. So, another affordance of the *Paradise Lost* Portal edition will be "Illustrations of *Paradise Lost*." The plan is to eventually have a reasonably comprehensive collection of these images; to begin with, however, users will be able to access forty-eight images from nineteenth-century French artist Gustave Doré's 1866 edition of *Paradise Lost*. Doré also created images to accompany Shakespeare's *The Tempest* (1860), Cervantes's *Don Quixote de la Mancha* (1863), English editions of Dante's *Divine Comedy* (1866 and 1867), Coleridge's *Rime of the Ancient Mariner* (1870), Tennyson's *Idylls of the King* (1875), and Ariosto's *Orlando Furioso* (1877). He was by any measure an important reader and imaginative artistic interpreter of literature, and as such warrants having

33. Lewalski, 460.

34. David Quint, *Inside Paradise Lost: Reading the Designs of Milton's Epic* (Princeton: Princeton University Press, 2014), 204, 210, [dx.doi.org/10.1515/9781400850488](https://doi.org/10.1515/9781400850488); and William Poole, *Milton and the Making of Paradise Lost* (Cambridge, MA: Harvard University Press, 2017), 167, [dx.doi.org/10.4159/9780674982673](https://doi.org/10.4159/9780674982673).

his images of *Paradise Lost* included in an edition that need not worry, as print editions do, about the cost of reproducing photographic plates.

In future, the *Paradise Lost* Portal will include an Interactive Close Reader which is planned to be a self-contained suite of pages that professors can download for their own use. They will be able to upload any text, not just *Paradise Lost*, into an included database from which the texts can be treated in smaller blocks of text, much like *Paradise Lost* has been for the Commentary affordance of the Portal edition. Then the professor can assign each section of the text to specific students for the sake of creating their own commentaries. With sections of text significantly smaller than the whole to attend to, the Interactive Close Reader encourages students both to develop exceptional close reading skills and, perhaps counter-intuitively, to engage with the whole text more attentively and at a higher level of complexity than when they are not similarly challenged. Because the Interactive Close Reader is designed to be used where the entire class has access to it and can read it, each student is more motivated to produce good, thoughtful work than they ever seem to be when their expectation is that only the professor will see what they write or encounter their ideas.

Another of the affordances to be offered through the *Paradise Lost* Portal edition of the poem is a serving up of the entire 10,565 lines of the 1674 second edition and the 10,549 lines of the 1667 first edition in two separate files. The purpose of these pages is to facilitate full-text searches of the entire poem rather than require users of the site to search book-by-book for a term or a passage they are sure they've read but are not sure where to find in the poem. For example, we all know that in Milton's mind *Paradise Lost* was written with the hope that it would "fit audience find, though few," and that somewhere in the poem Satan says "The mind is its own place, and in itself / Can make a Heaven of Hell, a Hell of Heaven," but only a rare few would be able to say, without searching the poem one way or another, that the first of these three lines is line 31 of book 7 and that the latter two lines appear as lines 224 and 225 of book 1. Many readers, it seems, after they have finished the poem, believe they read lines 224 and 225 later than in book 1. Thus, being able to search the entire poem in a single file can surprise readers as well as facilitate research by saving them time in their search for what they "know is in there somewhere" but are not quite sure where. This Single Searchable File affordance will be available for each of the 1667 and the 1674 editions.

But even if each of the first two editions can be searched easily, they are still being searched separately. To compare the ten-book first edition to the twelve-book second edition would then require users to open two browser windows and try to re-size each to sit beside the other; then to scroll down in each to find the appropriate place to compare in the other edition. To make comparison easier, A *Paradise Lost* Portal will include an affordance called a Comparator. The *Oxford English Dictionary* defines “comparator” as “an instrument for comparing,” and that is what this final affordance will offer.³⁵ Although not in one long file but, as usual, book by book, users will be able to see at a glance—and line by line—the differences in pagination, lineation, spelling, and language between Milton’s original 10,549-line, ten-book, first edition of the poem and his 10,565-line, twelve-book, second edition.³⁶ No side-by-side comparison of this kind has previously been offered online, and Fletcher’s facsimile edition is far from being readily available to all readers of the poem.³⁷ And while the big, structural changes between the first and second editions do not occur until more than halfway through the poem, there are literally dozens of small changes from the first edition to the second before—as well as after—that first big structural change. Some of these small changes are probably insignificant, as Adams has argued: for example, the ampersand—“&”—in the first edition often becomes “and” in the second, while occasionally that change goes in the opposite direction; or an extraneous letter “e” in the terminal position is sometimes present in 1667 but dropped for the 1674 imprint.³⁸ For example, “benumme” (book 2, line 74) and “mankinde” (book 1, line 36) in 1667, become “benumm” (book 2, line 74) and “mankind” (book 1, line 36) in the 1674 imprint. But, lest anyone think that the modification of “mankinde” to “mankind” represents a consistent step toward the form that will later become standard English, the results of removing terminal “e”s cut both ways, as 1667’s “illumine” (book 1, line 23 in both editions) becomes “illumin” in 1674. Other extraneous uses of “e” in

35. *Oxford English Dictionary*, s.v. “Comparator,” OED.com, accessed 13 May 2019.

36. On the surety with which we can ascribe Milton a prominent role in the revision from the first to the second edition, see Treip, *Milton’s Punctuation*. For a counterargument, see Adams, “The Text of *Paradise Lost*.”

37. See note 8, above. In the H. F. Fletcher facsimile, the 1667 edition is in volume 2 while the 1674 edition is in volume 3, thus making direct comparison somewhat cumbersome in any event.

38. Adams’s “The Text of *Paradise Lost*: Emphatic and Unemphatic Spellings” is probably the most insistent argument that many of the changes between the first and second editions are not substantive.

1667 include the common spelling of “only” as “onely.” This particular change is remarkable for its consistency throughout the poem, and so can be seen as, if not quite significant, at least slightly more significant than some of the other droppings of extraneous “e”s. But other changes that might be seen as small are genuinely significant despite their initial appearance as otherwise.

An example of a significant change, a change that signifies quite profoundly, occurs in the 1667 edition at lines 504–05 of book 1 when we read “when hospitable Does / Yielded thir Matrons to prevent worse rape” while at the same place in the 1674 edition we read “when the hospitable door / Expos’d a Matron to avoid worse rape.” The change from “Does / yielded thir Matrons” to “door / Expos’d a Matron” is typographically small, but semantically significant. The biblical sanction for these lines lies at Genesis 19:6–8:

6 And Lot went out at the door unto them, and shut the door after him,
 7 And said, I pray you, brethren, do not so wickedly.
 8 Behold now, I have two daughters which have not known man; let me,
 I pray you, bring them out unto you, and do ye to them as is good in your
 eyes: only unto these men do nothing; for therefore came they under the
 shadow of my roof.³⁹

In the Genesis version there is only one door, as there is in the 1674 second edition of *Paradise Lost*. But Lot offers not one but two daughters, which is more in concert with the plural “Matrons” Milton describes in line 505 of the first edition than with the singular “Matron” of the second edition. While it is even more significant that Milton chose the word “Matron(s)” rather than “maidens,” or some similar term more consonant with the idea of women who “have not known man,” it is all the same significant in its own right that most likely Milton revised the plural “Does” to the singular “door” and the plural “Matrons” to the singular “Matron.” In Genesis 19, “the men of [...] Sodom, [...] all the people from every quarter” demanded Lot deliver to them the visiting angels-cum-men. Instead, “Lot went out at the door unto them, and shut the door after him.” The number of doors is not merely implied; twice it is

39. King James Version. The British Library has a copy of *The Holy Bible* formerly owned by Milton; it is what we now refer to as the KJV, printed in 1612 by R. Barker. It is held in the General Reference Collection: Add. MS. 32310.

explicitly said to be only one, only a “door.” Thus, it becomes clear that Lot, of all Sodom only Lot, stands up to the mob, to “all the people from every quarter.” Lot’s heroism is thereby rendered individual, and all the more heroic for being individual. And in providing that emphasis Milton reinforces one of his goals for writing *Paradise Lost* as an epic rather than as a tragedy. In book 9 the poet explains that “hitherto the onely Argument / Heroic deem’d, [...] / With long and tedious havoc fabl’d Knights / In Battels feign’d ; [while] the better fortitude / Of Patience and Heroic Martyrdom / [has remained] Unsung” (9.28–33, 1674). Milton wants *Paradise Lost* to re-write the rules of heroism, and along the way also the rules of the epic. His revision of “dores” to “door” moves the poem toward that goal, toward making heroism not a function of “long and tedious havoc” endured in fighting wars and battles, but of the quiet internal comportment of one who “Bear[s God’s] mild yoke [because such a one] / serve[s] him best.”⁴⁰ For Milton, the hero can be, and rightly ought to be, conceived as one “who only stand[s] and wait[s],”⁴¹ with his virtue as his shield, and that is what the poet wants to communicate to his readers—in *Paradise Lost* no less than in his nineteenth sonnet. Changing “Dores” to “door” helps him do that, in a manner more subtle than, but similar to, the portrayal of heroic virtue readers see in the angel Abdiel, who is “faithful found, / Among the faithless, faithful only hee” (book 5, lines 896–97). Abdiel demonstrates the model of the virtuous, independent individual by hastening back to the faithful angels to warn them of what’s to come. Abdiel travels as fast as he can from the rebel stronghold in the north of heaven toward heaven’s throne, after having listened to Satan foment rebellion and having recognized the positive reception Satan is given by the rebellious angels who have followed him north (book 5, lines 809–907). The seemingly insignificant revision of “dores” to “door” in 1674 similarly reinforces Milton’s Protestant understanding of the power that faith can exercise, and be seen to exercise, in the individual believer.

But if “Dores” to “door” contributes to one of the poem’s goals, and thereby to its stated thesis of “justif[ying] the wayes of God to men,” his reduction of “Matrons” to “Matron” speaks to a different level of our understanding of the poem. It may suggest that Milton’s emphasis on the heroism of the individual

40. Milton, “When I consider how my light is spent,” sonnet 19, in *John Milton: Complete Poems and Major Prose*, ed. Merritt Y. Hughes (New York: Macmillan, 1957), 168.

41. Milton, sonnet 19.

bled over to corrupt—consciously and willingly, or perhaps sub-consciously—his recollection of Genesis 19. As can be seen in the biblical passage quoted above, it is clear Lot offers his *two* daughters, not only one. But perhaps Milton wanted to extend to Lot's progeny the heroic virtue displayed by Lot himself in the Bible, and by Abdiel in *Paradise Lost*. Maybe Milton read Genesis 19 as suggesting that Lot's daughters were themselves willing to be sacrificed to the mob to keep Lot's guests safe. Such an interpretation is supported by his decision to use "Matrons," indicative as it is of sexually experienced women, rather than the more sexually innocent sounding "daughters." When the plural "Matrons" is changed to the singular "Matron" it becomes possible to read a daughter's complicity in her father's seemingly rash offer as another example of the kind of individual heroic virtue Milton wants his readers to look for, to see, and ultimately to enact. It is, admittedly, possible that Milton, or even only a print shop compositor, singularized "Matrons" to "Matron" simply because the proximate word "Dores" was singularized to "door." This might have happened in an unthinking moment of copy-editing, either by Milton, by one of his amanuenses, or by someone in the printer's building. But if we choose to believe, with Treip and "better than two centuries" of Milton commentary, that Milton, blind as he was, was attentive to his poem and all its components, then we can confidently say that he had a goal in mind, and we can further say that he saw providing a model of a singular human figure in this episode as more helpful in reaching that goal than would have been multiple figures.⁴² Asserting this level of attention to seemingly minor changes is consistent with arguments advanced by Treip and John Creaser.⁴³ This subtle emphasis on one of the poem's and the poet's major goals is an example of what we might learn about Milton as poet and *Paradise Lost* as a new model of heroic poem by attending closely to the changes made between the first edition and the second: the only editions printed while the author was still alive. It is to facilitate speculation of this kind that the "Comparator of the first two editions of *Paradise Lost*" has been created, and it is to the Comparator's creation that this article now turns.

42. Treip, *Milton's Punctuation*, and cross-reference Adams, "The Text of *Paradise Lost*."

43. See Treip, *Milton's Punctuation*, and John Creaser, "Editorial Problems in Milton (Conclusion)," *Review of English Studies New Series* 35.137 (February 1984): 45–60.

Creating a *Paradise Lost* Comparator

I have created the Comparator to assist in exactly the kind of work demonstrated in the preceding two paragraphs, in recognition of the fact that both Fletcher's 1943–48 four-volume facsimile edition and Michael Lieb and John Shawcross's *Paradise Lost: A Poem Written in Ten Books* are out of print and not readily available to those who might like to compare the two editions of Milton's poem.⁴⁴ The goal of creating the Comparator is best represented by Figures 4, 5, and 6 in which can be seen a moment in the poem when the text of the second edition diverges from that of the first. All three images show lines 478–515 of books that appear late in the poem. The 1667 first edition can be seen in the column on the left; the 1674 second edition in the column on the right. As is explained in the legend to the right of the twinned columns, the lines with a yellow background are the final lines on the printed pages of the physical codices that emanated from the Simmons's print shop. The yellow emphasis is intended to remind readers of the fact that what they are seeing is a remediation of printed copies of the poem. But more importantly, highlighting the page endings is intended to call attention to the difference that results, over the course of the entire poem, from the printer's decision to revise the composition from a 32- to a 34-line page. In my experience, students confront with surprise the very idea that the number of lines per page is a manipulable property of printed artifacts. When made aware of this, students will often remember that as much as, and often more than, everything else to which they are exposed during the course. Almost certainly the decision to print *Paradise Lost* on a 34-line rather than a 32-line page would have had an underlying economic motive, and thinking about that reminds all of us of the economic imperative that has driven the printing trade/business from its origins to the present. As can also be read in the legend, changes from one edition to the other have been marked up, to represent differently from the surrounding text, as white text with a black background. The completely new lines added to the 1674 edition in Figures 4, 5, and 6, lines 485, 486, and 487, are usually so encoded, but for the purpose of demonstrating the hover effect shown in these three Figures, that encoding was disabled. At the top of the columns of text is a menu of active links, fixed in that position, designed to enable readers to jump between books of the poem or

44. See note 15, above.

back to the Portal's home page. Currently, there is also a link to the 1667 edition on a single page, and when it is ready a similar link will be added to the 1674 full-text page.

In addition to the legend on the right, and situated above it, is a re-sizable box in which the reader can take notes that can be saved at any time to a simple text file resident on the reader's own computer and copied nowhere else. As privacy concerns and awareness of the need for those concerns grows, this will be seen to be important by many. The text scrolls automatically as it is written, so readers need only save the file when they are finished studying the poem for that particular session, or when they are going to move their study to another book. This latter limitation exists—that is, the text typed in the note will be lost between books—because each book is currently composed as its own HTML file. Were the columns of text to be called to a single master HTML page using PHP, then this limitation could be overcome, but the relative simplicity of an almost-exclusively HTML version would suffer.

What can be seen in Figures 4, 5, and 6 is the text of book 10 of the 1667 edition and book 11 of the 1674 edition. That the poem's text and the line numbers match across two different books alerts us to the fact that the second edition's book 11 starts at the exact same place in the poem where the first edition's book 10 starts. Thus, it becomes possible for the reader to deduce two things: major revision to the poem's structure occurs before books 10/11, and despite such revision the author retained his original vision of where "this" book should start. Even simply coming upon the poem at this point in the Comparator therefore should lead a curious reader to examine the openings of all the other books in the poem to find the point at which Milton was forced to deviate from his original, Lucanian vision in order to revise the poem to satisfy a more Virgilian notion of epic structure. Were readers to so examine the book openings, they would discover that Milton in fact stays true to all his opening lines, while choosing to more or less halve the first edition's book 7 into books 7 and 8 for 1674. As a result, 1667's book 8 and 1674's book 9 both run alike, line by line, as do books 9 (1667) and 10 (1674).

Line 484 of both poems is highlighted with a light grey background when the reader's cursor hovers over that line. This effect can be seen in Figure 4. When a reader's cursor hovers over line 486 of the 1674 version in the right-hand column, only that line is highlighted; its concomitant number in the left-hand column is not. The same would be true of lines 485 and 487, and of other

lines in this book. This alerts readers to the fact that they have encountered new material added to, and present only in, the 1674 edition. This effect can be seen in Figure 5.

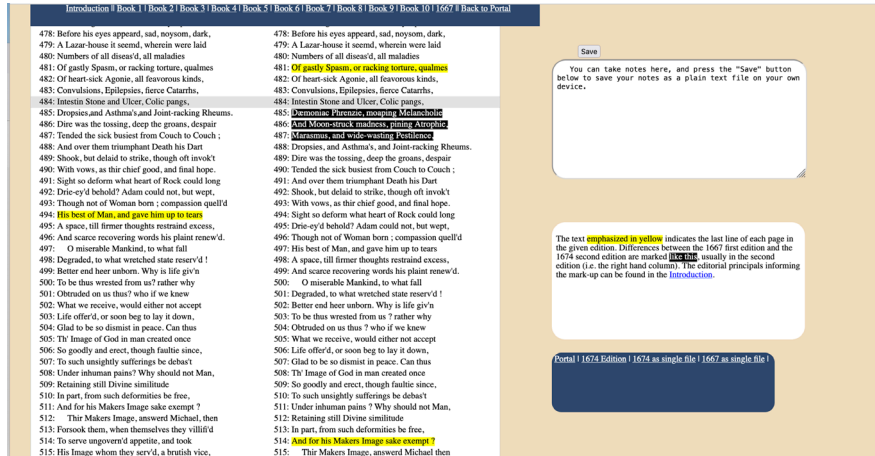


Figure 4. Books 10 and 11, lines 478–515, 1667 on the left and 1674 on the right, with line 484 in common.

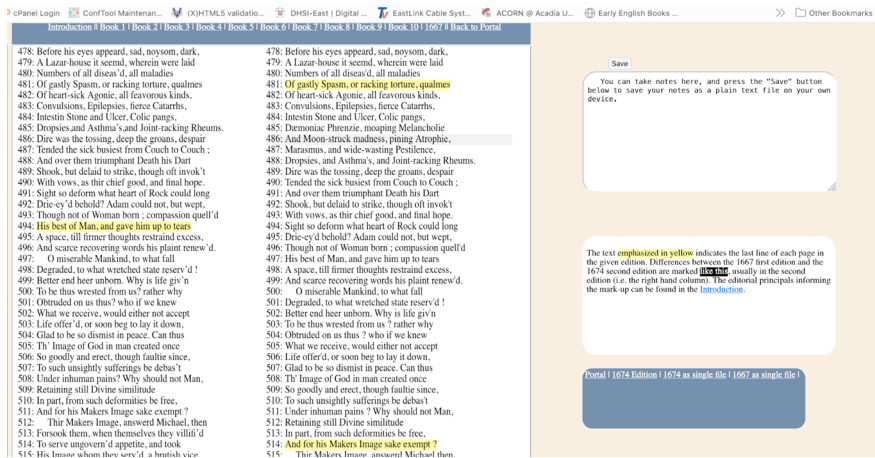


Figure 5. Books 10 and 11, lines 478–515, 1667 on the left and 1674 on the right. Line 486 in the 1674 edition is not present in the 1667 edition.

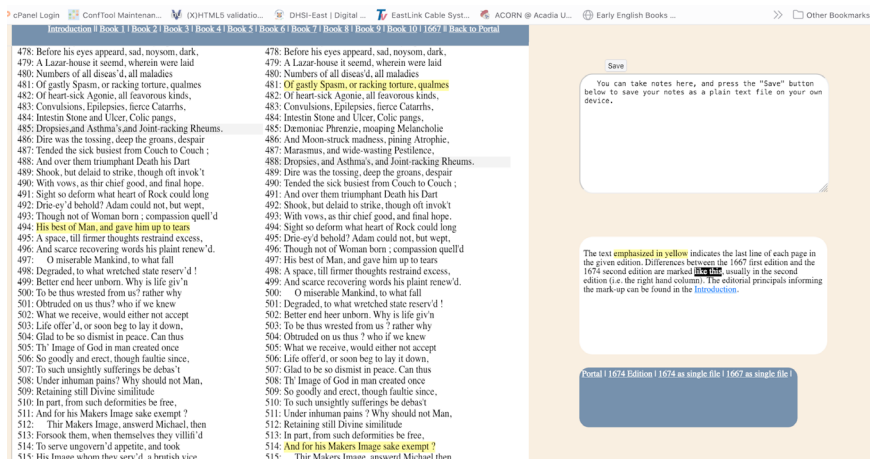


Figure 6. Books 10 and 11, lines 478–515, 1667 on the left and 1674 on the right. Lines 485 and 488 show an offset in the lines between the two editions.

In Figure 6 we can see the highlighting effect that results when the two editions of the poem are out of phase. The three-line synchronization of the two editions that proceeds from this point in the poem continues until another new line's worth of text is added across two lines at 551–52 of the 1674 edition. From there, the two editions are synchronized out of phase by four lines. This pattern continues until line 900 of the second edition, at which point several new lines are added to the poem. At lines 898 of the 1667 edition and 907 of the 1674 edition, after a stagger of several lines in the column representing the earlier version, the concomitancy of the two columns is restored. Having immediate access to such structural information can tell those who study the poem where to concentrate their efforts in looking for the various reasons these columns of text representing the first and second editions are more like fraternal than identical twins. What remains for the current paper is to address the method of how the Comparator has been composed.

Methodology

The scripting languages used to create the *Paradise Lost* Comparator are primarily HTML and CSS, although PHP enables the menu and Javascript

enables both the note-taking window and the staggered highlighting needed from line 484 of books 10/11. The software used included a text editor, initially a word processor (which during the process of writing this article was found to be unnecessary), a spreadsheet application, and a program dedicated to comparing and displaying the files and calling attention to differences between them. In the end, a reasonably complex set of pages was produced via only encoding: that is, without having to do any programming.

The process started with undergraduate student assistants—Meaghan Smith, Alysson MacDougall, Georgia Woolaver, Theo Giesen, and Abby Secord—working to prepare reliable transcriptions of both of the editions, in various states. Of these assistants, Smith and Secord deserve special mention for having done the lion's share of the work in transcribing the 1674 and the 1667 editions, respectively. These transcriptions were made directly into XML using a text editor in the case of the 1674 edition, and first using a word processor, then the text editor in the case of the 1667 edition. This process was unfolded according to the comfort level of the transcribers who used their software of choice after having been instructed to produce accurate, reliable transcriptions as quickly as possible. Ultimately, XML was rejected in favour of HTML.

Once the transcriptions were rendered in simple text, they were proofed against a minimum of two other sources. In the case of the 1674 edition, the transcription was made from the PDF copy of the poem held at the Henry Huntington Library, identified in the Wing Short-Title Catalogue as item number 1244-609-9,⁴⁵ and made available via the English Short-Title Catalogue (ESTC) and the Early English Books Online (EEBO) initiative. Subsequently, a photographed copy of the poem held in the Rare Books Collection at the University of Saskatchewan was received, thanks to the good offices of Brent Nelson, a faculty member of that university's Department of English. While this copy arrived too late for the transcription process, it is central to the overall development of the *Paradise Lost* Portal and was the primary copy used in the proofing of Smith's transcription. The second text against which the transcription was proofed was the online version of the poem located in Luxon's The John Milton Reading Room, hosted by Dartmouth College. Secord's 1667 transcription is of a copy held by the British Library, identified as Wing-M2136-391-11, and again made available to researchers in far-flung locations thanks to the ESTC

45. The latter numbers identify the STC's microfilm reel (609) and the text's position (9) on the reel.

and EEBO. This transcription was proofed against a TEI-encoded version of the poem provided by the Oxford Text Archive, and against a version prepared by the Electronic Text Center of the University of Virginia Library.

At this point, it is worth displaying a piece of the HTML code that is representative of the end result of the discussion to follow. For example, line 1 in book 8 of the 1667 edition looks like this:

```
<div class="cell" id="b8-67:1">1: No more of talk where God or Angel
Guest</div>
```

This example is provided here to show where we are going, and in recognition of the possibility of attracting two distinct types of reader. Programmers and experienced coders are likely to appreciate seeing the final code at this point both because it will look familiar to them and because seeing it will enable them to see more or less immediately how they would do it themselves: probably more elegantly and perhaps more economically than what follows. The second possible, and perhaps the more likely, readership for this article will be those who do not identify as digital humanists but who are interested in seeing how an electronic text with some sophistication in its deployment can be created without any particularly advanced programming skills, using only software either familiar to any academic or—in the case of the simple text editor, perhaps—so easy to master as almost to count as familiar.

Allow me to repeat, then dissect, the piece of HTML encoding offered above. Those familiar with HTML encoding may choose to skip the following set of bullet points.

```
<div class="cell" id="b8-67:1">1: No more of talk where God or Angel
Guest</div>
```

- `< ... >` – These carets enclose a set of HTML instructions. HTML instructions are for the browser to read, not for the human reader interested only in the text that will eventually be displayed. Ordinarily, HTML instructions will consist of an opening and closing set of instructions, or “tags”: `< ... > < /... >`. In this case the carets enclose instructions to the browser to treat the text that falls between the opening tag and the closing tag as a “division,” or sub-section, of the document being encoded for display in your browser.

- `div` – This is the abbreviation for “division.” It is a word reserved by HTML5 to serve the function of dividing one element from the precedent and antecedent elements in the HTML file.
- `class=` – The division is then named, by assigning it a classification, mainly to separate it from other divisions in the HTML file, and to allow a style sheet to make the browser present the text of the document as the author wants it to appear. “Class” is also reserved by HTML5 for structural use within any given HTML file.
- `"cell"` – This is the name of the classification of this division of the text. It is worth noting here that this division of the text is a particular sub-section of the text, an identifiable, single line of poetry (in the example provided, the first line of the eighth book of the 1667 edition). However, despite the fact that the text within the division is particular, the container holding that line of poetry, the HTML division, is not particular; it is one of a great many similar containers, or divisions, all of which will be classified as “cell.” It is also worth noting that “cell” is enclosed in quotation marks. This indicates that “cell” is not a word that is considered to be reserved solely for use as an HTML term. Rather, it is a name I have chosen for the purpose of doing the specific work I want it to do in my HTML file.
- `id` – `id` is another reserved word. Its function is to identify (hence `id`) a document element in a very precise way. Unlike `class` or `div`, anything identified with an `id` tag is marked off as unique within the document.
- `"b8-67:1"` – This `id` tag precisely identifies this division of text as belonging to
 - `b8` = book 8
 - `67` = the 1667 first edition
 - `:1` = the first line, line one

So in summary, this `id` tags the line that follows it as “The first line of Book 8 in the 1667 first edition.”

- `1:` No more of talk where God or Angel Guest – The browser will show all of this, including the line indicator, `1:`, to the reader.

- `</div>` -- This is the closing tag, the closing instruction, referred to above. This tells your browser that that sub-division of the overall document identified precisely as "b8-67:1" and characterized as being in the "cell" class of divisions is now at an end.

In this file, the "cell" classification draws specific instructions from a second file known as a Cascading Style-Sheet (CSS). For the Comparator, the style sheet (CSS) will tell the page how to render the divisions (divs) classed as "cell." The CSS is set up to mimic a table structure without the HTML encoding actually sitting inside an HTML table. This strategy makes the encoded source text much more readable for humans than if HTML tables had been used (see figs. 8 and 9). After the "cell" division is encoded, an "id" is provided that will eventually enable the Javascript instructions that cause the hover effect to match specific lines in one column to specific lines in the other, rather than simply run straight across from one column to the other.⁴⁶

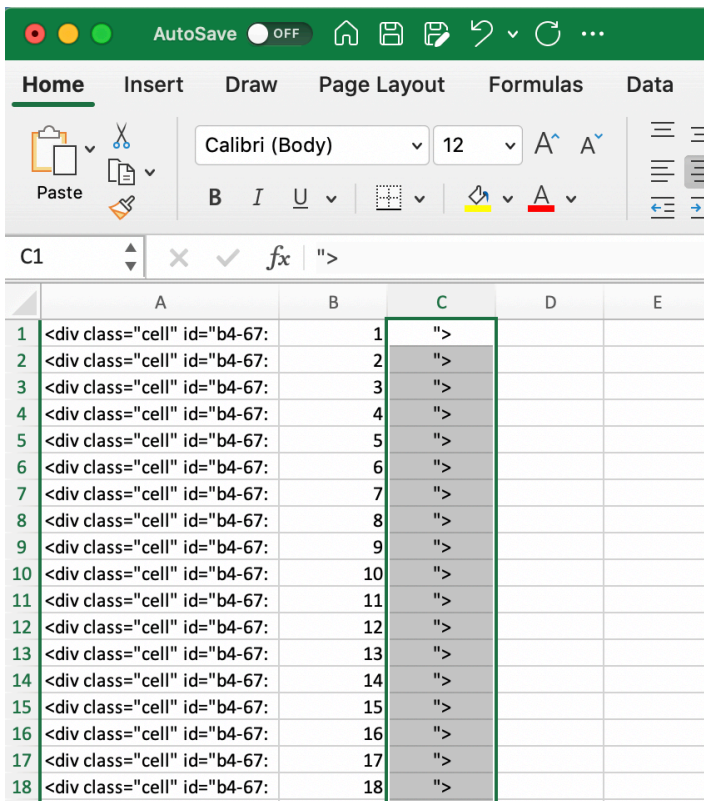
Once the texts were known to be reliable and accurate, the individual books were extracted from each file simply by copying and pasting into a new .txt file in a text editor. While in the text editor, the "Replace" feature was used to first remove any tab stops at the start of each "Virgilian verse paragraph" and then rebuild that space using simply six empty spaces.⁴⁷ This ensured that the starting points of the verse paragraphs were retained and that a hidden format that could subsequently interfere with the encoding was removed. That hidden format is the tab stop. This step is necessary for two reasons: first, because the reader's browser will not display a tab unless it is specially encoded to be so displayed; and second, because the browser will not correctly interpret a piece of code with an errant tab space in it. For example, the browser will make sense of `<div class="cell" id="b8-67:1">1: No more of talk where God or Angel Guest</div>`, but it will not make sense of `<div class="cell" id="b8-67: 1">1: No more of talk where God or Angel Guest</div>`. Once the unwanted tabs were removed, the text of each edition's book was copied and pasted as a column into a prepared spreadsheet. To prepare the spreadsheet, HTML encoding had to be entered down multiple columns on either side of the column in which the text would sit. In the left-most column, column A, this was entered: `<div`

46. If straight-across were all that is required, Javascript would be unnecessary and CSS styling would suffice.

47. Hale, 139.

class="cell" id="b4-67: This script was entered manually in the topmost cell, and then auto-duplicated toward the bottom of the spreadsheet in as many rows as there were lines in the book.

In column B, a sequence of numbers starting with 1 in the top cell and running to as many line numbers as necessary would then be entered, again using the auto-duplication feature that made the spreadsheet a good choice for this work. Each cell in column C would contain the reverse-facing caret, >, that closes the line of HTML code, as well as the “punctuation,” the so-called “straight-quotes,” ”, that serve to end the id started in column B. These cells in column C would be auto-duplicated for as many lines as necessary. The results, when the rows of cells contained across the three columns are combined, will look like the examples offered in figures 7a and 7 b, below:



	A	B	C	D	E
1	<div class="cell" id="b4-67:	1	>		
2	<div class="cell" id="b4-67:	2	>		
3	<div class="cell" id="b4-67:	3	>		
4	<div class="cell" id="b4-67:	4	>		
5	<div class="cell" id="b4-67:	5	>		
6	<div class="cell" id="b4-67:	6	>		
7	<div class="cell" id="b4-67:	7	>		
8	<div class="cell" id="b4-67:	8	>		
9	<div class="cell" id="b4-67:	9	>		
10	<div class="cell" id="b4-67:	10	>		
11	<div class="cell" id="b4-67:	11	>		
12	<div class="cell" id="b4-67:	12	>		
13	<div class="cell" id="b4-67:	13	>		
14	<div class="cell" id="b4-67:	14	>		
15	<div class="cell" id="b4-67:	15	>		
16	<div class="cell" id="b4-67:	16	>		
17	<div class="cell" id="b4-67:	17	>		
18	<div class="cell" id="b4-67:	18	>		

Figure 7a. The beginnings of the opening <div> tag.

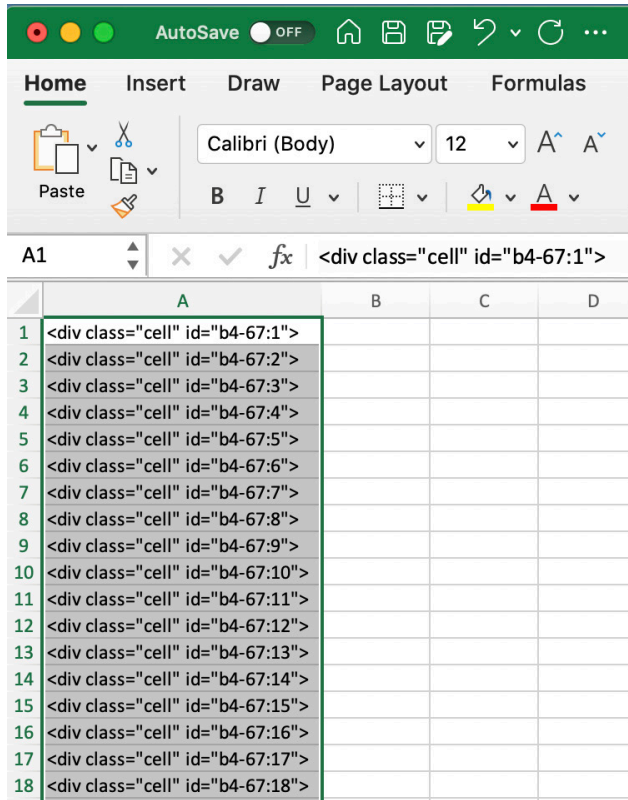


Figure 7b. The opening <div> tag as it will be used.

The tabbed spaces between the contents of each cell must be removed, because when the columns are copied from the spreadsheet a tab is placed between the data drawn from each column. As a result, what is then available to be pasted into the text editor looks like this:

```
<div class="b"      id="b8-67:      1">1: No more of talk where  
God or Angel Guest</div>
```

and as we now know, the tabbed spaces prevent this from being well-formed HTML. Such a line cannot be interpreted by a browser. After all the necessary rows—sometimes more than a thousand—are copied across the three columns, the result will be pasted into the text editor to strip away as much of the hidden

formatting as possible. To put the HTML tag into its correct form, the tabs for each set of columns have to be removed, and this can be done using the batch function “replace,” either in the text editor or in a word processor. That way, all the tabs in the entire file can be removed with only a single set of commands. Probably the easiest way to do this in the text editor is to copy a tab from inside the file and paste it into the “Find” box of the Replace function. In the word processor used, “tab” can be placed in the Find box with the following keystrokes: “^t” (without the quotation marks). In the text editor, the regular expression (abbreviated as regex) \t was used. Once the tabs have all been removed, the opening HTML tag for each line will tighten up to look like this: <div class="cell" id="b4-67:1"> .

Those individual line commands, in the case of book 4, for example, <div class="cell" id="b4-67:1">, <div class="cell" id="b4-67:2">, <div class="cell" id="b4-67:3">, <div class="cell" id="b4-67:4">, etc., will then be inserted into a new spreadsheet as the first column. The example immediately below and those following are presented in tables to mimic the appearance of what one sees in the spreadsheet.

Column A	Column B	Column C
<div class="cell" id="b4-67:1">		
<div class="cell" id="b4-67:2">		
<div class="cell" id="b4-67:3">		
<div class="cell" id="b4-67:4">		

Again, using the batch “replace” function in either the text editor or the word processor—a choice dictated by the comfort level of the person composing the page—<div class="cell" id="b4-67:1"> etc., in which the “67” toward the end of the string indicates the 1667 edition, can be quickly changed en masse in the text editor to <div class="cell" id="b4-74:1"> etc. with a “74” toward the end of the string, thus creating the necessary column of opening tags for the same book of the second edition, thus:

Column A	Column B	Column C
<div class="cell" id="b4-74:1">		
<div class="cell" id="b4-74:2">		

<div class="cell" id="b4-74:3">		
<div class="cell" id="b4-74:4">		

With <div class="cell" id="b4-67:1"> etc. in column A, the text of book 4, 1667 edition, is pasted into column B, as can be seen below:

Col. A	Column B	Col. C
<div class="cell" id="b4-67:1">	1: O For that warning voice, which he who saw	
<div class="cell" id="b4-67:2">	2: Th' Apocalyps, heard cry in Heaven aloud,	
<div class="cell" id="b4-67:3">	3: Then when theDragon,put to second rout,	
<div class="cell" id="b4-67:4">	4: Came furious down to be reveng'd on men,	

It then falls to column C to hold the closing tag for each individual line. Remember, the opening tag has turned each line into its own div, so the closing tags are all simply </div>, as below:

Column A	Column B	Column C
<div class="cell" id="b4-67:1">	1: O For that warning voice, which he who saw	</div>
<div class="cell" id="b4-67:2">	2: Th' Apocalyps, heard cry in Heaven aloud,	</div>
<div class="cell" id="b4-67:3">	3: Then when theDragon,put to second rout,	</div>
<div class="cell" id="b4-67:4">	4: Came furious down to be reveng'd on men,	</div>

Rather than put the opening tags for the 1674 second edition into column D, a new spreadsheet is created for the second edition's matching book. The need to do it this way for those who, like the author, are not expert in the use of spreadsheets will become apparent momentarily. Column A of this new

spreadsheet will receive the HTML opening tags; column B, the book's text; and column C, the HTML closing tag.

The next step is to copy the entire sheet and paste it into the text editor in order to once again remove all the tabs (regex \t). For book 4 of the first edition, the first four lines of the resulting file will look like this:

```
<div class="cell" id="b4-67:1">1: DEscend from Heav'n Urania, by that
name </div>
<div class="cell" id="b4-67:2">2: If rightly thou art call'd, whose Voice
divine</div>
<div class="cell" id="b4-67:3">3: Following, above th' Olympian Hill I
soare,</div>
<div class="cell" id="b4-67:4">4: Above the flight of Pegasean wing.</div>
```

When the same process is applied to those four lines from the second edition, this will be the result:

```
<div class="cell" id="b7-74:1">1: DEscend from Heav'n Urania, by that
name</div>
<div class="cell" id="b7-74:2">2: If rightly thou art call'd, whose Voice
divine</div>
<div class="cell" id="b7-74:3">3: Following, above th' Olympian Hill I
soare,</div>
<div class="cell" id="b7-74:4">4: Above the flight of Pegasean wing.</div>
```

The reason two spreadsheets are required for each book while in this liminal state is that each line in both books is currently its own separate division, demarcated as such by the HTML <div></div> tag. To offer each similar line from two separate editions in a side-by-side comparison, the individual divs must be given an organizing structure. This is provided by inserting these existing divs into yet another division, this one to be named, eponymously, "row." The div names "cell" and "row" were chosen to remind human composers of the final table-like appearance to be achieved via these nesting HTML divisions. The entirety of each book will itself be placed inside a third and, as it were, higher level division given the name "table." The goal is to keep the HTML file as readable to human eyes as possible—the primary reason behind using

`<div></div>` tags rather than a conventional HTML table—and the following is an example of the desired result:

```
<div class="row">
  <div class="cell" id="b4-67:1">1: O For that warning voice, which he
    who saw</div>
  <div class="cell" id="b4-74:1">1: O For that warning voice, which he
    who saw</div>
</div>
<div class="row">
  <div class="cell" id="b4-67:2">2: Th' Apocalyps, heard cry in Heaven
    aloud,</div>
  <div class="cell" id="b4-74:2">2: Th' Apocalyps, heard cry in Heaven
    aloud,</div>
</div>
<div class="row">
  <div class="cell" id="b4-67:3">3: Then when theDragon,put to second
    rout,</div>
  <div class="cell" id="b4-74:3">3: Then when <span class="diff">the
    Dragon, put</span> to second rout,</div>
</div>
<div class="row">
  <div class="cell" id="b4-67:4">4: Came furious down to be reveng'd
    on men,</div>
  <div class="cell" id="b4-74:4">4: Came furious down to be reveng'd
    on men,</div>
</div>
```

This method was chosen because an HTML table constructed to achieve the same output is much less readable, as can be seen in Figure 8, below.

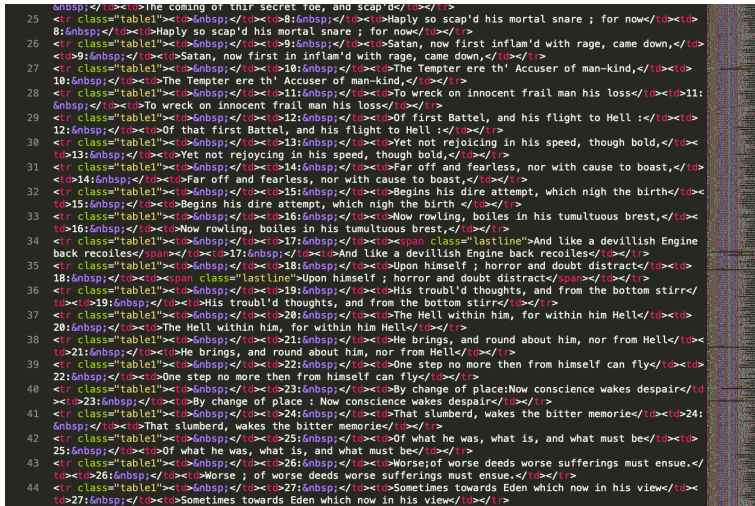


Figure 8. HTML tables can get increasingly hard for humans as their size increases.

Worse than the crowding together of the lines from the first and second editions is the lack of identifying information. Only someone who has *Paradise Lost* memorized could place the set of lines seen in Figure 8, whereas an image of some of the same lines of poetry composed using <div></div> tags tells a person immediately where they are in the poem.

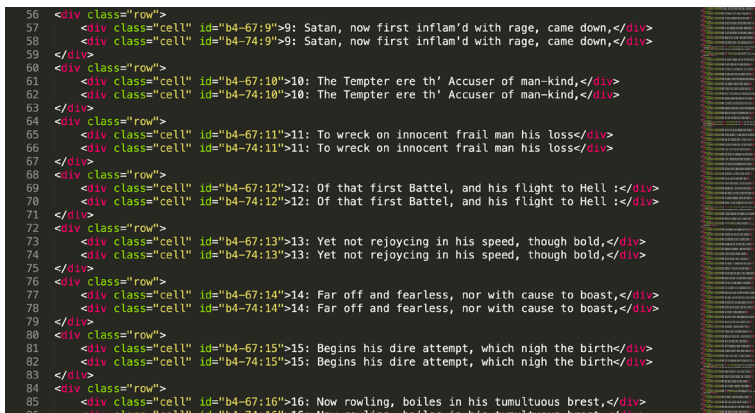


Figure 9. The HTML table effect can be achieved using <div></div> tags.

To simplify the process of moving the two complementary books toward this final form, two spreadsheets are required, one for each book in its HTML tagged form. This is simply because after the tags and text are tightened up, they sit in consecutive rows (1, 2, 3, 4, etc.). For those of us who spend more time with word processors than with spreadsheets, using two spreadsheets at this point seems necessary. The way the inter-lineation of the two books was achieved was by first “double spacing” each. I placed a column of numerals from 1 to the end of the number of lines in the column beside those lines, then copied and pasted those numbers in the same column below the first set. I then sorted from lowest to highest, thus causing the lines to be separated from consecutive to every other line on the spreadsheet. This is because the sort function will order the two sets of numerals as follows: 1, 1, 2, 2, 3, 3, etc. For example, from book 8, 1667 first edition

1	1	O For that warning voice, which he who saw
2	2	Th’ Apocalyps, heard cry in Heaven aloud,
3	3	Then when theDragon,put to second rout,
4	1	
5	2	
6	3	

to

1	1	O For that warning voice, which he who saw
2	1	
3	2	Th’ Apocalyps, heard cry in Heaven aloud,
4	2	
5	3	Then when theDragon,put to second rout,
6	3	

Then I put the strings for the 1667 edition in column B starting in row 1. The second row of poetry would then be in line 3, the third row in line 5, etc. I then pasted the similarly double-spaced 1674 book into column C, but starting in row 2, so the second line of poetry was in row 4, the third in row 6, etc.

1	1	O For that warning voice, which he who saw	
2	1		For that warning voice, which he who saw
3	2	Th' Apocalyps, heard cry in Heaven aloud,	
4	2		Th' Apocalyps, heard cry in Heaven aloud,
5	3	Then when theDragon,put to second rout,	
6	3		Then when the Dragon, put to second rout

Thus, in only two operations, the thousand-or-so lines of poetry are lined up as they need to be for horizontal representation. Column A, I reserved for the opening half of the `<div></div>` tag into which each of the two “same” lines from the first and the second editions needed to be nested. The opening portion of that tag is, as mentioned, `<div class="row">`.

E.g.,

```
<div class="row">
```

```
  <div class="cell">1: O For that warning voice, which he who saw</div>
```

```
  <div class="cell">1: O For that warning voice, which he who saw</div>
```

```
</div>
```

```
<div class="row">
```

```
  <div class="cell">2: Th' Apocalyps, heard cry in Heaven aloud,</div>
```

```
  <div class="cell">2: Th' Apocalyps, heard cry in Heaven aloud,<div>
```

```
</div>
```

```
<div class="row">
```

```
  <div class="cell">3: Then when theDragon,put to second rout,</div>
```

```
  <div class="cell">3: Then when <span class="diff">the Dragon, put</span>  
  <span> to second rout,</div>
```

```
</div>
```

The instantiations of that tag sit only on the odd numbered lines alongside the line of poetry to occupy the left-hand column: in the current situation, these are always the lines from the 1667 first edition. The closing part of the “row” division tags are similarly “double spaced,” but they start on line 2, in column D, next to the line of poetry from the 1674 edition. To move toward the correct vertical relationship, that is, each line of poetry from one edition aligned above and below each line of the other, column C can be dragged as close as possible to the left margin of column B, provided enough of column A remains visible to prevent confusion. Then, when the full contents are pasted into the text editor after being copied from the spreadsheet, all the necessary raw material is present (and, importantly, easily visible to the composer) for the final version of the particular book’s HTML page; it only requires some final shaping. This shaping involves first removing all the tabs the spreadsheet has inserted as field delimiters before inserting hard returns after every instance of `<div class="row">` and between every instance of `</div></div>`. The latter configuration, `</div></div>`, is the result of the closing half of the “row” tag being inserted in the column after the one holding the lines of poetry from the second edition, which lines all end with a division-closing tag. The result of this much shaping is:

```
<div class="row">
<div class="cell" id="b8-67:1">1: No more of talk where God or Angel
Guest</div>
<div class="cell" id="b9-74:1">1: NO more of talk where God or Angel
Guest</div>
</div>
<div class="row">
<div class="cell" id="b8-67:2">2: With Man, as with his Friend, familiar
us'd</div>
<div class="cell" id="b9-74:2">2: With Man, as with his Friend, familiar
us'd</div>
</div>
```

These hard returns can be introduced in a targeted fashion using the word processor’s batch replace functions with the following entries:

Find: <div class="row">

Replace: <div class="row">^p

and

Find: </div></div>

Replace: </div>^p</div>

respectively. Then, while the file is still in the word processor, the following batch command can put the file into its final shape, leaving only minor tweaking to be performed when it is pasted into the HTML file in the text editor:

Find: <div class="cell" id=

Replace: ^t<div class="cell" id= .

The final result of the shaping will produce the following:

```
<div class="row">
  <div class="cell" id="b8-67:1">1: No more of talk where God or Angel
  Guest</div>
  <div class="cell" id="b9-74:1">1: NO more of talk where God or Angel
  Guest</div>
</div>
<div class="row">
  <div class="cell" id="b8-67:2">2: With Man, as with his Friend,
  familiar us'd</div>
  <div class="cell" id="b9-74:2">2: With Man, as with his Friend,
  familiar us'd</div>
</div>
```

with the result that the final HTML is human readable in a way that a file of similar size producing the same appearance through the browser but formatted as a table would not be. The final tweaking involves using the find and replace function in the text editor to replace any curly quotation marks with straight, HTML-satisfying, quotation marks: this “ ” with " ”.

As suggested above, this process is not complex on either a micro or a macro level. It does demand attention to detail, and attention to procedure, but in the end a surprisingly complex set of pages can be produced without having to do any programming. The production of this set of pages will enable students

and scholars easily and quickly to compare the texts of the first two editions of John Milton's *Paradise Lost*, thereby granting them access to some seventeenth-century printing practices, to the unique activities of Milton's revision of the Lucanian epic he first wrote into the Virgilian epic the world now recognizes as *Paradise Lost*, and perhaps even on some level to the mind of the poet himself. Hopefully, the foregoing description of the process used to develop the *Paradise Lost* Comparator will help others to produce similar comparators of important or understudied texts.