Filling the Gap

English Tense Vowel plus Final /š/

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Native-stock English /š/ normally derives from *sk* (Old English *fisc* > *fish*), a change dating to ca. 1100, at which time tense vowels were still absent before tautosyllabic consonant clusters. Though sequences of lax vowel plus final /š/ have become common via old loans (*push* < French *pousser*) and coinages (*posh*), tense vowel plus final /š/ sequences remain rare, chiefly because of the absence of a source in Old English. Today, these sequences convey either an affective, onomatopoeic quality (*sheesh*, *swoosh*) or represent modern borrowings for rather esoteric foreign concepts or entities (*cartouche*, *gauche*) or proper nouns like (*Lyndon*) *Laroche*. Dialectal vowel tensing notwithstanding (cf. Midlands *p*[u:]*sh*), there is but one ordinary English word with tense vowel plus /š/ without special connotation, *leash*, yet even that is of Anglo-Norman origin. We argue here that the character of the particular gap with English coda /š/ following tense vowels is phonologically accidental rather than systematic: not only are its contemporary but fading remnants accidental, but the progressive process of the removal of this gap over the course of the history of English is noteworthy for just how systematic it has been, with the result now that words showing long vowel plus final /š/ are increasingly common and decreasingly exotic.

Keywords: *English phonology; systematic gap; accidental gap; tense vowels; historical linguistics; borrowing; connotation*

A distinction drawn early on in the development of modern (generative) phonology is that between the properties of actual words in a language and those of words that do not occur. In the latter category were contrasted word types that are missing because they are phonologically impossible and those that, though also absent, in principle could occur in the language. Thus, Halle (1962) made the celebrated ob-

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servation that *brick* is an actual word of English whereas *blick* and *bnick* are not; but *blick* could be a word in English, parallel to actual words with initial *bl-* clusters like *black* and *blue*. Indeed, as an astute reader points out, the form *blick* in fact has been introduced into English from German, in the esoteric vocabulary of metallurgy with the meaning 'the brightening or iridescence appearing on silver or gold at the end of the cupelling or refining process' (*Oxford English Dictionary Online* [January-August 2005], hereinafter *OED*). By contrast, *bnick* cannot become a word of English, even in arcane usage, because onset clusters formed with a stop plus nasal are phonotactically impermissible in English; when borrowed, these are simplified to just the nasal, as in *pneumonia*, or interrupted by an epenthetic vowel, as with the Scandinavian name *Knut* [kn̥ut], rendered in English as *Canute* [k^{h}ənut]. This pattern can be accounted for by general phonological principles: the permissibility of stop plus liquid onsets in the face of impermissible stop plus nasal onsets reflects a minimal sonority distance requirement that is imposed on the members of English onset clusters, with the more sonorous liquids sufficiently remote from the low sonority stops, the less sonorous nasals too close (Clements 1990; Broselow and Finer 1991). With respect to the common lexicon, following modern practice, missing words of the *bnick* sort came to be termed SYSTEMATIC GAPS, those of the *blick* sort ACCIDENTAL GAPS.

In this article, based on both diachronic and synchronic phonotactic patterns in English, we further distinguish the category of accidental gaps as LEXICALLY versus PHONOLOGICALLY accidental. The gap with *blick* in English is then lexically accidental since the word just happens not to occur in ordinary vocabulary, and its absence cannot be characterized in general phonological terms because stop plus liquid onsets are not impermissible in English. But there are other kinds of adventitious gaps in the word inventory, which, though not systematic in the sense of being phonologically prohibited like *bnick*, are nonetheless regular, or nearly so, and in fact can be described in broad phonological terms. We focus here on one of these, a near-void in English that has arisen as a kind of historical residue in the process of regular sound change, viz., the special status of tense vowel plus final voiceless alveopalatal fricative, as in (foreign) *douche* or (affective) *swoosh*. In the sections below we lay out the history of /š/ in English and its origins in the cluster /sk/. We then describe the occurrence of this segment in the modern language and identify the connotations it conveys for many speakers, though we see the sound as being integrated now into the "brotherhood of phonemes" with increasingly fewer restrictions. Finally, we conclude with a word about this development in the context of the new framework of Evolutionary Phonology (Blevins 2004). First, however, we give further definition to what we mean by a PHONOLOGICALLY ACCIDENTAL GAP.

Systematic versus Phonologically Accidental Gaps

Two consonants in English are not found at the beginnings of native (or nativized) words: the velar nasal [ŋ] and the voiced alveopalatal fricative [ž]. The histories of these two segments in the language are very different, however, and the status of the initial gaps they result in, we argue, is not the same: *#ŋ is a systematic gap, whereas *#ž, in the sense just described, is phonologically accidental.

Many languages with a velar nasal phoneme allow it to occur freely within the word, as does Vietnamese, but others exclude it from word- or syllable-initial position, as is the case, independently, in Chinese and Korean (/m, n, ŋ/ occur finally, only /m/ and /n/ initially). Though it is thus typologically consistent with this pattern, the exclusion of velar nasals from initial position in Indo-European languages has a straightforward historical explanation: Indo-European itself simply had no velar nasal phoneme; rather, velar allophones of /n/ arose via assimilation to following velar stops, so that a word like *sink* would have been pronounced with a velar nasal from the earliest times, as it still is today (see Schwink 2000). The same is true of words like *finger* [fˉĭŋgɚ˞], in which the nasal appears before a voiced velar stop. But the voiced velar stop following a nasal is deleted in English at the end of a word or before a derivational morpheme; hence a word like *sing*, from earlier [sɪŋg], is now pronounced without the stop ([sĩŋ]) in the reference standard and in many dialects, as is the derived agentive noun *singer* [sˉĭŋɚ˞] (*[sˉĭŋgɚ˞]). The result is that the velar nasal now contrasts finally with the labial and alveolar nasals of English (*ding~ dim~ din*), presumably making it a new phoneme of the language, /ŋ/. But this is a phoneme with a very restricted distribution due to its origin in a consonant cluster, which still occurs per se in inflected forms like *longer* [lɔ̃ŋgɚ˞], the comparative of *long* [lɔ̃ŋ] (vs. derived *longer* [lɔ̃ŋɚ˞] ‘one who longs for something’).

The absence of the English velar nasal from word-initial position is therefore due to its historical source in a cluster of assimilated nasal plus voiced velar stop. The stop itself deletes when in final environments or before a derivational suffix, but it is generally retained medially within a morpheme (*finger*, *linger* [lĭŋgɚ˞]), though its absence in monomorphemic *dinghy* [dĭŋi] and *hangar* [hæ̃ŋɚ˞] underscores the velar nasal’s contrastive status even here. As nasal plus stop clusters of all types always have been excluded from word-initial position in Indo-European languages, however, the reason for the absence of initial [ŋ] in English is just that [ŋ] derives from a cluster which could not occur there, viz., [ŋg]. Indeed, the conventional practice in recent phonological analysis (beginning notably with Chomsky and Halle 1968) is to consider that the velar nasal is NOT a phoneme of English but rather derives from /n/ (or a place-unspecified nasal) plus /g/, with the stop deleting in specified morpheme-final environments (as well as, idiosyncratically, in *dinghy* and *hangar*). Then, with prevocalic [ŋ] deriving from /ng/, the fact of its absence in

word-initial position is explained in the same way as is the absence there of /mb/ or /nd/, which are also phonotactically impermissible initially. The result is that *#ŋ is a systematic gap in English, forcing a phonological adjustment of any velar nasal-initial foreign words which happen to come into the language, such as the Vietnamese name *Nga* [ŋa], which is adapted as [na] or even [əŋga] but never (except for the phonetically trained) as *[ŋa]. The gap is absolutely systematic, in other words, and follows from the general phonotactic prohibition of nasal plus stop initials, the historical source of English /ŋ/.

Contrast this circumstance with the other consonant that is generally absent from word-initial environments in English, the voiced alveopalatal [ž]. This fricative has come about in English chiefly through the historical palatalization of /z/ before unstressed /i/ in the Romance vocabulary (*vision* [vɪžən], cf. Fr. [vizi5]; *pleasure* [pl̥ɛžɚ], cf. Fr. [plɛzɪʁ), parallel to that of /s/ in the same environment (*mission* [mɪšən], cf. Fr. [misi5]; *residential* [ʁɛədɛ̃nšəl][1] < *residency* + *al*). Another source of [ž] is recent borrowings of words from French which (now) have [ž] (*lingerie* [lãnžəɹi] ~ [lãnžəɹe], cf. Fr. [lãžʁi]). But at the time of the most pervasive phonological influence of French on English, just after the Norman Conquest at the end of the eleventh century, French itself pronounced the alveopalatals as affricates, and these developed into fricatives only after 1200 (Flasdieck 1958, 359). Thus, old borrowings retain the affricate pronunciation of earlier French, as in *majesty*, first attested in 1171 according to *OED* (mod. Fr. *ma*[ž]*esté*).

Overall, therefore, most instances of [ž] in English are word-medial due to the indigenous palatalization of /z/ before unstressed /i/ in older loans, while others are borrowings from modern French as in *lingerie* or *beige*. This segment is restricted in final position for many English speakers, too, who produce *garage*, *espionage*, and also *beige* with [ǰ], but it seems clear that pronunciation with the fricative rather than the affricate conveys in some cases a sense of cosmopolitanism or sophistication.[2] Indeed, this must be the explanation for "hyperforeignisms" (Janda, Joseph, and Jacobs 1994) involving the substitution today of [ž] for native [ǰ], as in the rendition by some English speakers of the capitol of China as *Bei*[ž]*ing* rather than *Bei*[ǰ]*ing*, or of *Tajik(istan)* with [ž] rather than [ǰ]. Even in a word where [ǰ] is appropriate—*Beijing* is pronounced with an affricate in Chinese, as is *Tajik* in Tajiki—the substitution of [ž] lends the overreaching English speaker an air of apparent *savoir faire*. In a more playful vein, the same substitution can even take place (along with pseudo-Romance stress shift) in exaggerated pronunciations of particularly prosaic words like *garbage* [gáɹb+ǰ] as [gaɹbáž], *cabbage* [kʰæb+ǰ] as [kʰabáž], or the chain store *Target* as [tʰaɹžé].

This playfulness and hyperforeign linguistic behavior is notably absent with [ŋ] in English, a sound that is systematically ruled out in initial position. Thus, speakers do not turn a name like *Noam* [noʷm] into **Ngoam* [ŋoʷm] for any playful purpose or to underscore its seeming alien quality. The fricative [ž], on the other hand,

which does not occur initially in native (or nativized) English words, either, does appear word-initially in learned or incompletely integrated pronunciations of foreign names like *Jacques* or *Zha-Zha*. Though it is absent in native or older vocabulary, initial [ž] is relatively easy for English speakers to learn to produce in a second language acquisition environment (Eckman 1977), too, or even just in a new name: highly educated but non-French-speaking relatives of one of us (Salmons) have no difficulty with the initial voiced alveopalatal fricative in the French (male) name *Jean* but struggle with the isolated nasalized vowel that French pronunciation requires (or avoid it as foreign and "hoity-toity"), thus rendering the name as [žãn] rather than [žã]. Nasalized vowels in English are fully derivative, of course, occurring only before nasal consonants (though these drop out before tautosyllabic voiceless stops, as in *can't* [k^{h}æt]; cf. Chomsky 1967; Iverson and Lee 2004)—hence, these speakers' introduction of [n] into *Jean*. In casual speech, similarly, reductions commonly take place which give rise to canonically impossible consonant clusters, as in *photography* with initial [ft] or *miraculous* with initial [mr]. But we set these aside and focus here on the phonotactics of citation pronunciations.

The absence of isolated nasalized vowels in English is a systematic gap, in other words, parallel to the absence of initial velar nasals. But the general absence of initial [ž] in English is merely an accident of history, not a phonotactic prohibition. This is the kind of gap which we see as PHONOLOGICALLY ACCIDENTAL: an extant phoneme is natively absent from some position, where its occurrence would therefore be unfamiliar and perhaps a cause for hesitation, but this is easily overcome. We conclude that there is no explicit limitation on [ž] other than the accidental unfamiliarity engendered by the positional absence of the sound, a lacuna that can be filled apparently as readily as lexically accidental gaps. In sum, the absence of words with initial [ŋ] in English is an inviolate, systematic gap in the language, whereas the absence of words like *blick* is lexically accidental. In contrast to both of these, the general absence of words with initial [ž] is phonologically accidental, a merely fugacious void that comes to be rather easily filled.

We turn now to the emergence of the voiceless alveopalatal fricative in English and how it, too, has given rise to a phonologically accidental gap in the language, viz., the rarity of word-final /š/ after tense vowels.

The History of Coda /š/

Native-stock English /š/ normally derives from inherited *sk* clusters:[3]

(1) Old English (OE) /sk/ > Modern English /š/ (Luick 1964; *OED*)
(a) Initial

sceadu	*shadow*
scéotan	*shoot*
(b) Medial	
ăscamod	*ashamed*
æsce	*ash*
(c) Final	
englisc	*English*
fisc	*fish*

This change, dated to ca. 1100 by Minkova (2003, 130-33), is widely understood to have involved complex stages of palatalization (Flasdieck 1958; Luick 1964; Minkova 2003). Aside from a few wrinkles (like *Scot*, below), it was straightforwardly regular in initial position, but medially and finally the development was subject to complex and regionally variable conditioning and proves exception-ridden in even native stock vocabulary (Luick 1964, 912-16):

(2) Exceptional (surviving) *sk* forms

Old English	Modern English
Scot	*Scot*
tusc	*tusk*
áscian	*ask*
flasce	*flask*

The etymological details of surviving /sk/ are beyond our immediate concern, but we note that an array of accounts has been proposed, from (per the *OED*) metathesis of OE *tux* next to rare OE *tusc* (a variation that still persists across a broad swath of American dialects, according to the *Dictionary of American Regional English* [*DARE*; Cassidy and Hall 1985), to triumph of unchanged northern *ask* over *ash/esh* (cf. also the OE metathetic doublet *ácsian*), to the death of OE *flasce* followed by new borrowing of French *flasque*. And "re-Latinization" has been suggested in the case of *Scot* (cf. Flasdieck 1958, 344). A doublet also arises from the juxtaposition of native *sk- showing its expected reflex in English *shirt* and retention of the cluster in the Norse borrowing *skirt*. Of more obscure origin are variants in American and British dialects like *mushmelon* or *musmelon* for *muskmelon*, *mushrat* or *musrat* for *muskrat* (Joan Houston Hall, personal communication, cf. *DARE*).

Reflecting the historical distribution of *sk*, to summarize, the new phoneme /š/ was found initially, medially, and finally. Yet the historical phonotactics of early Germanic imposed a sharp distributional limit on emergent coda /š/ because historical coda clusters normally appeared only after short vowels, not long ones.[4] This effect of coda clusters on vowel length is still found in a broad set of Modern English relict alternations like *deep*/*depth*, *keep*/*kept*, *heal*/*health*, and has itself given

rise (because modern /š/ derives from medieval *sk*) to the striking paucity of modern words with long or tense vowel before final /š/.

Still, the frequency of /š/ in all positions was relatively low to begin with, on the assumption that this and other clusters occurred less frequently than single obstruents at the time. But new pronunciations of words like *fisc* as *fish* with final /š/ would have been familiar if not frequent, particularly compared to the absence of words with long or tense vowel plus final /š/. Indeed, instances of lax vowel plus final /š/ soon became quite numerous in loanwords, especially from French but also other languages, as illustrated with a few forms in (3):[5]

(3) Loans with lax vowel plus /š/[6]

	Source	First attested
push	*pousser*	1300
punish	*puniss-*	1340
finish	*finiss-*	1350
rush	*russer*	1375
crush	*cruissir*	1398
cash	*casse*	1595
mesh	Mi. Dutch *maesche*?	1425
trash	Norse *trask*?	1555
dash	Norse, cf. Sw. *daska*?	1300
sash	Arabic *shăsh*	1590

The inventory of words with final /š/ was further increased by a number of coinages of obscure and/or onomatopoetic origin, in which, we expect, affective meaning and blending likely often played a role. Some examples of these are given in (4):[7]

(4) Late-attested, etymologically obscure forms with lax vowel plus /š/

	First attested	Notes
blush	1340	
flash	1387	referring to movement of water
crash	1400?	
gush	1400	
lush (adj.)	1440	echoic variant of *lash*?
clash	1513	
gash	1548	< *garse* < French *garse*
brash	1573	
bash	1641	possible Scandinavian source
slush	1641	
mush	1671	
splash	1722	variant of *plash*
swish	1756	

smash	1778	possible Scandinavian source
stash	1794	

In brief, over the course of a few hundred years, the new English phoneme /š/ became steadily more common in coda position as loanwords and coinages of various sorts supplemented the natively occurring vocabulary, parallel to which the new words with final /š/ overwhelmingly show short or lax vowels rather than tense or long.

/š/ in Contemporary English

Today, the distribution of /š/ is unremarkable in most environments: /š/ occurs initially, medially, and finally, though it is generally excluded from preconsonantal position except before /r/, where /s/ does not occur natively in many varieties (*shrimp*, **srimp*);[8] as a result, other instances of initial /šC/ (*Schlitz*, *Schmidt*, *shlep*, *schmuck*) convey an alien quality for many speakers. But tense vowel plus coda /š/ still occupies a somewhat unusual if largely unrecognized position phonotactically. In fact, to our knowledge, only one truly ordinary-sounding English word contains tense vowel plus /š/ without conveying any special connotation or overtly foreign feel: *leash*, itself of Anglo-Norman origin.[9] Most words of this description represent modern borrowings for rather esoteric foreign concepts or entities, in addition to a few proper names like (*Lyndon*) *Laroche* [lə˩úš]. A complete list from one current American dictionary is provided in (5), and many of these, we note, are unfamiliar even to scholarly and linguistically-aware English speakers.

As just noted, these words generally show much later dates of first attestation than the lax vowel set. Consistent with that chronology, at least some speakers (the present authors among them) feel that each of these words retains a distinctly foreign or learned ring. Some former members of this class have been integrated into more normal English phonotactics, such as *niche* ([niš]), often rendered with a lax vowel ([nɪš]) and sometimes with replacement of the final fricative by an affricate ([nɪč]); cf. also [i] versus [ɪ] variation versus in *(micro)fiche*, *hashish*, and so on. Note that these few words in (5) reveal yet another bias within the set of long vowels, as most of them contain high vowels and none at all have diphthongs.

(5) English tense vowel plus coda /š/[10]

i:

capiche	[not listed]	(< Italian ‘understand’)
hashish	1598	(< Arabic ‘dried hemp’)
baksheesh	1760	(< Arabic ‘tip, gratuity’)
corniche	1835	(< French ‘seaside roadway’)
postiche	1876	(< Italian ‘counterfeit’)
pastiche	1878	(< French ‘mixture, potpourri’)

maxixe	1914	(< Portuguese ‘Brazilian dance’)
quiche	1933	(< French ‘custard pastry’)
fiche	1951	(< French ‘microfiche’, abbr.)
u:		
cartouch(e)	1548	(< French ‘cartridge, inscription’)
tarboosh	1702	(< Arabic ‘brimless cap’)
farouche	1765	(< French ‘wild, savage, fierce’)
douche	1766	(< French ‘shower, spray’)
barouche	1801	(< German < Italian ‘soft-top carriage’)
louche	1819	(< French ‘questionable, shady, odd’)
ruche	1827	(< French ‘frill trim for a dress’)
tushe	1885	(< German < French ‘lithographic drawing’)
o:		
gauche	1751	(< French ‘left, maladroit’)
brioche	1826	(< French ‘pastry roll’)
guilloche	1842	(< French ‘interwoven design’)
cloche	1882	(< French ‘bell-shaped covering, hat’)
skosh	1942	(< Japanese *sukoshi* ‘a little bit’)
e:		
none?[11]		
ɔ:		
none?		
diphthongs (ay, aw, ɔ):		
none?		

For a handful of other, English-origin words, tense vowel plus /š/ conveys an affective, onomatopoeic quality; all of the words in (6) are apparently recent.

(6) Affective, onomatopoeic words with tense vowel plus /š/

swoosh	1885	(*OED*)
whoosh	1899	(*OED*)
squoosh	1942	(*Merriam-Webster* 2003)
sheesh	1959	(*OED*)
smoosh	?	
moosh	?	
koosh	?	a kind of ball

A number of the etymologically obscure coinages with short vowel, like those given in (4), were surely affective, too, which would mean that a word like *swoosh* is mimicking an old pattern. In fact, we get eerily similar overall sound structures like *swish* and *mush* versus apparently newer *swoosh* and *moosh*. Similar affective/sound shape parallels could be adduced for *smash* versus *smoosh, squash* versus *squoosh*, or *whish* versus *whoosh*. These underscore for us that the earlier forma-

tions (the *smash, squash, swish* type) probably also once conveyed some special sense of sound quality.

While this tense vowel gap is being filled at present—and thus its connotation of foreignness is waning—still others remain largely intact. For example, nasal + /š/ clusters are not common, and speakers of American English tend to introduce transitional stops here in any case (parallel to *prince* = *prints*, *tense* = *tents*); but liquid + /š/ sequences (which are not subject to this transition) are particularly infrequent. A search of rhymes in two electronic sources (*Merriam-Webster* on CD [2003] and *WriteExpress Online Rhyming Dictionary*, http://www.rhymer.com/ [January 2005]) revealed only these:

(7) Short vowel + Liquid + /š/
marsh
harsh
welsh

Though rare, these are old and well-established English words, all resulting from the loss of an unstressed vowel between the liquid and obstruent in the old adjectival suffix *-isk*. *Marsh* has been attested since early Old English (alongside some related *r*-less variants), and *harsh*, a northernism, since 1300, later alongside the variants Middle English *harrish* and (northern) *hask*. Though it is not strikingly foreign (despite having precisely that original meaning), the third word, *welsh*, is attested from the seventh century and is often integrated into the more common pattern of English phonotactics by pronunciation with an affricate rather than a fricative; compare *welch*, a pronunciation sanctioned as a variant for *Welsh* by *Merriam-Webster* (2003). Aside from the Midlands dialectal innovation *warsh* 'wash', few other forms have this shape, even foreign names like those in (8).

(8) Proper names
Grolsch
Porsche (for speakers who do not pronounce a final schwa)

Finally, to this day a total gap in the lexicon exists with respect to phonological diphthongs before final /š/. The only exceptions are proper names like *Fleischman* or (legendary stock car team owner, *Jack "The cat in the hat"*) *Roush*. While this gap in the English lexicon appears complete, we consider it phonologically accidental, as there is no evidence that forms like *Roush* [ɹawš] are in any way foreign sounding, and they certainly do not appear to be difficult to produce for speakers of American English.

Summary and Conclusion

In this article, we have refined the category of accidental gaps in the lexicon by distinguishing a new type as "phonologically accidental" as opposed to the truly systematic and lexically accidental gaps recognized by Halle (1962). The distinction between phonologically systematic and phonologically accidental gaps can be summarized as follows:

- Systematic gap:
  - Direct phonological motivation
  - "Active" in the grammar
  - Difficult for speakers to overcome
- Phonologically accidental gap:
  - No direct phonological motivation
  - Historical residue, grammatically inert
  - Easy for speakers to overcome

We have illustrated the latter, newly identified type with the historical and contemporary rarity of coda /š/ and the stepwise dismantling of the restrictions on its occurrence: coda /š/ entered the system due to a general sound change, appearing without restriction initially and medially but being limited finally (in view of its cluster heritage) to forms with a short vowel. The inherited yet relatively infrequent words with final /š/ were soon augmented through loans and neologistic creation, most with short vowels and thus accentuating the genetic absence of words with long vowel plus final /š/. As indicated by forms like those in (5) and (6), this gap has been partially filled today, particularly with high vowels, and to an extent with mid back /o/. With respect to final /š/ preceded by short vowel plus sonorant consonant, however, only a few familiar but phonotactically isolated words exist, while sequences of phonological diphthong plus final /š/ are restricted to proper nouns. Thus, gaps remain involving tense vowels before final /š/, but from the present-day English point of view, these appear to be phonologically accidental, and as they become filled can be expected to lose the sense of oddity or foreignness they still convey for some speakers.

Other historically nonoccurring clusters fit this pattern as well, such as word-initial *vl-*, long but marginally attested in foreign proper nouns like *Vlach* or *Vladivostok*. To our knowledge, this sequence has only now entered the wider lexicon of English, via the recent blend *vlog* 'video log' (cf. *blog*). Likewise, *zl-* is represented in the *OED* only by the Polish currency name *zloty*, yet neither of these clusters of voiced (or lenis) fricative plus liquid appears to present difficulties to English speakers. The poetic term *tmesis* is likewise a unicum in the English lexicon, pronounced with initial [tm] according to the *OED*, at least among specialists or those likely to use the word. The almost total absence of these clusters word-ini-

tially is nonetheless not structurally systematic, on our interpretation, but rather phonologically accidental—thus they are quite easily produced. More difficult, perhaps, in view of the greater closeness in sonority between the members of the onset cluster, are forms like the personal name *Mrumlinski* with initial *mr-*, an example provided to us by one of the readers of this journal. These, then, are additional examples of the category of gaps we have defined as "phonologically accidental," and it remains to be investigated which of these are more or less easily filled. By contrast, the category of "phonologically systematic" gaps, which includes the initial velar nasal from underlying /ng/ as well as homorganic stop plus sonorant clusters like *dn-* (cf. *Dnieper*) and *tl-* (*Tlapanec*), remains in our experience a challenge overcome often only with the support of language teaching or phonetic training.

Problems that appear closely related are found in the literature. The hotly debated question of a possible void in the Indo-European stop system involving *b, for instance, probably does not revolve around a complete gap, as that consonant is famously restricted to slangy, vulgar, and otherwise marginal vocabulary in the reconstructions (see Salmons 1992, 49-53). We suggest that this and other such problem cases may reflect phonologically accidental gaps, too, that is, artifacts of earlier historical stages not subject to immediate synchronic explanation.

We close by observing that the appropriate role of diachronic explanation in synchronic phonology is a topic of long-standing discussion. A recent contribution to the debate is Blevins's *Evolutionary Phonology*, the "central premise" (2004, 23) of which is,

> Principled diachronic explanations for sound patterns have priority over competing synchronic explanations unless independent evidence demonstrates, beyond reasonable doubt, that a synchronic account is warranted.

On this view of phonology, the previously unclassified type of sound pattern we have illustrated here, a PHONOLOGICALLY ACCIDENTAL gap, can be expected to arise through interaction of the forces of language change. Indeed, the accidental character of the particular gap with English coda /š/ is underscored by the fact that the historical distribution does not seem to be well known, or at least widely appreciated, beyond the early period of the language. Not only are its contemporary but fading remnants accidental, but the progressive process of the removal of this gap over the course of the history of English is noteworthy for just how systematic it has been, with the result now that words showing long vowel plus final /š/ are increasingly common, and decreasingly exotic.

Notes

1. Of course, many speakers have an affricate ([č]) here.

2. The *Dictionary of American Regional English (DARE)* also points to regional and ethnic correlations here, including a wholesale replacement of [ž] with [ǰ] in the speech of some African Americans, for example, in words like *measure*. See Cassidy and Hall (1985, liii, §3.I.18).

3. As discussed below, another source of /š/ is the historical palatalization of /s/, in words like *attention*, *mission*, *Russia*.

4. Some early scholars suggested that /š/ was always long (geminate) in the early period, a matter discussed in stunning detail by Flasdieck (1958).

5. French words are unmarked in the list. While the French citation forms given contain , the English loans are assumed to reflect Northern French /š/.

6. Except where otherwise noted, etymologies and dates of first attestation are drawn from the *Oxford English Dictionary (OED) Online* (January-August 2005).

7. We leave aside here the most obviously imitative forms, such as those with reduplication like *mishmash*, very recent items like *frosh*, *ker-splash*, *posh*, *shush*, or nicknames like *Trish*, *Tish*, *Josh*. These are suggestive to us, though, of the ongoing affective association of the sound /š/ itself in codas.

8. For details on regional variation in the U.S., see Cassidy and Hall (1985, liii, §3.I.18): "Alternation of /s/ for /š/ occurs most frequently before /ɪ/, as in *shrimp*, *shrink*, and *shrivel*, with pronunciations [srɪmp], [srɪŋk], and [srɪvəl] occurring most often in the South and South Midland, often among Blacks. Scattered instances occur elsewhere. (A further substitution, yielding [swɪmp], [swɪŋk], [swɪvəl], also occurs most frequently among Blacks in the South.)"

9. Some varieties of American English show patterns of vowel tensing specifically before alveopalatal fricatives and/or affricates, including *p*[u:]*sh*, *m*[e:]*sure*, and many more. In such varieties, a general lack of contrast between tense and lax vowels before alveopalatal fricatives may remain, favoring tense over lax vowels. For a synopsis of the complex geolinguistic details, see Cassidy and Hall (1985, lii, §3.I.5).

10. Aside from *leash* (already mentioned above), this is a complete list of preferred pronunciations found using the "rhymes with" feature of the *Merriam-Webster Collegiate Dictionary* on CD-ROM (2003), supplemented with a few additional items we have found. Here we follow their dating, save for onomatopoetic forms discussed below. Moreover, a reader reminds us that tensing occurs in some varieties in words like *wash*, producing a phonetically if not phonemically tense low back rounded vowel.

11. Some speakers render the proper name *Heche* with this pattern; others pronounce it with a lax vowel and/or affricate.

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