

# An athletes [sic] performance: Can a possessive apostrophe predict success?

MICHAEL COP AND HUNTER HATFIELD

Misplace apostrophes, miss out on med school?

If we believe social media, newspapers, and even some of our best friends and colleagues, the war over standard usage is on. As with many wars, the opposing sides seem to be entrenched in differing ideological positions and many of the battles seem to take place over the most unstable, smallest bits of territory - such as the Oxford comma, singular *they*, or split infinitives. In this ongoing war, possessive apostrophes have attracted particularly aggressive forays. For example, when some English cities proposed removing apostrophes from street signs, various news outlets published headlines such as, 'It's a catastrophe for the apostrophe in Britain' (*NBC*, 31 January, 2009), 'Dropped apostrophes spark grammar war in Britain' (*New York Times*, 16 March, 2013), and "'It's pandering to the lowest common denominator': Anger as Cambridge bans apostrophe from street names' (*Daily Mail*, 18 January, 2014). Explaining Birmingham's ban, one city councillor was not that much less sensational, stating that apostrophes 'denote possessions that are no longer accurate, and are not needed' and that 'they confuse people. If I want to go to a restaurant, I don't want to have an A-level (high school diploma) in English to find it' (*NBC*).

Our curiosity raised by such sensationalism, we included possessive apostrophes as part of our current research on 1,414 English diagnostic tests of first-year university students in New Zealand who are competing for coveted spots to become health professionals. These students are highly aware that they are being tested on English ability (i.e. there are no issues of discourse or genre and, presumably, no issues with motivation to exhibit linguistic competency). While questions were not specifically designed to test for possessive

apostrophes, one reading comprehension question elicited a disproportionate number of possessive apostrophe errors in variations of the phrase *an athlete's performance*. Almost twice as many students omitted the possessive apostrophe as employed it correctly. Does such omission justify recent sensationalism? Are even those with strong formal educational backgrounds unaware of the possessive apostrophe's believed-to-be standard use? More importantly, are there any lasting repercussions if they are unaware? For example, it would indeed



*MICHAEL COP received his PhD from the University of Otago, New Zealand, where he now is an associate lecturer, teaching writing and Shakespeare as well as coordinating the English Diagnostic test for Health Sciences students. His current early-modern*

*research explores narrative patterns in biblical narrative verse; his current research into writing looks at the relationship between students' writing skills and subsequent academic success. E-mail: [michael.cop@otago.ac.nz](mailto:michael.cop@otago.ac.nz)*



*HUNTER HATFIELD received his PhD from the University of Hawaii at Manoa in linguistics. His work focuses upon the processing of language in many forms: syntax, pragmatics, and phonology.*

be sensational if such punctuation errors could predict whether students would succeed in being placed in a university programme that trains doctors, dentists, or the like.

## An Established Standard for the Possessive Apostrophe?

The apostrophe's most long-standing and stable functions in English orthography are elision and contraction.<sup>1</sup> We can see such functions in the 1676 translation of *The Iliad* by Thomas Hobbes where Agamemnon refutes the sullen Achilles:

When you are gone more honour'd shall be I,  
Nor *Jove* (I hope) will with you go away.  
In you I shall but loose an enemy  
That only loves to quarrel and to fight.  
The Gods have giv'n you strength I not deny.  
Go 'mongst your *Myrmidons* and use your might.  
I care not for you, nor your anger fear,  
For after I have sent away *Chryseis*,  
And satisfi'd the God, I'le not forbear  
To fetch away from you the fair *Briseis*,  
And that by force. For I would have you see  
How much to mine inferior is your might,  
And others fear t'oppose themselves to me. (5)

Hobbes elides portions of and contracts words so that the lines are uniformly decasyllabic. For example, the 'e' of 'honoured' is elided so that 'honour'd' is unmistakably disyllabic (i.e. not 'honourèd'), and 'I will' is contracted to make 'I'le.' While such elisions and contractions may be less common today ('ed' suffixes are less likely to be pronounced as a separate syllable, and 'I will' is now regularly contracted 'I'll'), they read relatively easily because such conventions are still used.

The English possessive apostrophe has been more problematic, largely because it has been less stable, as one can see in the very next line in this translation: 'This swell'd *Achilles* choler to the height.' While the elision is still marked ('swell'd'), there is no apostrophe to mark the possession for the proper noun 'Achilles,' betraying a residual practice. Printers were only beginning to use the possessive apostrophe regularly by the end of the seventeenth century, which can be seen relative to the proper nouns on the title page of this particular edition (see [Figure 1](#)).

While Greek names ending in *s* do not yet receive an apostrophe to denote possession in the text of this edition, the printer James Cottrell apparently cared enough to have apostrophes for both instances of the proper name 'Homer' on his title

page that he used an apostrophe that is hardly visible in the second instance, perhaps simply not having two of the larger size.

Style guides now prescribe usage in instances such as *Achilles' choler* (or is it *Achilles's choler*?). For example, the *MLA Handbook for Writers of Research Papers* tells us that 'To form the possessive of any singular proper noun, add an apostrophe and an *s*,' providing the examples *Venus's beauty* and *Dickens's reputation* (2009: 75). By this rule, we should now correct the phrase to read *Achilles's choler*. *Fowler's Dictionary of Modern Usage* provides a similar rule, but also a more nuanced one that applies to this specific case: 'In classical names use *s'* (not *s's*): *Mars'*, *Herodotus'*, *Venus'*. Classical names ending in *-es* are usually written *-es'* in the possessive: *Ceres' rites*, *Xerxes' fleet*; similarly *Demosthenes'*, *Euripedes'*, *Socrates'*, *Themistocles'*" (2015: 58). By this rule, we should now correct the phrase to read *Achilles' choler*.

As Sklar notes, in the early 18<sup>th</sup> century the apostrophe 'was still considered an incidental orthographic symbol rather than an integral part of the genitive marker' (1976: 177), citing Joseph Priestly's *Rudiments of English Grammar* as the first to state a standardized rule for both the singular and plural possessive apostrophe constructions:

The GENITIVE case is that which denotes property or possession; and is formed by adding [*s*] with an apostrophe before it to the nominative; as *Solomon's wisdom*; *The Men's wit*; *Venus's beauty*; or the apostrophe only in the plural number, when the nominative ends in [*s*] as the *Stationers' arms*. (1761: 5)

While most seem to agree that these conventions only really began to become normative in the 19<sup>th</sup> century, many also recognize that the application of these conventions has never been universal (as we can see in the example from the MLA and Fowler above). As David Crystal puts it, 'In the evolution of standard English, punctuation was the last feature people paid attention to' (2006: 131).

Further obscuring what their own standard use might be, possessive apostrophes just do not appear all that frequently in English texts. For example, the Brown Corpus (a sampling of American English texts collected in the 1960s to be lexically and syntactically analysed by computer) demonstrated just how infrequent possessive apostrophes are: possessive singular and possessive plural nouns occur only 1857 and 334 times in a million words (Francis & Kučera, 1982: 538–539). The average

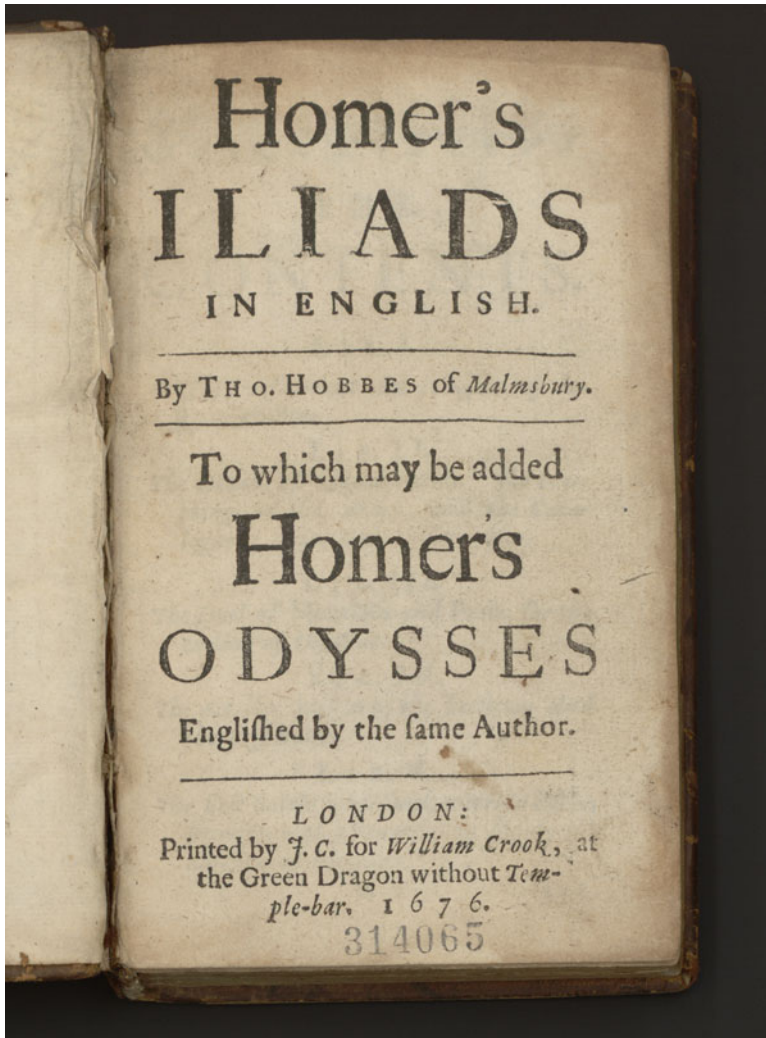


Figure 1: Title page of *Homer's Iliads in English* (1676). Image courtesy of Harry Ransom Center, The University of Texas at Austin

reader just does not encounter possessive apostrophes all that frequently.

Yet, these little-used marks have been newsworthy recently - if not best-selling - for being variously misapplied. Lyn Truss lamented the confusion of 'it's' (contraction) and 'its' (possession) in her surprisingly aggressive book about punctuation, *Eats, Shoots & Leaves: The Zero Tolerance Approach to Punctuation*:

It would be nice if one day the number of apostrophes properly placed in *it's* equalled exactly the number of apostrophes properly omitted from *its*, instead of the other way round. In the meantime, what can be done by those of us sickened by the state

of apostrophe abuse? First, we must refute the label 'dinosaurs' (I really hate that). And second, we must take up arms. Here are the weapons required in the apostrophe war (stop when you start to feel uncomfortable):

- correction fluid
- big pens
- stickers cut in a variety of sizes, both plain (for sticking over unwanted apostrophes) and coloured (for inserting where apostrophes are needed)
- tin of paint with big brush
- guerrilla-style clothing
- strong medication for personality disorder

loudhailer  
gun (2003: 65–66)

Beal (2010) examined such apostrophic notoriety, in particular questioning the wide-spread derision of the so-called ‘greengrocer’s’ apostrophe. The greengrocer’s apostrophe refers to the supposed tendency for retailers to insert apostrophes when they are not needed. As she astutely notes, though, the ‘rise of commerce and public advertising in the 19<sup>th</sup> century, rather like that of the internet today, puts into the public sphere texts produced by writers of all social classes and levels of education’ (62). That is, the apostrophe is probably not being misused more than it was at other points in history; rather, usage has long varied and will likely continue to vary. The lamentations over variations tell us more about the relationships between society and language than they tell us about the universal application of standardized rules. Variation in usage should probably be expected rather than be worthy of cholera rivalling *Achilles*’ (or even *Achilles*’s).

## A-level Education and the Possessive Apostrophe

One reason that possessive apostrophes might confuse people is that singular or plural possessive nouns (e.g. *athlete’s* and *athletes’*) sound the same as plural nouns (*athletes*). That is, apostrophes are seen, not heard. Bryant *et al.* succinctly summarize the problem of distinguishing between the plural and the possessive (or genitive) case:

The meaning of the sentences ‘I saw the mariners sail’ and ‘I saw the mariner’s sail’ is quite different and that difference is represented by the presence or absence of an apostrophe. The apostrophe does not represent any sound: its presence in genitive nouns and its absence in plural nominative and accusative nouns is therefore a pure example of a spelling distinction which has an entirely grammatical basis. (1997: 93)

In line with such an example, they examined the apostrophe relative to an understanding of spelling and grammar. Conducting two studies on school children in the nine to 12 age range (75 and 42 children respectively), they found that possessive apostrophes were generally difficult for students to use, but that a short lesson distinguishing between the plural and the possessive helped students to use the possessive apostrophe correctly. Moreover, Cordeiro, Giacobbe, and Cazden (1983) found that students as young as six are able to employ

the possessive apostrophe. They studied the writing of 22 first-grade students during the course of a school year (September to May), six of whom were taught to use the possessive apostrophe. They found that before any possessive apostrophe lessons, these students employed it correctly three times out of 19 opportunities (16%). After being taught about the possessive apostrophe, they used it correctly 31 times out of 55 opportunities (56%). Perhaps the Birmingham city councillor’s laments about confusion and having a high school diploma to find a restaurant are even more hyperbolic than they initially seem.

If young children can learn how to use apostrophes, then surely high school graduates can use them according to a prescriptive standard? Not necessarily. One rather early study shows that problems with possessive apostrophes are far from new and certainly not foreign to secondary school students. Lester (1922) detailed the nature, degree, and percentage of misspellings by graduates of American high schools and preparatory schools. The data were collected from the College Entrance Examination Board’s papers in English in 1913–1919. Errors in possessive apostrophes (the omission, intrusion, or misplacement of them) were counted as the fifth most common type of error, finding that ‘one misspelling out of twelve is a mistake in the form of the possessive’ (1922b: 155). The good ol’ days of standard possessive apostrophe use appear to be not that good after all.

Nor should we expect standardized possessive apostrophe use to be good now – even among those with strong formal educational backgrounds. Hokanson and Kemp (2012) studied how well 53 first-year Psychology undergraduate students in Australia used apostrophes for possession. Their study required students to complete three tasks: a recognition task in which the students were asked to circle errors embedded in sentences; a writing production task in which students were required to fill in the blanks in sentences with target words that were dictated to them; and an oddity task in which students heard groups of three sentences, two of which contained words of the same morphological status (e.g. ‘princes’ and ‘kings’) and one of which contained a word of alternative morphological status (e.g. ‘queen’s’). They found a hierarchy of errors. Students were most likely to recognize erroneously spelled plurals (e.g. plural *essays* spelled as singular or plural possessives – *essay’s* or *essays’*), then singular possessives, with plural possessives being the most troublesome. The production scores had a similar



hierarchy, but students tended to produce correct forms less frequently than they could recognize them (as can be expected because production is generally more difficult than recognition). Even though young children are able to learn possessive apostrophe rules, high school graduates still have problems applying such rules. It would seem that apostrophes do indeed cause confusion. The question still remains: are there any lasting repercussions for those who are confused about the possessive apostrophe's believed-to-be standard use?

### The Test and an *athletes* performance

The students who sit our diagnostic test are entering their first year of university studies in the Health Sciences programme, a pathway for entering the Dentistry, Medical Laboratory Science, Medicine, Pharmacy, or Physiotherapy programmes. The test is not a gate-keeping exercise; students continue their general first-year programme regardless of the outcome of their test and can still be offered a position in any of these specialized health professional programmes at the end of this general first year. The test is simply meant to gauge if students need an extra English paper to aid their future university studies. On the test, students gain marks for their content (i.e. they supply the correct information from texts that they read or hear), but lose marks for errors in punctuation, spelling, and sentence construction (i.e. they demonstrate faulty mechanics when supplying that information). Hoping to provide specific learning outcomes for the students who fail the test and therefore will take the extra paper, we began to classify the sentence construction, spelling, and punctuation problems from the 2014 and 2015 tests.

Our research differs from many of the studies previously mentioned. First, these diagnostic tests were not designed specifically to test how students use the possessive apostrophe. That is, neither did we need to divert students' attention away from some sort of apostrophe study nor were students required to use possessive apostrophes. Rather, students were simply given instructions to write in grammatically complete sentences for the section of the test in which these errors were found. Second, the students were generally motivated to show overall language competency. Failing the test (and subsequent second-chance test) meant that students would need to add another paper to their already busy schedule - another paper that rival students who passed the test would not need

to take. Students weren't motivated to do well on the diagnostic tests by being participants in *someone else's research* study; they were motivated by being participants *in their own* studies. Third, we found that a disproportionate number of the total possessive apostrophe errors across all tests were produced in one question from the reading comprehension section for a 2014 test.

For the reading comprehension, students read a short article (300–500 words) on a current issue and answer five questions. For this particular test, the topic was gene doping. Interestingly, neither the question nor the wording of the article (which students could, and frequently did, crib directly) employed a possessive apostrophe. The question asked students to identify the purpose of gene doping in sports. According to the article, the purpose was 'to improve athletic performance.' Of the 1,414 students who sat the test, 640 used this exact phrase or one very similar where *performance* or a noun of a similar sense was pre-modified by *athletic*. 312 students chose to produce a form that required a possessive apostrophe, such as *an athlete's performance*.<sup>2</sup>

We judged such phrases as having employed the possessive apostrophe correctly based on the apostrophe, not on the spelling of the word. For example, all instances of *athlete's* (a common misspelling) were counted as correct singular possessive apostrophes. Of the 312 students who chose to use a phrase that requires a possessive apostrophe, only 100 used the possessive apostrophe in the prescriptively standard way. More than twice as many students did not use the apostrophe in the prescriptively standard ways.

While there were four general types of errors in the 212 non-standard uses, the large majority were of one type: omission. The least numerous type of error was the superfluous possessive apostrophe; the lamented 'greengrocer's' apostrophe was just not that common among our students. Only five students inserted an apostrophe where one was not needed (e.g. 'allows *athlete's* to improve'). Second was the misplaced apostrophe. Six students included an apostrophe in the wrong position (e.g. 'improve an *athletes*' performance'). Third was the absence of both the *s* and the apostrophe. Seven students employed the uninflected form of the noun instead of the possessive (e.g. 'the *athlete* physical abilities'). Fourth and by far most numerous was the addition of an *s* but the omission of the apostrophe. There were 194 instances of omitted apostrophes.<sup>3</sup> To control for the effects of students whose first languages do not include English, we narrowed our scope to domestic students who

identified English as their first language. There were still 157 missing apostrophes: more English-speaking New Zealanders were dropping possessive apostrophes than were using them.

It remained an open question, though, how widespread and problematic the omission of apostrophes is among domestic English as a first language students in New Zealand. Is the omission of an apostrophe becoming the new standard way of marking possession among our demographic? If so, there should be no relationship between apostrophe errors and other errors: omission of apostrophes should just be something that our students do. For this particular diagnostic test, if omission is the new convention, we should see students of both high and low linguistic competency dropping their possessive apostrophes. We tested this hypothesis in a series of multilevel logistic regression models, examining whether sentence fragment errors, spelling errors, or other punctuation errors (missing stops, capitalisation, etc.) predicted a missing apostrophe. Neither sentence construction nor spelling errors predicted missing apostrophes, but other punctuation errors did (*Wald's*  $z = -2.045$ ,  $p = 0.041$ ). In other words, possessive apostrophe errors seem to be related to general punctuation skill for our students. Possessive apostrophes are not the problem themselves; they are a subset of greater punctuation problems.

We might then ask whether these missing apostrophes are particularly problematic for communication. Examining the errors across the full set of test takers, one could argue that 143 of these 194 (71%) possessive apostrophe omission errors should not impede communication because their contexts largely suggest possession. The apostrophe simply ensures that contextual cues are read properly. For example, in the 24 instances where students used a plural without the possessive apostrophe (e.g. 'to enhance *athletes* performances'), the absence of an article (*a*, *an*, or *the*) suggests that *athletes* is meant to be plural; the placement of *athletes* before *performances* suggests that *athletes* is possessive. The sense here seems to be possessive and plural even without the apostrophe. In 22 other instances, students simply added an *s* to a word that has a sense of the singular, most frequently *ones* (e.g. 'to enhance *ones* performance'). The sense here is possessive and singular. By far the most numerous of missing apostrophe errors occurred in phrases with the indefinite article *an* and a plural noun rather than a possessive one (e.g. 'to enhance an *athletes* performance'). There were 97 instances of this type of phrase, but

again *an* suggests that *athletes* is singular. The sense seems to be possessive and singular. In these 143 errors, there seems to be little cause for concern because the possessive sense is still evident. For our students, the possessive apostrophe may simply seem superfluous.

It is the other 51 of these 194 instances that might be a cause for concern, those occurring in phrases with a definite article: 'The purpose of gene doping is to enhance *the athletes* performance.' Readers will likely need to pause and consider if the student meant the performance of one athlete or the performance of many athletes, and here contextual cues are less obvious. On the one hand, such ambiguity may not really matter. On the other hand, such ambiguity might matter for students who hope to become doctors or dentists and who might therefore need to write notes that dictate who and how many people will receive *the patients medicine*.

Our research suggests that you don't need to worry about double-checking your prescriptions, at least ones from our future health professionals. At the end of their first year, only some of the students are offered a place to continue their health professional training. That offer is not contingent upon the grade students receive on our diagnostic test or on the grade students receive in the extra English paper (if they were required to take it). Rather, their offer is contingent upon a combination of their marks in their general first year programme and their score on the Undergraduate Medicine and Health Sciences Admission Test (UMAT). The use of possessive apostrophes on the English diagnostic test should not affect their offer of place, yet there might still be a correlation. We therefore examined the placement offers for each of the students who wrote sentences requiring possessive apostrophes. The placement rate for those who used the apostrophe correctly was 43%, while for those who used it incorrectly it was only 31%. In logistic regression, this difference was significant (*Wald's*  $z = -2.211$ ,  $p = 0.027$ ). Students who placed the possessive apostrophe correctly were 38% more likely to be offered a place. Strangely, this little mark seems to have some predictive abilities of whether or not students will succeed in becoming health professionals.

We cannot really know the reason for this success. It is very unlikely that our data mean that we should run off to teach apostrophes to budding medical professionals. Rather, problems with apostrophes likely tie into some larger feature that does have a substantial effect. Perhaps apostrophe use

indicates some level of formal academic preparedness. Alternatively, these little marks might reveal habits of mind. Those who are careless on an English diagnostic test with their copy-editing might be equally careless later with, for instance, formulae in their requisite course in biochemistry. The relationship might be even more indirect: perhaps our test simply indicates that those who become flustered during a perceived high-pressure test at the beginning of the year will continue to experience performance-reducing stress on subsequent tests. Further work is necessary to make any headway on such questions. Naturally, many of those who dropped the apostrophe on the test will assuredly continue on to become remarkable medical professionals. More remarkably, though, such a tiny mark on a page may actually deserve some of the sensationalism that it receives.

### Notes

1 Short readable histories of the apostrophe are quite common. See Little, 1986: 15–17; Teitelbaum, 1993: 23–24; Garret and Austin, 1993: 61–63; and Beal, 2010: 58–62.

2 299 had neither an adjectival construction nor a possessive structure (i.e. they answered the question in other terms, responded incorrectly, or failed to complete the question). Some students formed the possessive in other ways (discussed below). There is also some overlap in these categories. For example, some students used a possessive apostrophe and an adjective (e.g. *an athlete's athletic performance*).

3 Garrett and Austin (1993) had 45 university students judge which type of possessive apostrophe errors seemed the most egregious. The addition of an apostrophe to a plural was judged to be the most egregious, omission of an apostrophe the least. The tendency of our students to omit the apostrophe seems to fit with their findings.

### References

- Beal, J. C. 2010. 'The grocer's apostrophe: Popular prescriptivism in the 21<sup>st</sup> century.' *English Today*, 26(2), 57–64.
- Bryant, P., Devine, M., Ledward, A., & Nunes, T. 1997. 'Spelling with Apostrophes and Understanding Possession.' *British Journal of Educational Psychology*, 67, 91–100.
- Butterfield, J. (ed.) 2015. *Fowler's Dictionary of Modern English Usage*. Oxford: Oxford University Press.
- Cordeiro, P., Giacobbe, M. E. & Cazden, C. 1983. 'Apostrophes, quotation marks, and periods: Learning punctuation in the first grade.' *Language Arts*, 60(3), 323–332.
- Crystal, D. 2006. *The Fight for English: How Language Pundits Ate, Shot, and Left*. Oxford: Oxford University Press.
- Daily Mail. 2014. "'It's pandering to the lowest common denominator": Anger as Cambridge bans apostrophe from street names.' January, 18. Online at <<http://www.dailymail.co.uk/news/article-2541604/Cambridge-bans-apostrophe-street-names.html>> (accessed September 9, 2015).
- Francis, W. N. & Kučera, H. 1982. *Frequency Analysis of English Usage: Lexicon and Grammar*. Boston: Houghton Mifflin.
- Garret, P. & Austin, C. 1993. 'The English genitive apostrophe: Judgements of errors and implications for teaching.' *Language Awareness*, 2(2), 61–75.
- Hobbes, T. 1676. *Homer's Iliads in English*. London.
- Hokanson, L. & Kemp, N. 2013. 'Adults' spelling and understanding of possession and plurality: An intervention study.' *Reading and Writing*, 26(2), 241–261.
- Lester, J. A. 1922a. 'A study of high school spelling material.' *Journal of Education Psychology*, 13(2), 65–74.
- Lester, J. A. 1922b. 'A study of high school spelling material II.' *Journal of Education Psychology*, 13(3), 152–159.
- Little, G. 1986. 'The ambivalent apostrophe.' *English Today*, 2, 15–17.
- Modern Language Association of America. 2009. *MLA Handbook for Writers of Research Papers*. 7<sup>th</sup> edn. New York: The Modern Language Association of America.
- Morris, H. 2013. 'Dropped apostrophes spark grammar war in Britain.' *New York Times*, March, 16. Online at <[http://rendezvous.blogs.nytimes.com/2013/03/16/dropped-apostrophe-sparks-grammar-war/?\\_r=0](http://rendezvous.blogs.nytimes.com/2013/03/16/dropped-apostrophe-sparks-grammar-war/?_r=0)> (accessed September 10, 2015).
- NBC News. 2009. 'It's a catastrophe for the apostrophe in Britain.' January 31. Online at <[http://www.nbcnews.com/id/28938136/ns/world\\_news-europe/t/its-catastrophe-apostrophe-britain/#.VfCjch1d\\_S1](http://www.nbcnews.com/id/28938136/ns/world_news-europe/t/its-catastrophe-apostrophe-britain/#.VfCjch1d_S1)> (accessed September 10, 2015).
- Priestley, J. 1761. *The Rudiments of English Grammar; Adapted to the Use of Schools*. London.
- Sklar, E. S. 1976. 'The possessive apostrophe: The development and decline of a crooked mark.' *College English*, 38(2), 175–183.
- Teitelbaum, H. 1993. 'The case of the missing apostrophe.' *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 67(1), 23–24.
- Truss, L. 2003. *Eats, Shoots & Leaves: The Zero Tolerance Approach to Punctuation*. London: Profile.