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Diachronic and Synchronic Variability of the English Phoneme /h/

Christelle Exare ♦

Diachronic and synchronic variability of the English phoneme /h/

The pronunciation of /h/ in native varieties of English is a sociolinguistic marker that has been changing over time, and whose lability is still striking today. Trask (2003: 106) writes that, nowadays, "for most English and Welsh speakers, the <h> in *hair* and *head* is just as dead as those in *light* and *loud*". The loss of /h/ (*H-dropping*, or *aich dropping*) remains stigmatized and contrasts with a tendency to hypercorrection—i.e. the insertion of an illicit [h]. This article is a synthesis of the literature on English /h/, with special attention to its diachronic and synchronic variability. The first section describes the emergence of /h/ in Old English. The lability of /h/ in diachrony can be explained by four factors. The second section shows that the variability of /h/ in synchrony depends on extralinguistic and linguistic parameters.

Diachronic variability — Origins and evolution of /h/ in the history of English

English is an Indo-European language whose Germanic legacy blends with lexical loans from Latin, Greek, Flemish, Low German, French, as well as Celtic and Scandinavian languages (Crépin, 1972; Bacquet, 1974). According to Grimm's Law, the reconstituted form /k/ of Indo-European (henceforth IE) changed into /x/ or /h/ in Germanic while it was preserved in Romance

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languages. For example, IE **kerd* became *heorte* in Old English, and then *heart* in Modern English, while the word was *cor*, *cordis* in Latin, and then *coeur* in French (Larreya & Watbled, 2004: 85). Thus, the etymology of words containing <h> in English can mostly explain the variation in the realizations of /h/ over time.

/h/ in Old English

Old English was a language spoken in England throughout the period of Anglo-Saxon supremacy, from the 5th century AD—which corresponds to the departure of the Romans—until the 11th century with the Norman conquest. The fricative system of Old English had three voiceless phonemes: /f/, /θ/ and /x/, that had allophones in complementary distribution. The voiceless sounds appeared in initial and final positions—e.g. the word <full>, *full* is pronounced [full]. The voiced allophones surfaced in intervocalic position—e.g. <drīfan>, *drive* is pronounced [driːvan] (Hoggs, 2002).

The isolated grapheme <h> in Old English seems to correspond to the velar fricative /x/. In word-initial position, this phoneme was realized as a voiceless velar fricative [x]. However, at the end of the period—at the time of the Anglo-Norman conquest—the realization in [h] is attested initially, as an allophonic variant of the phoneme /x/, for instance in <hēah>, *high* (Hogg, 2002: 9). In intervocalic position, the voiceless velar /x/, like the other voiceless fricatives, had a voiced variant, [ɣ]. In final position, /x/ was always realized as [x]—<sorh>, *sorrow*.

The grapheme <h> also appears in digraphs: <hl>, <hr>, <hn> and <hw>. The phoneme /x/ was thus found in clusters that patterned with voiced sounds—liquids (/hl/, /hr/), nasals (/hn/) or approximants (/hw/). For instance, <hw> in OE *hwæt* corresponds to <wh> *what* in Modern English. Likewise, <hr, hl, hn> in *hring, hlūd , hnæġan* respectively correspond to <r, l, n> *ring, loud, neigh* (examples taken from Hogg, 2002: 10).

Evolution of / h / from Old English to Middle English

Middle English was spoken in England from the 12th century to the 16th century. The Germanic character of Old English declined with the influence of other languages: French, Latin and, to some extent, Greek. The language structure became less inflectional and the vocabulary was romanized, with adjectives borrowed from Latin and French, such as *honest*, *abundant*, *active*, *horrible*, *hasty*, *original*, *savage*, *usual* etc. (Crépin, 1972: 9, 94). The consonant inventory of Middle English is identical to that of Modern English, with a few exceptions.

The grapheme <h> disappeared in the digraphs <hn->, <hl->, <hr-> while <hw-> was preserved with various spellings. The letters of the digraphs could be reversed. The alterations that affected /h/ in the clusters /h + sonorants/ from

Middle English to Modern English are called *Glide Cluster Reduction* (Gimson, 2001: 214; Wells, 1982: 228). In middle and final positions <h> was replaced by <gh> and <ȝ>. For example, the word *night*, which was <niht> in Old English, became <niȝt> in Middle English. In addition, <h> appears as a diacritic in clusters: <ch>, <wh>, <sh>, and <th>.

In their chapter on Middle English, Millward and Hayes (2011: 153) indicate that /h/—deriving from Old English /x/—became a phoneme and could be found in onsets—e.g. <high> was pronounced [hɪç]—and in intervocalic position. It often disappeared in unstressed position—e.g. <hit> in Old English became <it> in Middle English. The Old English phoneme /x/ was vocalized in final position. It changed into a vowel, as in the Middle English diphthong of *saw*, spelt <saugh>. The glottal fricative /h/ was lost in the initial clusters /hn/, /hl/, /hr/ but /hw/ was maintained in several dialects in various orthographic forms. For example, the word *what* was <hwæt> in Old English. It was written <quhat> in the North and in Scots, but <wat> in the South. /h/ is the only phonemic fricative that has had no voiced counterpart.

The diachronic analysis raises several unsettled or partially settled issues. First, were the digraphs <hl, hr, hn> pronounced as a sound (a voiceless liquid or nasal [l̥], [r̥] and [n̥]) or as two sounds (Gimson, 2001: 192; Lass & Laing, 2010: 361)? Second, why could /h/ cluster with vowels or sonorants like /n/, /l/, /r/ and /w/ (Minkova 2003: 340), but not /m/ like in ancient Greek (Lejeune, 1965: 252)? Third, if Old English <h> represented the velar fricative /x/ (Horobin & Smith, 2002: 54), what were the real phonetic realizations of the phoneme? Gimson (2001: 192) gives three phones: [h], [x] and [ç], to which [ʔ] and [ɦ] can be added (Häcker, 2004: 113; 118), and even Ø if /h/ was deleted before a word-initial modal[1] vowel (Minkova, 2003). Fourth, why is /h/ the only fricative whose voiced allophone [ɦ] did not become a voiced phoneme during the transition from Old English to Middle English? Two hypotheses can be set forth. The phonemic contrast may not have been achieved by lack of productivity. Indeed, few lexemes or syntagms having a similar pronunciation—e.g. *a head ~ ahead*—can be found. The opposition is not between /h/ and /ɦ/, but between /h/ and Ø in contemporary English. Another hypothesis is that in Middle English, with the lesser influence of Germanic languages, borrowing words from Romance languages, Greek and Latin did not favour the phonemisation of the glottal fricative that was absent from their inventories.

In the history of English, /h/ is described as unstable, labile, and likely to be deleted (Lutz, 1994). Four factors can explain important variations in the omissions and additions of <h> in medieval manuscripts. A first diamesic factor is the scribes' probable spelling errors found in most medieval manuscripts. A second acoustic factor is the intrinsic weakness of the glottal fricative. A third

1 Regular modal voicing is a type of phonation. See Gordon & Ladefoged (2001).

phonetic factor is the confusion of two glottal sounds—[h] and [ʔ]—both being transcribed by <h>. A fourth factor is the linguistic context that stops or triggers the elision of /h/. The last three factors are still relevant in today's English.

First, the reading and understanding of medieval manuscripts are affected by methodological bias. A medieval text is unlikely to be a reliable, accurate and consistent transcription of speech. The grapheme <h> is a good example. Lass & Laing (2010) remind us that medieval English had no fixed spelling. The manuscripts are full of scriptural oddities and variations, and the "numbers and proportions of occurrences [of deletion or insertion of <h>] vary considerably in the 110 texts that show either or both processes" (Lass & Laing, 2010: 359). For instance, the manuscript of *Ancrene Riwle* has a prolific scriptural system, with twenty-five different contexts for <h> occurrences.[2] They can be sorted into three different categories: historical retention (*heuen* for *heaven* and *heh* for *high*), lenition (*dahes* for *days*) and diacritic use to indicate frication (*soh* for historical [ʃ] in *i-sohouen*, *shoved*). The authors find no tangible evidence explaining the large number of intrusive or deleted graphemes <h> and call for "the celebration of potential variation" (Lass & Laing, 2010: 365). In addition, Scragg (1970) suggests that the omissions and non-historical insertions of <h> in medieval manuscripts result from other causes than mere correspondence between letters and sounds of Anglo-Saxon dialects. He notes the possibility of scribal copy errors. He mentions occurrences of dittography, implying the erroneous repetition of a letter (*hiera hierra* instead of *hiera ierra* for *their anger*) and of haplography, when a grapheme that is expected twice is written only once (*he afað* instead of *he hafað* for *he has*).

Second, the least controversial historical hypothesis is that /h/ has been labile over time because of its «weak» character (Horobin & Smith, 2002). Lass & Laing (2010: 358) explain that /h/ is weak for two reasons: "First, it is the most likely consonant in an inventory to delete; secondly it is rare for *h to be reconstructed for a proto-language. Most attested [h] are the lenitions of other, non-laryngeal segments." Hogg (2002: 62) describes the progressive lenition of the voiceless velar fricative [x] in intervocalic position. He quotes the example of *sēon* (see), which derives from *sīhan*: "the loss of /h/ causes the stem vowel and the vowel of the inflection to merge together as a diphthong." The gradual lenition process can be reconstructed. The grapheme <h> was first realized [x]. Then, over time, [x] was lenited into [h] through debuccalization, then into [ɦ] through regressive voicing assimilation. It was finally dropped between the two vowels which could merge into a single diphthong.

Physiologically, such lenition consists in the weakening of velar constriction coupled with the relaxation of articulators that result in frication noise, which is actually "the turbulence—the random variations in air pressure - caused by the

2 Exclusively taken from Germanic-based vocabulary.

movement of the air across the edges of the open vocal folds and other surfaces of the vocal tract." (Ladefoged, 2005: 58). Acoustically, the weakness of [h] is due to an absent first formant (F1), otherwise linked to the perception of intensity. A formant corresponds to the frequency of the resonances that occur in the vocal tract and that depend on its configuration. It is measured in Hertz.The absence of a first formant for the articulation of [h] is due to the opening of the glottis that is necessary for the realization of the sound. The fact that [h] has the same formant characteristics as the following vowel, with clear F2 and F3 transitions corresponding to the motion of supra-glottal articulators, hampers perceptual contrast. Glottal noise can be confused with surrounding noise and with other sounds of supraglottal origin (Vaissière, 2001).

The "weakness" of /h/ makes its features and its distribution vary. Following Lutz (1994: 175), McMahon (2000: 244) proposes to relate /r/, /w/, /j/ and /h/. She stresses that these phonemes have all undergone positional and structural weakening in the history of English. While in Old English, they could occur in the onset and in the coda, they went through progressive attrition in the coda, vocalising and merging with previous vowels. Lutz (1994: 175) gives the example of *bohte* in Old English, which became *boughte* in Middle English then *bought* in Modern English. However, this "intrisinc weakness" hypothesis may not be the only reason for the change of /x/ into /h/ and for the lability of <h> and /h/ in medieval corpora.

Third, Minkova (2003) relies on Scragg (1970) to make the instability of /h/ a proof of the existence of the voiceless glottal stop [ʔ] in Old English. According to her, the inconsistencies and spelling variants found in medieval manuscripts cannot be associated with the phonological properties of /h/. She notes two types of anomalies in her corpus of seventeen medieval texts. On the one hand, she finds more insertions than omissions, i.e. an omission for four insertions. These particularities have no etymological basis, like in *herian* for *erian* (the verb *plough*), or *hup* for *up* (examples taken from Scragg, 1970: 170). They may be scriptural artifacts representing hiatus breakers or differentiating English words from Latin, in which /h/ is elided in prevocalic environments. On the other hand, she observes more omissions and insertions in stressed syllables than in unstressed syllables. She infers that the letter <h> may have been used by some scribes to indicate a glottal stop (Minkova, 2003: 163).

Finally, both deletion and intrusion of /h/ seem to depend on the linguistic environment. The question of the proportion of inserted <h> versus elided <h> graphemes is addressed by Lass & Laing (2010: 359). The authors indicate that in some manuscripts the quantities are almost identical, while elsewhere, more insertions than elisions are found. Häcker (2004: 115-116) compares [h] insertions in contemporary English accents with <h> insertions in medieval manuscripts. She notices that, in both cases, insertions occur between two voiced sounds. Non-etymological insertions in medial position are rare. She explains

that in both contemporary and medieval texts, <h> additions or [h] insertions correlate with the speaker or scribe's educational background and with the phonological context. Indeed, <h> does not emerge randomly but in well-defined environments, i.e. between two vowels in hiatus where it has a linking function.

Minkova (2003: 365), in her study of medieval poetry, considers that the strength or weakness of consonants hardly explains the lenition of /x/ into /h/ in word-initial clusters /xn-, xl-, xr-, xw-/. According to her, the gradual phonetic change at stake is linked to an alternation between /h/ and Ø. Intermediate realizations, which kept <h>, such as <hr-, hl-, hn->, or omit <h> by keeping only the voiceless sonorants [r], [l], [n], are thus unstable.

Crisma (2007) thinks that the random loss of /h/ (also called *H-dropping*) already existed in Middle English. Variants without <h> would thus alternate with <h>-retaining forms. The loss of /h/ depends on phonological contexts. She rejects the hypothesis of Milroy (1983) who explains, in his study of *H-dropping*, that variations can be attributed to sociolinguistic criteria. In particular, Crisma (2007: 71-72) highlights the context triggering the omission of <h> in a corpus composed of the Middle English Dictionary (MED) and the Penn-Helsinki Parsed Corpus of Middle English, 2nd edition (PPCME2). She analyzes 10,072 nouns and adjectives beginning with the letter <h>. The grapheme <h> is more often omitted in Latin loanwords (e.g. *habit*, *hospital*, *honest*, *horrible*) than in Germanic words (e.g. *half*, *hound*, *hundred*). Omissions are more frequent when the preceding word ends with a consonant rather than a final vowel. Based on the assumption that the omission of <h> is more likely to occur when the sound is not uttered, the author concludes that the data indicates that the sound [h] is preserved after a word-final vowel, but is likely to be deleted after a word-final consonant. She does not observe any correlation between elisions and insertions.

To conclude, the lability of /h/ in medieval English can be explained by scribal errors or "eccentricities," by the intrinsic weakness of /h/, by a possible confusion between /h/ and /ʔ/ and by linguistic contextual parameters. For example, /h/ was dropped more often after a consonant than after a vowel. More insertions are observed when the word-initial vowel is stressed. The letter <h> may be used as a diacritic or as a marker of the glottal stop [ʔ].

Synchronic variability of /h/

In Modern English, significant variation in the pronunciation of /h/ is reported in the United Kingdom and in other English-speaking territories. Such variation is not stable within and across speakers. Various—extralinguistic and linguistic—factors trigger the loss of /h/ or its illicit insertion.

Extralinguistic variation

The literature fails to consistently account for *H-dropping* and *H-retaining* in English dialects. It is difficult to draw an imaginary line—an isogloss—demarcating geographical areas in which /h/ tends to be dropped. No clear-cut boundary can be found across English-speaking countries and in the dialects of the United Kingdom.

First, the realizations of /h/ are not identical in the UK and in other English-speaking countries. Wells (1982: 252) considers *H-dropping* as a «British innovation» and a basilectal variant lacking prestige. Indeed, /h/ alternates with Ø in all popular dialects of England and South Wales (Wells, 1970: 240). Wells states that *H-dropping* is unknown in North America, so that one can date its emergence after the colonization of North America. Common *H-dropping* in Australia may be due to the fact that Australia was settled by the British much later, when the tendency to drop /h/ was already characteristic of English. However, Bauer (2002: 82) has a different analysis. According to him, the word-initial phoneme /h/ in *herb* is realized [h] in RP, in Australia, New Zealand and South Africa, while it is realized as Ø in General American. In Canadian English, [h] and Ø are said to be two phonetic variants for the same phoneme. This information concerning the pronunciation of *herb* is in conflict with Trask (1996: 168) who writes, just like Wells, that the elision of /h/ is rare in North America and frequent in England.

The loss of initial /h/ before a vowel is also attested in the speech of some Caribbean speakers. Its origin is unknown : is it an innovation imported from the United Kingdom or a local peculiarity (Wells, 1982: 256)? Similarly, Aceto (2006: 217-8) underlines that although /h/ is retained in the Leewards, it is commonly dropped in Jamaican, in some western Caribbean varieties and in the Bahamas, presumably because of the British Cockney influence. Two examples of deletion are *whole* [uol] and *half* [aaf]. Insertions ‑like [hɛg] for *egg*‑ are also reported in Caribbean varieties.

The situation in Africa is also diverse. For Jones (1956: 117), lenited and voiced realizations of /h/ are characteristic of most South African speakers. According to Choon et al. (2012: 2) the insertion of an intrusive phone [h] in Nigerian English (attested in less than 1% of all possible contexts) is less frequent than the elision of /h/ (attested in almost 20% of all possible contexts). Still in Nigerian English, Gut (2012) observes that elision is a widespread phenomenon among all the ethnic groups represented in her corpus. On the other hand, insertion is only found among Yoruba speakers. The presence or absence of /h/ in the phonemic inventory of Nigerian speakers' native languages—Igbo, Yoruba, Hausa—does not seem to be a determining factor since /h/ belongs to the three consonantal systems.

Second, the treatment of *H-dropping* varies across British dialects. McMahon (2002: 65) states that /h/ is dropped in certain accents, and may even be totally

absent from the phonological system of Cockney, for example. Trask (2003: 105) reproduces a map of Milroy (1992), whose 1960 data show that *H-dropping* is widespread in England, although *H-retaining* is observed in some English areas such as Somerset, Norfolk, Suffolk, Essex and the North.

However, the geographical criterion does not seem decisive. Trudgill (2000: 32) gives nineteen different pronunciations of the word *home,* ranging from [høʊm] in RP to [ʊm] in Norwich for instance. Such a wide array of variants can hardly stand for mere geographical variation. What is at stake is also an opposition between *RP*[3] and basilectal English. Some RP speakers may vary their pronunciation in a very subtle way to socially distinguish themselves from basilectal—rural and urban—speakers. Hence, /h/ can be perceived as a major social and stylistic marker. Chevillet (1991) states that initial *H-dropping* is a social marker that is characteristic of the urban dialects of England, while the rural fringes are spared[4]. Tollfree (1999: 173) explains that, in South East London English, the elision of /h/ leads to the emergence of homophone words (e.g. *air* vs *hair*). Vowel lengthening may compensate for the elision of /h/. When [h] is lost, the word can be preceded by the article *an*, with variants like *a*, followed by [ʔ] (e.g. *a ʔorse*), or followed by intrusive [ɹ] (e.g. *a [ɹ] (h) orse*). Hypercorrection with [h] insertion can be found, in particular among older speakers. In the north of England and in the Midlands *H-dropping* and *H-retaining* are variable (Foulkes & Docherty, 1999: 51). In the Wirral region, around Liverpool, /h/ deletes in more than 70% of cases (Newbrook, 1999: 98).

At first sight, *H-retaining* seems to be specific of rural areas and *H-dropping* seems to be connected with urban areas. There are exceptions, however. In some urban areas /h/ is preserved, like in Tyneside (Watt & Milroy, 1999: 30). Besides, rural East Anglia, where *H dropping* had been scarce, displays a high rate of elision—without hypercorrection in the more restricted area of Norwich, according to Trudgill (1999: 133). This example shows that *H-dropping* first settles in urban areas, then in rural areas. Besides unclear factors of diatopic variation, there are strong arguments in favour of diastratic variation—across social groups—and diaphasic variation—across degrees of formality and speech styles.

3 RP stands for *Received Pronunciation*. Since Jones (1928) the RP accent has been both the reference—mentioned in dictionaries—and a variety of prestige. RP was supposed to be understood by the greatest number of listeners (Jones 1956: 4). Now, as an acrolect—a prestige variety—of Standard British English, the RP accent forbids initial *H-dropping*, while allowing the elision of /h/ in phrases like *an historical fact*, and retaining /h/ in /hw/ clusters, for example.

4 « la chute du /h/ initial dans *hat, hill, hedge*, etc. n'est pas attestée dans les zones rurales du Norfolk et du Suffolk. Il n'en va pas de même à Norwich, où le phénomène rappelle encore une fois la prononciation *cockney*. La chute du /h/, que Daniel Jones qualifiait de « suicide social » est reconnue depuis longtemps comme un marqueur social infaillible, quelle que soit la variété d'anglais considérée » (Chevillet, 1991: 87).

In the 19th century, Ellis (1869: 461) wrote that the omission of /h/ was universal and was found even in the upper classes. Preserved in the countryside, /h/ was elided in the city (1869: 542) and by young speakers in fishing villages (1869: 777). Elisions would be more frequent when a speaker felt nervous (1869: 307). Insertions were more common when speakers were angry (1869: 312). Ellis (1869: 739) listed fortuitous insertions (**howlet* instead of *owlet*), and emphatic occurrences such as *she *his* (476) or **hus* (1869: 599). To some extent this 19th century evidence echoes recent studies on /h/ variants seen as diastratic and diaphasic markers.

In the 20th century, Crépin (1972: 29, 37) states that the dialectal variation of English was more social than geographical. Wells (1982: 254) describes *H-dropping* as a salient feature of the working class, following Hudson & Holloway (1977) and Trudgill (1974). He writes that /h/ is acquired by a child as a result of social pressure, and considers /h/ as one of the most powerful English *shibboleths*. Jones (1956: 116) describes the loss of /h/ as a peculiarity of many English dialects, especially that of London, while the insertion of [h] would also be specific to non-literate speakers. Both illicit variants—elisions and insertions—are vigorously stigmatized. Yet, some lexemes, such as *historical*, *hysterical* or *hotel,* would sometimes be pronounced with no [h] by elderly RP speakers and scholars (Gimson 2001: 192).

The tendency to insert or delete /h/ may be influenced by age and gender although such influence is not clearly identified. In the Sheffield dialect of the 1990s, younger and older male speakers are said to delete /h/ while young women preserve it (Stoddart, Upton & Widdowson, 1999: 76). Yet, among working class speakers, age is not a factor in Hull while it is discriminating in Milton Keynes and Reading, where teenagers tend to maintain /h/, as opposed to older people who delete it (Williams & Kerswill, 1999: 157-158). In Pidgin dialects, the loss of /h/ is more frequent among men than women in Australian English (Horvath, 2004: 101) and in Nigerian English (Gut, 2012). By contrast, Choon et al. (2012: 15) do not identify significant gender influence on Nigerian English [h] insertions, which are more frequent in scripted speech than unscripted speech. The authors point out a possible idiosyncratic correlation between insertion and deletion: 73.1% of the speakers who insert [h] also delete it. This is a one-way correlation, as it would be wrong to say that those who delete /h/ insert it as well. Interestingly enough, Robb & Chen (2009) specify that the speaker's gender does not affect the duration of [h] but influences the voiced realizations [ɦ].

To conclude, synchronic realizations of /h/ are influenced by extralinguistic parameters. *H-dropping*, *H-retaining* and *[h] insertion* tend to vary with a speaker's social class. The influence of gender, age, dialect and geographical parameters is much harder to define: no clear-cut stable invariant factor can be found. Variation in the realizations of /h/ seems to be polymorphous and unstable extralinguistically. Linguistic variation is rather different.

Linguistic variation

The English language does not use any sort of phoneme combinations. Its usage of /h/ is limited by important phonotactic constraints. Quite similarly to what has been observed for its diachronic usage, the realizations of /h/ vary with lexical and morphosyntactic factors, and with the phonological environment.

First, the treatment of /h/ is tied to the phonotactic constraints of English, that is to say the licit patterns consonants and vowels can make in a word, in a syllable, or in a consonant cluster. The phonotactic constraints are strong for /h/ in RP: it only occurs before a vowel or /j/ and /w/. The phoneme appears word-initially (*who*, *horn*) or word-medially following a syllable boundary: *ahead*, *behave*, *perhaps*, *behind*, *spearhead*, *anyhow, manhood, abhor*, *adhere*—examples taken from Gimson (2001: 191). An original RP principle is the absence of /h/ in an unstressed syllable. See for example the pronunciations of *historic* or *hysteria*, in which /h/ could be elided in the 20th century, even if it has been restored today (Wells 1982: 255). In fact, syllable-initial /h/ can be considered as a glide, since just like /r/, /j/ and /w/, it does not combine with any other consonant—except /j/ in RP, like in *Huston*, and sometimes /w/.

Second, the linguistic variation of /h/ is connected to lexical factors. Loanwords exemplify how the phonotactic constraints from the source language accommodate the target language in lexicalization processes. For example, in the word *Messiah*—borrowed from Hebrew—/h/ is elided in final position, to be consistent with the phonotactic rule of English, which prohibits /h/ word-finally. On the contrary, in Irish English, words ending in /h/ may preserve their word-final /h/—e.g. in *McGrath* [məgrah] (Wells, 1982: 44).

The grapheme <h> is silent in words borrowed from Greek, which include the digraph <rh>, like in *rhapsody*. It is also mute in words derived from Latin by French and assimilated with the constraints of the source language (*hour*, *honor*, *honest*, *heir*, and their derivatives). Similarly, <h> is not pronounced in some derivative words with a Latin prefix, such as *exhaust*, *exhibit*, *exhilarate*, or an Old Norse suffix, like in *Durham* or *Clapham*. However, <h> corresponds to a compulsory glottal fricative that reappears in loanwords of Latin origin (*horror*, *harass*, *hospital*, *host, humor*) or Germanic origin (*hardy*, *haste*, *herald*) (Gimson, 2001: 192).

Again, exceptions and variable usage patterns exist. The free variant [əʊtel] for *hotel*—reported by the Cambridge Pronouncing Dictionary (Jones, 2006)—is not mentioned in the Longman Pronunciation Dictionary (Wells, 2008). Moreover, unlike the *h-less* stable pronunciation of *honor*, *honoris causa* keeps its initial /h/, but an h-less variant is reported (Wells 2008: 385). The name *Honorius* has /h/ (Jones, 2006: 243). Wells (1982: 255) indicates that the *h-ful* pronunciations of *Birmingham* or *Nottingham* are middle-class speakers' attempt to socially distinguish themselves by approaching a variety perceived as prestigious.

All in all, the potential loss of /h/ can be explained by the word etymology, and by the phonotactic and physiological constraints that make /h/ weaken or delete in an unstressed syllable. /h/ retaining—in general—and /h/ resurfacing—in loans—result from strong compliance with the phonotactic rules of English, probably strengthened by the role of spelling.

Third, the realizations of /h/ are also determined by the grammatical category of a word and its position in the sentence. In standard accents of English, /h/ in the auxiliaries *has*, *have*, *had* is not realized if the words are neither accentuated nor preceded by a pause. Pronouns and determiners like *he*, *him*, *her*, *his* are treated in the same way (Wells, 1982: 254). For a synthesis of the pronunciation of weak and strong forms of pronouns, determiners and auxiliaries, an inexpert reader may refer to Roach (2009: 91-94) and Gimson (2001: 252-253).

For Jones (1956: 116), however, the alternation between full form and lenited form is random. In fact, the grammatical parameters can be secondary to the stylistic constraints, as seen above. Wells (1982: 255) writes:

> Nevertheless, it is my impression that some middle-class speakers, perhaps in a genteel anxiety not to do something so vulgar as dropping an /h/, tend to insist on giving even these unstressed pronouns and auxiliaries [h], thus [ˈtelhɪm].

Gimson (2001: 252-254) confirms the lability of /h/ in unstressed contexts. Thus, in the field of automatic data processing, Auran & Bouzon (2003) are cautious in stating the principles that govern elision rules in the alignment of the AIX-MARSEC corpus.[5]

Fourth, the realizations of /h/ are conditioned by its position in a word and in a syllable, and by its phonological environment. Spelling plays an important role. /h/ is realized [h] word-initially before a vowel or the glide /j/. It is realised [ɦ] intervocalically in a stressed syllable onset—e.g. *ahead* (Koenig, 2000: 1223).

The deletion rule in unstressed syllables (*Unstressed H-Dropping*) is optional (Wells, 1982: 67). In weaker positions—like in unstressed syllables—/h/ may be totally elided or realized as the voiced fricative [ɦ]. The phonetic realizations of /h/ may actually vary along a continuum rather than shift from Ø to /h/ in a binary dichotomy (see Pierrehumbert & Talkin, 1991). The gradual lenition of /h/ in clusters (see above) may be another argument supporting non-binary stress-driven realisations of /h/.

5 Principe n° 2: élision de [h] dans les formes *he, he'd, he'll, he's, his, him, et her*
En parole continue, la fricative [h] dans les pronoms et/ou contractions énumérés ci-dessus est souvent élidée ; toutefois, cette consonne est supprimée dans la transcription à condition qu'aucune marque prosodique ne précède le mot en question, dans ce cas, on imagine que le pronom fortement accentué sera réalisé avec sa forme pleine, sans élision du /h/.

In pidgin Englishes, /h/ elision can be related to consonant or vowel environment. For example, in Bahamian English, Childs & Wolfram (2004) explain that elision is more common after a consonant or a break than after a vowel. In her unscripted speech corpus of Nigerian English Gut (2012: 12) observes fewer elisions of /h/ when the word is preceded by a pause. Choon et al. (2013: 15) find no effect of the preceding phonetic context on the insertion of [h]. Gut (2012) shows that illicit insertions mostly surface in read speech, as opposed to spontaneous speech. Conversely, elisions are more frequent i) in spontaneous speech than on the news in read or prepared speech and ii) when the word starts with the digraph <wh> (26.7%) rather than <h> (17.7%). The author infers that spelling plays a role in /h/ elisions and intrusions. The results of Gut (2012) and Choon et al. (2012) reveal some interaction between three parameters (gender, speech style and phonetic context), so that singling out an invariant factor would be debatable.

Significant variation in /h/ realizations has been observed in synchrony. Yet, some common features can be identified. The lability of /h/ can be connected to word etymology, speech style, as well as speakers' linguistic and social origin. Insertions seem to be more common in hiatus contexts, while elisions are frequent in weak, unstressed and/ or intervocalic position.

Conclusion and discussion

Resulting from the lenition of the Old English velar fricative /x/, /h/ is intrinsically labile in English. Its distribution has become defective over time. In Old English the grapheme <h> corresponded to the phoneme /x/ which was realized by its allophone [h] in initial position, by [ɣ] in medial position and by [x] in final position. The sound [h], which was not a phoneme in Old English, became phonemic by the end of the Middle English period. Robust in initial position, it underwent complete vocalization in final position and was subject to intervocalic lenition in stressed and unstressed syllables—ranging from voicing to complete lenition.

The presence of /h/ in Old English initial clusters and its remarkable but random alternation with Ø or /ʔ/ raise the question of the future status of /h/. *H-dropping* is most probably the visible part of an ongoing process that began in the Middle Ages with the Glide Cluster Reduction. Evidence of this incomplete phonetic change can be found in dialects of English (such as Scottish or prestigious varieties) where [h] is maintained before [w].

Describing the status of /h/ in synchrony is like examining a small segment of linguistic reality that virtually encapsulates all its diachronic characteristics. Both in synchrony and in diachrony, /h/ appears as a marker of hiatus or following a syllabic boundary (Scragg, 1970: 180 and 186). It is remarkable for

its possible confusion with /ʔ/ or Ø, its word-initial robustness, its idiosyncratic variability and its lability. It seems that /h/ as a phoneme of English is doomed to disappear—perhaps like "H aspiré" in French. The multidimensional character of /h/ lenition is hard to capture, as Pierrehumbert & Talkin (1991) note.

Synchronic and diachronic similarities in /h/ usage are echoed in another opposition between native and non-native English. Indeed, for French learners of English, intrusive [h] can result in phonological confusions—e.g. *the* [h]*art* as opposed to *the heart*—or phonetic confusions—e.g. *the* [h]*animal* (Exare, 2017). Such intrusive aspirations, which are characterized by intra-learner and inter-learner variation, can be better understood by observing the status of the consonant in the history of Indo-European languages.

This paper has provided an overview of the factors that all play a different role in the (non-) pronunciation of /h/ in English (see Table 1 for a succinct summary, p. 21). Examining synchronic variation from a diachronic perspective is particulary efficient in that it compares present-day usage to historical changes in different periods and suggests that variable usage today is similar to variation attested in Middle English speakers. In order to fully understand the evolution of /h/ we now need recent data to examine the aspiration-glottalisation continuum and its relationship to prosodic factors in native and non-native speech.

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			Diachrony (Old English → Modern English)			Synchrony (Contemporary English)			English as French learners' Second Language in the 21st century (see Exare, 2017 for a review)		
			H dropping	H retaining	H insertion	H dropping	H retaining	H insertion	H dropping	H retaining	H insertion
sociolinguistic	variety ; accent		+			+		+			
	geography	urban				+	(+)				
		rural				(+)	+				
	social background	educated			+	(+)	+	(+)			
		popular			+	+	+	+			
individual	gender	males				+			++ level	++	++ level
		females					+				
	age	old				+		+			
		young					+	+			
	emotions	nervous				+					
		angry						+			
linguistic	task	scripted speech	+		+			+			+
		unscripted speech				+					
	speech style	formal						+			+
		informal				+					
	context	preceding	+	+	+	+	(+)	(-)			+
		following	+		+	+					+
		intervocalic voicing and lenition	+	+		+					
	word origin	Germanic		+		(+)	+				
		Greek, Latin, Romance languages	+			+	(+)				
	prosodic position	stressed or emphatic	+		+			+			+
		unstressed				(+)	(+)				
	diacritic use	sandhi [ʔ]; boundary marker			+				Ø and [ʔ] : allophones of /h/ in L2 English		+
		linking function		+	+						+
		frication		+	+						
	clusters		+	+		+	+		+		
	unidentified errors		+		+	+		+	+		+

Table 1. Variation of /h/ in L1 English over time and in today's French learners' L2 English.