

THE HISTORY OF [ɔ:]:
IS THERE REGULAR ORTHOGRAPHICALLY CONDITIONED SOUND CHANGE?

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1. Preface

In this article¹ I shall examine a rather inconspicuous recent development in RP – the abandonment of the once common and fashionable pronunciation of words like *lost*, *moss*, *froth* and *often* with a long vowel.² I shall argue that, whatever forces set this process in motion, the speakers of RP who gave up saying [lɔ:st] and switched to [lɒst] were guided to a larger extent by the spelling of such words than by anything else in deciding, intuitively, in which cases the shift should be carried out. I would also like to suggest, first, that the orthographic pressures involved in that decision were of a universal nature; and secondly, that the very phenomenon of “spelling-pronunciation” shows orthographic competence to be more tightly integrated with other, indubitably older, components of the human linguistic faculty than many theorists would be willing to admit. This raises the old question whether all language universals should automatically be regarded as manifestations of the innate “language programs” of the brain – a question of considerable interest to theories of linguistic competence, including optimality theory (Prince – Smolensky 1993).

¹ Based on a paper presented at the 10th International Conference on English Historical Linguistics, Manchester, 21-26 August 1998.

² The lexical set affected is that part of Wells's (1982) CLOTH set in which the vowel is followed by a voiceless fricative. I shall therefore refer to it as the *cloth* set or the *cloth* words.

2. Sources of RP [ɔ:]

RP [ɔ:] (usually so transcribed in deference to tradition, although the vowel is now actually mid-high rather than mid-low, phonetically [o:ɪ]) derives from a variety of historical sources. The diphthong *au* (apparently [au~ɔu]) of early Modern English was monophthongised, yielding a vowel like [ɔ:] already in the sixteenth century in some dialects. This happened both in words with an “etymological” diphthong (*saw, law, cause*) and those with a secondary one – in most cases a reflex of older *ax* or *ox* (*brought, daughter*), or of ME *a* modified by a following *l* (whether still pronounced in Modern English, as in *tall, salt, bald*, or dropped, as in *talk, chalk*). The diphthongal pronunciation seems to have died out in the course of the seventeenth century, whereupon a new rounded low or mid-low long monophthong entrenched itself securely in the vowel system of post-Great-Vowel-Shift English.

Perhaps a century later (the earliest reliable attestation comes from the 1680's, according to Dobson 1968: 527–528) short [ɒ] was lengthened before a following voiceless fricative, or more precisely before [s, f, θ, st, ft] – chiefly, though not exclusively, in monosyllabic words like *lost, off, moth, soft*. The lengthened vowel seems to have fallen together with that of *saw* or *brought* – then approximately [ɔ:], later drifting towards a higher position and more lip-rounding. At the same time a parallel change affected short [a] in words like *pass, last, ask* or *craft*. As both changes were first reported by the same grammarian (Cooper 1685), it seems likely that they initially occurred in the same dialects. Both processes gained momentum during the next hundred years, spreading all over southern Britain and diffusing also to the varieties of eighteenth-century English that can be considered ancestral to RP. Rather mysteriously, they failed to progress quite parallelly either there or elsewhere. By the mid-nineteenth century, the lexical set represented by *pass* had a long vowel in the most normative varieties of British English, though only a couple of generations earlier Walker (1791) had reacted against such a pronunciation, calling it “gross to a degree”.

The RP merger of the vowel in *pass* with those of *part, palm* and *plant* has eventually yielded present-day [ɑ:], nowadays invariable in nearly all such words. By contrast, the long-vowel pronunciation of the *cloth set* did not manage to oust the rival variant, and for a time the standard accent hesitated between [ɒ] and [ɔ:~ɔ:] there. Walker described the lengthened pronunciation as “every day growing more and more vulgar”, but his contemporary Nares (1784) did not hesitate to prescribe it even in words of two or three syllables, such as *coffee, profit, officer* and *hospital* (Jespersen 1909: 313). The long-vowel variant certainly gained currency as well as prestige in the nineteenth century and remained common throughout the early decades of the twentieth – as reported by writers who were native speakers of the contemporary British standard – though at that

final stage of its career in RP it was essentially restricted to monosyllabic words (with rare exceptions, such as *often* ['ɔ:fən]).³

Another major source of [ɔ:] was preconsonantal or final [ɒɪ], in which the vowel was lengthened upon the loss of [ɪ] in syllable rhymes, more or less completed by the end of the eighteenth century. In some sub-varieties of early RP the result of this compensatory lengthening did not merge with the reflex of early ModE [o:ɪ] – a centring diphthong with a mid-high starting point, [oə]. As former [ɔ:] became higher, the two vowels merged, and the lexical sets represented by *horse* and *hoarse* fell together. There is also a tendency at least as old as RP, but not carried through in that accent, to add [ʊə] to the merging set (as in present-day *poor* [pʊə~pɔ:], formerly [pʊə~pə]). There is no need to discuss here in detail the miscellany of other sources, such as former [a:~ɑ:] rounded after [w], as in *war* or *quart*.

3. The “shortening” [ɔ:~ɔ:] > [ɒ]

Present-day RP shows many instances of hesitation between [ɔ:] and [ɒ]. Most of them are evidently linked to phonological preferences. For example, length is variable in syllables rendered superheavy (trimoraic) by a long vowel. There seems to be a cross-linguistic two-mora limit on syllable weight, making such syllables undesirable. A word-final consonant may count as non-moraic, so there is no pressure to shorten the vowel of *all, fall, talk, cause, pawn, stork* or *horse*. However a short vowel is very common in words like *salt, vault, halt, bald, false* or *waltz*, and in closed non-final syllables, as in *alder, cauldron, Austria, Austin, auspices, palsy, falcon, although, always, walrus, alternate, Walter*, etc., as opposed to *author, autumn, awful* or *Macaulay*. There are, to be sure, exceptions working both ways: *sausage, laurel* and *cauliflower* have historically unexpected short vowels, and [ɔ:] is now the only pronunciation before a nasal when the spelling is *au*, as in *paunch, launch, jaundice* or *laundry*. Separate explanations should be sought for such cases, but the general correlation between syllable weight and vowel length is sufficiently borne out by the data. It may be added that vowel shortening in the *salt set* in “careful” British English was already observed two hundred years ago and is reportedly at least as frequent as the long vowel in modern RP.

³ The twelfth edition of *Everyman's Pronouncing Dictionary* (Jones 1963) gave priority to long-vowel variants in *off* (but not in *offish*), *oft* (also in compounds) and *often*; thus also in *wrath* (a word which joined the *cloth set* as a result of low-vowel rounding after [w]). A long vowel was Jones's second choice in *broth, cloth, croft, cough, frost(y), froth(y), loft, loss, lost, soft(en), toss* (with the qualification ‘tos [old-fashioned tɔ:s]’) and *trough*. However, only a short vowel was recommended in *boss, brothel, coffee, moss, offer, officer* and *Ross*. In Wells's opinion poll (Wells 1990: xi) merely 1% of a panel of 275 speakers of British English expressed their preference for a long vowel in *often*.

Phonology, however, does not provide a reason why a short vowel should be preferred in the entire *cloth* set. While it could account for [ɒ] in *soft*, *croft* and *loft* – and less convincingly in *lost*, *cost* and *frost* (word-final [st] does not generally inhibit vowel length) – words like *moss*, *cross*, *off*, *broth*, *cloth*, *trough*, *cough*, *often*, *coffee*, *offer* would be phonotactically as unexceptionable with [ɔ:] as they are with [ɒ]. Fricatives are not known to shorten preceding vowels – if anything, various cases of pre-fricative *lengthening* could be quoted. And yet, in post-war years, the pronunciation [ɔ:] has become quite impossible in mainstream RP. It is now, in fact, a stereotyped trait of hyperlectal, upper-class accents (as, reportedly, in Her Majesty's own pronunciation of *off*, *often* and *offer*); alternatively, it may be attributed to accents associated with low social status, such as Cockney.⁴ Why should educated middle-class English people be at pains to disembarass themselves of something that is good enough for the rest of society? No doubt, they want to avoid pronunciations regarded as sociolinguistically *marked* – “affected” or “vulgar”; but is there any reason why the short-vowel pronunciation of the words in question should come to be regarded as *unmarked*?

It should be noted that the status of the variant [ɔ:] in the *cloth* set was at no time very secure. Somewhat paradoxically, while *The New English Dictionary* (Vol. 7, published in 1905) seemed to regard it as a recent development,⁵ to Wyld (1936: 257) it was already “the now old-fashioned pronunciation [mɔ̃p] for *moth*, instead of [mɔ̃p]”. Some orthoepic comments seem to imply that nineteenth-century English had a vowel intermediate (also quantitatively) between [ɒ] and [ɔ:] in the *cloth* set,⁶ as well as one intermediate between [æ] and [ɑ:] in the *last* set. This is what Smart (1871) – “a Londoner, the son of a Londoner” (p. v) – says in the introduction to his *Pronouncing Dictionary*:

To this general remark [about the pronunciation of vowels in closed syllables – PG], a particular observation must be added with regard to ä and ǻ, namely, that when the former is followed by *f*, *s*, or *n*, and the latter by *ss*, *st*, or *th*, there is in many words a disposition to broadness in the vowel not quite in unison with the mode of indication [that is, with the transcription used by Smart – PG]; as may be perceived in an unaffected pronunciation of *gräss*, *gräft*, *plänt*, *commänd*; *möss*, *töst*, *clöth*. This broadness is a decided vulgarism when it identifies the former with ä, and the latter with aw: the exact sound, in every instance, lies between the one indicated, and the vulgar corruption (Smart 1871: vii).

⁴ The Survey of English Dialects (Upton – Parry – Widdowson 1994) records long vowels in *off(-horse)* and *frost* at numerous locations in southern and western England. Also in Irish English there is still free variation between [ɒ] and [ɔ:] in the *cloth* words (Bertz 1975).

⁵ This is what we read in the introductory article to the letter *O*: “A still more recent lengthening of *o* [more recent, that is, than lengthening before [ɹ] – PG] often takes place in southern English before certain consonants, as in *cross*, *off*, *moth*, *soft*, and, being as yet only partially recognized, is here represented by *ò*.”

⁶ In *NED*'s table of phonetic symbols *ò* is described as “the *o* in *soft*, of medial or doubtful length”.

I doubt the accuracy of Smart's account, though cases of reversible near-mergers (phonemic distinctions so minimal that even speakers who produce them may not be able to perceive them) have been reported in the recent literature on sound change (Labov 1994: 293–418). Smart, however, seems to be at pains to steer a middle course between the unrealistic recommendations of prescriptive grammarians (represented by his “mode of indication”) and the actual usage of his contemporaries (“the vulgar corruption”); he therefore offers a compromise in order to satisfy both sides.

4. The spelling of the affected words

It must be pointed out that the “re-shortening” of [ɔ:] before voiceless fricatives is restricted to cases in which the vowel is simply written O (<COUGH> and <TROUGH> are special cases, and will be discussed separately); note that the vowel has remained long in *h<OR>se*, *c<OUR>se*, *s<OUR>ce*, *f<OR>ce*, *wh<AR>f*, *s<AU>ce*, *end<OR>se*, *D<OR>set*, *F<AW>cett*, *<AU>thor*, *p<AU>city*, etc. <O>*ften*, <O>*ffal* and *m<O>ss* were once idiolectally homophonous with <OR>*phan*, <AW>*ful* and *M<OR>se*; since there is no reason to postulate different underlying forms for such homophones, their phonemic make-up cannot have played a role in deciding which long vowels should be abandoned; nor did the mere existence of two variants, for the *salt* type, in which length has for a long time been variable, has no shibboleth function and mainstream RP tolerates long vowels there. What is conspicuous by its absence is overgeneralisation: hypercorrect forms like *[fɒs] for *force* or *[nɒθ] for *north* do not seem to exist at all. The situation looks as if the people who shunned pre-fricative lengthening had been conscious of how the words were spelt. They were, in other words, people with some degree of literacy; if children, then not below school age. They had already acquired their language but were in the process of fine-tuning their social accent. The current forms are therefore typical spelling-pronunciations, just like the reinstatement of [t] in *often* or [ˈvenɪsən] for traditional [ˈvenzən] (*venison*).

Spelling-based pronunciations are likely to arise in adoptive standard accents used by people who are eager to avoid gross dialecticisms and when in doubt seek linguistic security by using pronunciations consistent with the standard spelling of *literary* English. The two kinds of people who have no reason to be spelling-conscious are native speakers of the most prestigious social dialect, and speakers of completely non-standard varieties. The former do not feel any insecurity about their accent; they will be linguistically conservative and proud rather than ashamed of the traditional characteristics of their speech. Nobody, after all, is going to question a retired brigadier's right to say [ˈju:mə] for *humour*, [ˈpə:] for *power*, [əˈtəʊm] for *at home* and [kɹɔ:s] for *cross*. Speakers of non-standard English may be entirely literate, but RP is not their community

code; if they made too much effort to sound like the upper middle class, they could attract ridicule. But during the second half of the twentieth century English society has undergone social as well as linguistic democratisation. The definition of RP has become far broader than ever before, encompassing much that used to be considered non-U if not outright “vulgar”. A BBC announcer no longer sounds like the archetypal retired brigadier. People who adopt RP in the course of their education are receptive to spelling-pronunciations, and orthographic consciousness is an important part of their linguistic competence.

5. Further examples

An interesting feature of the “*cloth* re-shortening” is its wholesale operation and total regularity. Is it possible to give other examples of regular phonological change conditioned by orthographic factors? The pronunciation of <WH>-words by “occasional native RP speakers who have drilled themselves to use /hw/ as a consequence of becoming speech-conscious through drama training or otherwise” (Wells 1992: 285), though idiolectal, is a good case in point. Kökeritz (1964: 143) provides many half-anecdotal examples from American English,⁷ including “... the restoration of [l] in *balm*, *calm*, *psalm*, *alms*; about 50% of my students in recent years”, says Kökeritz, “have been found to pronounce it in these words, and one hears it regularly from radio announcers.”

In particularly favourable circumstances spelling-pronunciations of whole classes of words may win nationwide acceptance. In post-war Poland a vigorous campaign against illiteracy, often conducted by teachers whose volunteer zeal had to compensate for deficiencies of training,⁸ resulted in the rapid spread of *adoptive* standard Polish. The next generation of educated Poles spoke an accent more consistent with orthography than the pre-war standard. For example, orthographic <GE> in loanwords (<GE>*neral*, *inteli*<GE>*ntny*, <GE>*ometria*), where the traditional norm, still observed by some elderly speakers, used to demand [jɛ], is now pronounced [gɛ]. Even the pronunciation [jɛ], though conservative, must be spelling-based, since until the late nineteenth century most educated people pronounced the same words with [jɛ]. As no changes have affected either the sequence [jɛ] when the corresponding spelling is <JE> or [jɛ] spelt <GIE>, the phenomenon is a pure example of orthographically conditioned sound change.

⁷ At New Haven, CN.

⁸ One cannot help being reminded of the famous passage in *Love's Labour's Lost*, where Holofernes the schoolmaster says this of Don Adriano de Armado, the fantastical Spaniard:

I abhor such fanatical phantasies, such insociable and point-device companions; such rackers of orthography, as to speak ‘dout’, fine, when they should say ‘doubt’; ‘det’, when they should pronounce ‘debt’, – d, e, b, t, not d, e, t: he clepeth a calf, ‘cauf’; half, ‘hauf’; neighbour *vocatur* ‘nebour’; neigh abbreviated ‘ne’. This is abhominable, – which he would call ‘abhominable’ ...

6. Graphemic universals and letter-to-sound correspondences

When an alphabetic writing system (or any other other phonetically-based script) is first devised for a natural language, the main concern of those who introduce it is to represent the spoken language as faithfully as possible. If the scribes’ choice is to employ an already existing set of characters (e.g., the Latin alphabet) rather than design a new script, there will typically be a good deal of mismatch between the inventory of letters and the phonological inventory of the language; it may be resolved by introducing diacritic marks and diacritic letters, or permitting some harmless ambiguity in the spelling. A perfectly explicit phonetic spelling would be like IPA transcriptions in demanding a bijective relation between surface segments and letters, but phonetic accuracy is not the sole concern of those who write. In languages with rich allomorphy it may be desirable to sacrifice phonetic accuracy in order to maintain paradigmatic consistency (that is, graphemic correspondence between variants of the same morpheme) – e.g., the Polish word [vus] ‘cart, wagon’ owes its spelling <WÓZ> (rather than *<WUS>) to its alternation with forms like the plural <WOZY> [vɔzi].

In languages with old and rich literary traditions orthography becomes conservative and abounds in time-honoured orthographic fossils reflecting the spoken language of many centuries ago (like English <KNIGHT> or <WROUGHT>). Phonology, morphology and tradition – to mention just three forces – impose their conflicting constraints on all spelling systems. A cursory look at diverse adaptations of the Latin alphabet shows that strikingly similar resolutions have been arrived at recurrently and independently in many writing traditions; this suggests that the constraints involved are the same for all languages, though their relative strength may vary.

If a rigid orthographic norm is strongly established, faithfulness to the conservative spelling will outrank the demands of phonetic consistency. But if there are various acceptable pronunciations corresponding to the same spelling, speakers may achieve a greater consistency between their spoken and written language by preferring the variant that minimises the mismatch between the two. To quote Kökeritz (1964: 138):

With the growing awareness of the difference between spelling and pronunciation came a desire to adjust one to the other. A fluid orthography tends to favour phonetic spelling, but a fixed, conservative mode of writing, especially one that approaches the ideographic stage, holds the seeds of spelling-pronunciation.

Speakers of an adoptive standard may not be intimately familiar with the traditional prestigious accent and therefore less likely to attach much importance to its dainty idiosyncracies. They will want to sound just educated rather than posh. If they can get away with using explicit spelling-pronunciations, they will be

naturally inclined to employ them. Likewise, the traditional pronunciation of surnames and place-names often gives way to spelling-pronunciations (e.g., [ˈpʌmfɪt] replaced by [ˈpɒntɪfrækt] for <PONTEFRACT>) when they come to be used by people outside the parish boundaries.

There is no single characteristic spelling corresponding to RP [ɔː]. The least ambiguous one is the spelling <OR>, as in <HORSE>. The grapheme <R> may be regarded here as an overt and unmistakable indication of vowel length provided that it is not prevocalic (we are talking of a non-rhotic accent) and that the vowel written <O> is accented (not reduced); thus also in <OAR> (with a redundant <A>) and morpheme-final or preconsonantal <OUR> and <OOR>, which, though somewhat ambiguous, at any rate never stand for short full vowels. The grapheme <A> followed by <L> (whether mute or corresponding to a phonetic lateral) and the combinations <AU> or <AW> do not infallibly indicate length; the graphemes <L>, <U> and <W> may be interpreted as encoding primarily lip rounding and tongue retraction, and only secondarily length – if the latter is not disfavoured by phonotactic constraints. For many speakers of RP such spellings indicate the possibility of choosing between [ɔː] and [ɒ]. Which one is selected may depend on phonological preferences like the optimal syllable weight.

The spelling is normally employed for RP [ɒ] and [əʊ]; in the latter case there is usually some graphemic indication of length: a single consonant grapheme followed by a vowel grapheme (often a mute <E>, as in <BONE>), or an extra vowel symbol – <OA> or <OE>. <O> is not primarily associated with the pronunciation [ɔː], except when accompanied by postvocalic <R>. We can imagine that a learner of non-rhotic British English might arrive at the following simple generalisation: <O> is pronounced [ɒ] unless there is explicit indication of its length or the spelling is exceptional (in which case, of course, it is necessary to memorise it). Preference for a short vowel in the *cloth set* results from parsimony: we do not have to complicate our generalisation by adding a clause referring to pre-fricative length. Note that unambiguous spellings like *cl*<AW>*th* are employed when U-RP is parodied on paper, e.g., in comic strips.

As regards the preference for a short vowel in *cough* and *trough*, let us first reflect how many different phonetic values can correspond to the spelling <OUGH>. Consider a imaginary place-name spelt <FROUGH>. How should it be pronounced? [fɪʌf]? [fɪʌʊ]? [fɪəʊ]? [fɪʌf]? [fɪʌuː]? We feel at a loss here, for words ending in <OUGH> are *all* irregular. This sequence of characters provides no overt cue for vowel length – it is just an antiquarian spelling whose association with one of a number of imaginable pronunciations must be learnt by heart. However, there *is* a possible generalisation even here: <OUGH> stands either for a long back vowel followed by a consonant, or for a short back vowel followed by [f]. Short-vowel variants of *cough* and *trough* are in this sense less irregular than [kɔːf, tɹɔːf].

Why do we have no parallel shortening in words like *pass* or *last*? Quite simply, because [pæs] and [læst] are entirely non-RP. They lost ground to [pɑːs] and [lɑːst] at a time when the model pronunciation was less dependent on the spelling. When evaluating possible phonetic counterparts of written words for their consistency with the spelling, people will limit their choice to alternative forms already in existence rather than create innovations. When there is some hesitation, as in [plæstɪk~plɑːstɪk], the pronunciation that better corresponds to the spelling (the one with a short vowel, in this case) is more likely to prevail in the long run.

7. Concluding remarks

It seems very natural to represent relations between orthography and spoken language in terms of correspondence constraints. Such constraints would account not only for the use of various spelling tricks to represent phonological structure graphemically, but also for the fact that spelling-pronunciations or, more generally, variants more consistent with the spelling have a selective edge on irregular pronunciations in the evolution of language in literate communities. At least some of such constraints are quite evidently universal – e.g., “a single grapheme corresponds bijectively to a single segment”, or “vowel quantity, if distinctive, must be indicated”, or “diacritics should be avoided”. Constraints like these are of course violable, like those in Prince and Smolensky’s model; they can also be ranked into a strict dominance hierarchy. If, for example, the necessity to represent vowel length explicitly overrides the principles “one vowel, one letter” and “avoid accents”, geminated graphemes or special length marks (depending on the relative ranking of the remaining constraints) will be employed. The higher-ranking constraint will thus be satisfied at the cost of violating the lower-ranking ones.

The development of writing, let alone the invention of the alphabet, is so recent in evolutionary terms that an autonomous “graphemic tier” as an expansion of our mental representation of language cannot conceivably be innate. If it exists, it is a product of our general symbolic skills arising as a flexible adaptation to a new mode of communication – a non-biologically transmitted cultural invention. All humans are in principle able to learn to read and write, even if they have no biological writing instinct – but if they *are* literate, their writing competence interacts with their spoken language in ways that go far beyond anecdotal cases typically quoted as spelling-pronunciations. This interaction can be captured as conflict resolution in a hierarchy of constraints that may well be universal and are not very different from those proposed for other departments of language. Is it then legitimate to claim that the universal character of cross-linguistic generalisations – such as the constraints of optimality theory – can only be guaranteed by their biological innateness? Far be it from me to deny the

existence of a hereditary language instinct in humans; nor do I wish to question the predictive and explanatory force of optimality theory, the heuristic merits of its view of language-specific grammars, or the formal elegance of notions like the strict dominance hierarchy. I would only like to point out that while the analysis of linguistic competence in terms of prefabricated universal constraints is an inspiring and successful scientific metaphor, it provides no solid foundation for dogmatic conclusions about the evolutionary origins of language, the neurobiology of speech, or the mechanism of language acquisition.

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