



## THE YOD /j/ : PALATALISE IT OR DROP IT!

### How Traditional Yod Forms are Disappearing from Contemporary English

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The palatal glide /j/, known as the *yod*, has had a long and troubled history in the English language. Words such as *tune*, *dune*, *assume* and *presume*, whose traditional forms /'tju:n, 'dju:n, ə'sju:m, pri'zju:m/ contain a yod, now exhibit variants in which the yod is elided or palatalised. The resulting forms are /'tu:n, 'du:n, ə'su:m, pri'zu:m/, in which the yod is elided, or /'tʃu:n, 'dʒu:n, ə'ʃu:m, pri'ʒu:m/, in which it is palatalised. It is customary to refer to these phenomena as respectively *yod dropping* or *yod elision* and *yod coalescence* or *yod palatalisation*. The realisation of /j/ depends on the phonetic environment, on the lexical item itself and on the variety of English that is being considered.

In this paper, I trace the history of yod dropping and yod palatalisation and I examine the phonetic environments in which those phonological processes operate. This way, the reader will perceive that elision and palatalisation in /tju, dju, sju, zju/ sequences are contemporary manifestations of a long tendency that has historically involved the disappearance of /j/ from /Cju/ sequences (consonant + /j/ + /u/). Indeed, both yod dropping and yod palatalisation in words like *tune*, *dune*, *assume* and *presume* are the continuation of historic processes that have conditioned this particular form of linguistic change. I will show that this evolution is still in progress and deduce that it might in the long term lead to near-complete disappearance of /j/ from the environments defined here. To that end, the reader will be reminded of two principles of linguistic change and of linguistic diffusion in order to see how they operate in the disappearance of /j/ from contemporary English. The hypotheses formulated will be checked against transcriptions taken from *the English Pronouncing Dictionary* (EPD) and the *Longman Pronunciation Dictionary* (LPD). This article mainly focuses on the two reference accents, Received Pronunciation (RP) and General American (GA) while mentioning other varieties in which elision and palatalisation are effective today.

### *A short history of yod dropping*

Words that belong to the GOOSE lexical set<sup>1</sup> can be sub-divided into two groups. In the first one are words 'that derive historically via the Great Vowel Shift from middle English /o:/' [WELLS 1982 : 147] (ex: *loop, shoot, loose, groove, mood, tool, to, two, move, prove, whose, tomb*). The shift from /o:/ to /u:/ was complete by about 1550 [CRUTTENDEN 2008 : 128], a date which is usually associated with the beginning of Modern English. In the second group are items which today have a yod preceding the /u:/ or which have lost it following yod dropping (ex: *dupe, mute, duke, tune, mule, blue, pupil, music, lunatic*) [WELLS 1982 : 148]. The words in the second group are those on which this article focuses. By the early seventeenth century, a number of Middle English vowels had merged 'into a falling diphthong of the [ɪu] type' [WELLS 1982 : 206]. The yod in the second group of words above is derived from that diphthong.

Shortly after /Cju/ sequences had been established, the yod began to be deleted after palatals (including palato-alveolars), /r/ and consonant plus /l/ in words like *chew, juice, yew, rude, crew, blue, flue* [KWON 2006 : 7]. The main reason seems to be that those consonant clusters were 'awkward to pronounce' [WELLS 1982 : 207] (e.g. /rjud, blju, flju/). The loss of /j/ in these environments is referred to as *Early Yod Dropping*. It can be represented by the rule in [1]:

[1]     /j → Ø/ /Palatal, r, Cl/ \_\_\_ /u/<sup>2</sup>

It reads ' /j/ becomes Ø when it is preceded by a palatal, by /r/ or by a consonant plus /l/ and when it is followed by /u/'.

Today, the vast majority of English accents have undergone Early Yod Dropping at one point or another of their history. Therefore, pairs such as *threw-through* or *brewed-brood* have become homophonous whereas they used to be distinguished by the presence of /ɪ/ or /j/ in the former member of each pair. Only a handful of conservative accents in Wales, the north of England and the south of the USA have kept /j/ in the environment defined above [WELLS 1982 : 206]. Even there, the phenomenon is recessive today.

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<sup>1</sup> In *Accents of English* [1982], J.C. Wells introduced the classification of lexical sets. Each lexical set is defined in relation to the pronunciation of its vowel in RP and GA and is named after a representative key word which is conventionally capitalised. For example, the lexical set GOOSE refers to all the words that have the stressed vowel /u(:)/ in RP and in GA.

<sup>2</sup> /u/ is to be taken phonemically here, without a distinction between a short and a long vowel.

The term *Later Yod Dropping* refers to the American innovation whereby the yod has been elided in words like *tune, student, dune, new, numerous, enthusiasm, suit, presume, lewd, allude*, that is to say after all coronal consonants. However, /j/ remains after labials and velars and after /f, v/ [WELLS 1982 : 247; CRUTTENDEN 2008 : 227] in words like *beauty, cute, few, view*. It has spread to other accents of English. Later Yod Dropping can be written as [2]:

[2] /j → Ø/ /Palatal, t, d, n, s, z, r, l/ \_\_\_ /u/

It reads ' /j/ becomes /Ø/ when it is preceded by one of /Palatal, t, d, n, s, z, r, l/ and when it is followed by /u/.'

A number of accents, including RP, display variation today. As Cruttenden [2008 : 227] explains, 'both /u:/ and /ju:/ [are] heard, e.g. in *absolute(ly), lute, salute, revolution, enthusiasm, pursuit, assume, suit, suet, suitable, superstition, supermarket, consume, presume, etc.*, though /u:/ grows increasingly common in such words, being the more common after /l/ and /s/ in an accented syllable while /ju:/ remains predominant after /θ, z/' [CRUTTENDEN 2008 : 227]. The term used to define yod phenomena in such accents is *Variable Yod Dropping*.

East Anglia is well known for its *Generalised Yod Dropping*, that is to say the elision of /j/ in all GOOSE words, even in items like *beauty, few, music, cube, Hugh*, which are then realised ['bu:ti, 'fu:, 'mu:zɪk, 'ku:b, 'hu:]. Earlier /j/ has been dropped after all consonants in the northern part of the region [TRUDGILL 2008 : 191]. This East Anglia shibboleth is recessive today. Generalized Yod Dropping is formulaically:

[3] /j → Ø/ /C/\_\_\_ /u/

It reads ' /j/ becomes Ø when it is preceded by a consonant and when it is followed by /u/.'

Table 1 below represents the various stages of yod dropping across varieties of English in the form of an implicational array. What this implies is that elision is the most widespread in words on the left and becomes less and less common with the following sets of words, being the least common in words on the right. It also means that if any given subject elides /j/ in words on the right, he/she will most certainly elide it in words in the middle. By the same token, if he/she elides /j/ in words in the middle, he/she will most certainly do the same with words on the left, and so on.

Implicational array for the stressed /Cju:/ variable

| Early Yod Dropping<br>(ex: traditional British accents) | Variable yod Dropping<br>(ex: some British accents)  | Later Yod Dropping<br>(ex: most US accents)                     | Generalised Yod Dropping<br>(ex: East Anglia) |
|---|--|---|---|
| chew, juice, yew, rude, crew, blue, flue, grew, shrew   | lute, lewd, salute, revolution, enthusiasm, pursuit, assume, suit(able), superstition, supermarket, consume, presume | tune, student, dune, new, numerous, enthusiasm, tutor, nuclear, | beauty, few, music, cube, Hugh                |

The discussion so far has referred to /Cju/ sequences in stressed syllables or syllables in which there is no possibility of reduction due to secondary or tertiary stress (ex: *attitude*).

In unstressed syllables, elision is virtually nonexistent. GA shows a marked tendency towards *yod palatalisation* [JOBERT 2008 : 105]. For example, *education* and *tissue* will most likely be realised [ˌedʒʊˈkeɪʃn] and [ˈtʃuː] in GA. In RP, palatalisation may occur in /tju/, /dju/, /sju/ and /zju/ sequences but it displays a great deal of variability.

#### *Yod coalescence in /tju/ and /dju/ sequences*

Hannisdal defines yod coalescence as follows:

Yod coalescence is a type of assimilation where the approximant /j/ (yod) fuses, or coalesces, with preceding /t, d/, resulting in affricates /tʃ, dʒ/, e.g. *tune* /tjuːn/ → /tʃuːn/. Assimilation is a type of coarticulation and can be defined as ‘the influence exercised by one segment upon the articulation of another, so that the sounds become more alike, or identical’ [CRYSTAL 2003 : 38]. Coalescence is a reciprocal influence, where two adjacent sounds influence each other and fuse into a new segment [...] The phenomenon has also been referred to as *palatalisation* [...] However, this term is somewhat misleading, because it is only the first element, the alveolar consonant, which is palatalised. [HANNISDAL 2006 : 120]

Coalescence is therefore a subcategory of *place assimilation*. The glide /j/ being already palatal, its place of articulation is not shifted towards the hard palate, which is why the term *palatalisation* is misleading. On the other hand, the articulation of /t/ and /d/ is shifted from alveolar to palato-alveolar. To

follow Pavlik's terminology [PAVLIK 2009], the yod is the *assimilator* (the segment that triggers the assimilation process) in that it retracts the articulation of the alveolar plosives. The segments /t/ or /d/ are *assimilees* (segments that are being assimilated) and the affricates are the *assimilants* (the segments produced as a result of the assimilation process). Coalescence consists in an affrication of /tj/ into /tʃ/ and of /dj/ into /dʒ/. In articulatory terms, /j/ is a palatal approximant: the tongue assumes the position for a close-mid to a close-front vowel (depending on the following sound) and immediately glides away to the position for the following vowel. The affrication has the effect of blocking the glide.

In unstressed syllables, pronunciations like /'neɪtʃə/ for *nature* and /'æktʃəli/ for *actually* originate in the same process of yod coalescence and were once innovative as well. They are clearly the norm today, and are indeed the sole surviving pronunciation in the case of *nature*. In an article on RP, Wells [1997 : 19-28] focuses on the diachronic dimension of the phenomenon and defines three stages within the history of coalescence:

- 1/ He notes that 'English has long had a tendency to convert /tj/ into /tʃ/ and /dj/ into /dʒ/' (e.g. *nature*);
- 2/ He observes that the process spread to new words in the mid twentieth century to include words like *actual*, *perpetual*, *gradual*, *graduate*, whose everyday forms contain the affricate /tʃ/ or /dʒ/, their variants with /j/ being 'mannered' or 'artificial';
- 3/ He notes that a new change occurred in the late twentieth century, whereby coalescence continued to 'widen its scope', extending to stressed syllables in words like *Tuesday*, *duke*, *dune*.

The spread of coalescence to stressed syllables has considerable phonetic implications. It makes the second syllable of *seduce* sound like *juice* (/dʒu:s/) and the first syllable of *Tuesday* sound like *choose* (/tʃu:z/). What is more, it makes *dune* homophonous with *June* (/dʒu:n/).

First, there was considerable resistance to coalescence in stressed syllables, as Wells [1997] and Ramsaran [1990 : 187] observed. It was (and still is to a certain extent) considered sloppy. Indeed, it illustrates what conservative speakers deem to be 'language decay', as the quote from the *Daily Telegraph* below clearly exemplifies:

I am tired of hearing presenters—from weather girls to news readers—refer to "Chewsday" [Tuesday] [...] and to Alec "Shtewart" [Stewart]

(...) The insidious degradation of spoken English saddens me and someone ought to stand up and say “enough”.<sup>3</sup>

Linguists were first reluctant to include it in the description of RP [WELLS 1990; RAMSARAN 1990; CRUTTENDEN 2001]. However, at a relatively early stage, Wells did not hesitate to predict the generalisation of coalescence to all environments in the long term:

(...) while coalescence within a stressed syllable is still on the whole perceived as non-RP (...) [It is] likely that here, too, coalescence may penetrate RP within a few decades [WELLS 1994 : 203-204].

In her 2006 study of variability and change in contemporary RP, Hannisdal demonstrated the penetration of coalescence in stressed syllables within RP by studying the speech of thirty newsreaders. She concluded that the phenomenon had become part of RP and should be included in its description. Following her research, Wells finally decided to include coalescence in stressed syllables into descriptions of RP in the latest edition of LPD [WELLS 2008 : xiv]. Cruttenden followed suit in the latest edition of *Gimson's Pronunciation of English* [2008 : 81]. On his blog, Wells even acknowledged that he had been mistaken not to do so in previous editions:

In LPD I labelled these variants “non-RP”. Clearly I was wrong to do so (even if it's true for people of my own advanced age).<sup>4</sup>

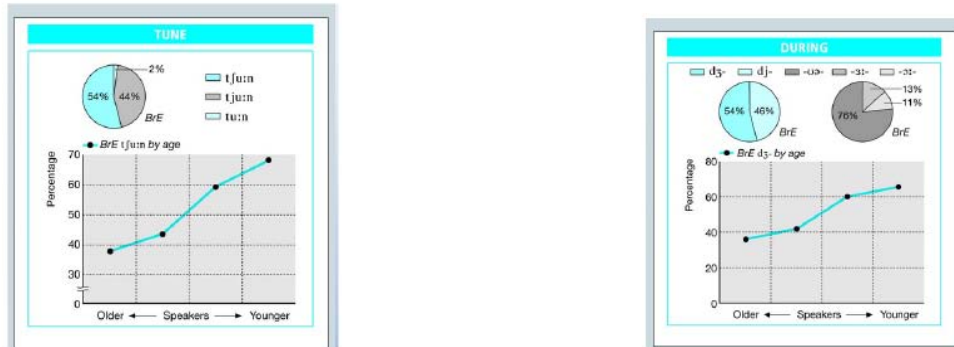
The fact that the renowned phonetician humorously used his age as an excuse is an indication that coalescence in stressed syllables may well constitute a change in progress and that the nature of the variable might be generational. This is confirmed by the following pronunciation preference charts taken from LPD 2008.

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<sup>3</sup> *The Daily Telegraph*, June 17, 2000, quote taken from ALTENDORF 2003 : 69.

<sup>4</sup> The whole text is available on Wells's blog at <http://www.phon.ucl.ac.uk/home/wells/blog0704.htm>

## Pronunciation preference charts, LPD 2008 (CD-rom)



Geographically speaking, coalescence in stressed syllables was first treated almost exclusively as a feature of London English or Estuary English in the literature [WELLS 1982 : 331; COGGLE 1993 : 51-52; ALTENDORF 2003 : 69; CRUTTENDEN 2008 : 87; ALTENDORF & WATT 2008 : 213; LPD 2008 : xix]. Even though it most probably originates in the South-East of England, I argue that it has now spread to a great many places throughout the English-speaking world. Indeed, coalescence in stressed syllables has been noted in Scotland [WELLS 1999 : 44], in Derby (England) [FOULKES & DOCHERTY 1999 : 51]. Hannisdal [2006 : 124] even considers it to be a 'supraregional feature' of British English. Indeed, it occurs in 'many varieties' in England [TRUDGILL & HANNAH 2008 : 35]. Outside Britain, it has also been noted in Canada, in the province of Newfoundland [CLARKE 2008 : 175] and 'along the middle border- from Thunder Bay to Saskatchewan', where it is 'rather common' [WELLS 1982 : 496]. Southern hemisphere varieties are also concerned. Coalescence in stressed syllables is rather widespread in Australia, where the /tj/~/tʃ/, /dʒ/~/dʒ/ variation is not geographically but sociolinguistically determined [HOVARTH 2008 : 101]. Coalescence has been noted in New Zealand [BURRIDGE 2008 : 297] and South Africa [WELLS 1982 : 618 ; TRUDGILL & HANNAH 2008 : 35].

#### *Yod coalescence vs yod dropping in /tju/ and /dju/ sequences*

Coalescence in stressed syllables has faced and is facing 'competition' [ALTENDORF 2003 : 68] from yod dropping. For example, here is what happened in London. Yod dropping used to be one of the main features of Cockney [WELLS 1982 : 331] and it affected the whole of the London region until it faced competition from coalescence. Coalescence eventually had the upper hand and it is now particularly widespread there. Of course, the competitive nature of the yod coalescence/yod dropping relation makes

coalescence in stressed syllables virtually nonexistent in GA or in varieties where yod dropping is particularly prominent. This is the reason why pronunciation dictionaries give the traditional form with /j/ as the only variant for /tu:, du:/ in GA.

#### *Yod palatalisation in /sj/ and /zj/ sequences*

I will begin with a few parallels with coalescence. For words like *issue* and *assume*, yod forms such as /'tɪsju:, ə'sju:m/ are more traditional and more conservative than palatalised forms such as /'ɪʃu:, ə'ʃu:m/. Again, it is palatalisation in *stressed* syllables which is more innovative today, the phenomenon being quite common in unstressed syllables. The same is true of words like *presume*, whose traditional form /prɪ'zju:m/ can be palatalised into /prɪ'ʒu:m/. The assimilator is /j/, which retracts the articulation of both /s/ and /z/, making them palato-alveolar as opposed to alveolar. Therefore, /sj/ is palatalised into /ʃ/ and /zj/ is palatalised into /ʒ/.

#### *Palatalisation of /s/ in unstressed syllables*

Let us consider the word *issue*. Two different patterns of palatalisation coexist and lead to two sub-categories of palatalisation: *dealveolar assimilation* and *coalescence*.

1/ Through the assimilation process, the voiceless alveolar fricative /s/ is palatalised into /ʃ/. The palatal glide /j/ keeps its own articulation and the assimilant produced is /ʃ/. Therefore, the palatalised form is /'ɪʃju:/. Wells calls this mechanism *dealveolar assimilation*.<sup>5</sup> It is the least common variant of *issue* according to both EPD and LPD. Indeed, it is not even listed in the latest edition of EPD [2008], which seems to indicate that it is disappearing from language usage. It can be written as [4]:

[4]     /s → ʃ/    \_\_\_ /ju/

It reads 's/ becomes /ʃ/ when it is followed by /ju/.

2/ Through the assimilation process, /s/ fuses with /j/ to produce the one segment /ʃ/ and the variant /ɪʃju:/. This process of *coalescence* is the most common variant in British English according to EPD and LPD (see chart below). As far as American English goes, it is listed as the sole form in both dictionaries. Formulaically, it is as [5]:

[5]     /sj → ʃ/    \_\_\_ /ju/

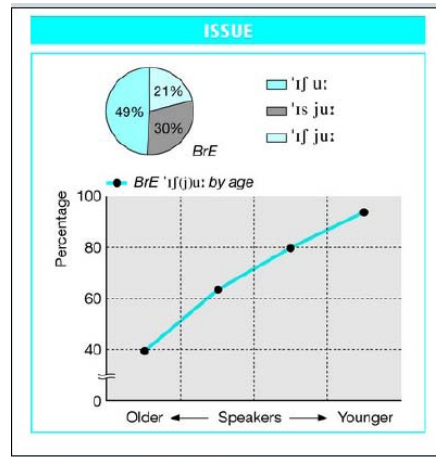
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<sup>5</sup> <http://www.phon.ucl.ac.uk/home/wells/blog0608.htm>



It reads ‘/sj/ becomes /ʃ/ when it is followed by /ju/.

**Issue: Pronunciation preferences in Great Britain. Source: LPD 3<sup>rd</sup> edition (CD-rom)**



If we consider the chart above, we cannot but conclude that, as it is the case with coalescence in /tju, dju/, yod palatalisation in /sju, zju/ is mostly associated with young speakers.

***Palatalisation of /z/ in unstressed syllables***

There can be two palatalised assimilants produced from /sju/ sequences: /ʃ/ and /ʒ/, the latter being more common. Let us consider the item *visual* and see how it is treated in various editions of the two reference pronunciation dictionaries. We shall consider LPD 3<sup>rd</sup> edition [2008], EDP 14<sup>th</sup> edition [1980] and 17<sup>th</sup> edition [2006].

| <i>visual</i> | Br English  | US English         |
|---------------|---|--------------------|
| EPD 1980      | /ʒjʊ/<br>/zjwə,<br>zjʊ, ʒjʊə,<br>ʒjwə, ʒjʊə,<br>ʒwə, ʒjʊ/ | X                  |
| EPD 2006      | /ʒjʊ, zjʊ/  | /ʒjʊ/              |
| LPD 2008      | /ʒjʊ, zjʊ,<br>ʒjʊ/  | /ʒjʊ, zjʊ,<br>ʒjʊ/ |

A few conclusions can be drawn from the data above: EPD considers that /ʃjʊ/, and /ʒjʊ/, the forms produced by dealveolar assimilation, are nonexistent today.<sup>6</sup> Coalesced forms /ʒjʊ/ are more common in American English than in British English in unstressed syllables. Traditional forms with yod have lost ground since 1980, when they were listed as the most common forms. Therefore, the evolution of /zju/ sequences moves undoubtedly towards palatalisation. The younger the speaker, the more likely he/she is to use palatalised forms.

In a nutshell, the variation in /sjʊ/ and /zju/ sequences is of a generational type. In unstressed syllables, the change towards coalescence is already well-established. In stressed syllables, it seems to constitute a change in progress.

#### *A change in progress in stressed syllables?*

Let us consider the following items: *assume*, *presume*, *resume*. All three can potentially display the palatalised variants /ə'fju:m, pri'zju:m, ri'zju:m/ (dealveolar assimilation does not operate in stressed syllables). Are these forms widespread? Are they considered standard English? To answer a very similar question on his blog, Wells writes that 'only a small minority

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<sup>6</sup> The difference in the treatment of dealveolar assimilation between the two dictionaries is a good example of how their editorial policies differ. While Wells relies on polls of pronunciation [LPD 2008 : xviii], Roach, Hartman and Setter rely on their own intuitions and observations to list the variants [EPD 2006 : vi].

pronounce *assume* as /ə'fju:m/; most people say /ə'sju:m/ or /ə'su:m/.<sup>7</sup> Following the various studies of British English pronunciation preferences he carried out for LPD, he estimates that 5% of British speakers use the palatalised form for *assume* and 8% for *presume* [LPD 2008]. In LPD 2008, he uses the symbol § for such forms, which means that he considers them to be non-RP and that he believes that learners of English should not use them. This makes his editorial policy radically different from what it is regarding coalescence of /tju, dju/ in stressed syllables. Indeed, the same symbol has been removed from the coalesced forms of words like *tune* and *dune* in LPD 2008. As to the authors of EPD, they do not even list the palatalised variants in the latest edition of the dictionary [JONES 2006]. Therefore, the relative new acceptance of coalescence in /tju, dju/ sequences, does not also apply to palatalisation of /sju, zju/ sequences, which is not included in descriptions of RP. This is justifiable on two accounts:

1/ In British English, the number of items in which /tju, dju/ can potentially coalesce is significantly higher than the number of words in which /sju, zju/ can be palatalised. This becomes obvious as soon as one starts making a list from dictionaries.

2/ The percentage of speakers that use a palatalised form is higher with /tju, dju/ than with /sju, zju/, even though the latter phenomenon is spreading quickly. To illustrate this, let us compare the statistics in terms of pronunciation preferences in four of the highest-frequency words in each sequence : *tune*, *during*, *assume*, *presume*. LPD 2008 has 54% for /'tʃu:n/, 54% for /'dʒu:rɪŋ/. In comparison, it only has 5% for /ə'fju:m/ and 8% for /pri'ʒu:m/.

However, it is possible that palatalisation will progress to stressed syllables in /sju, zju/ sequences as massively as coalescence has penetrated stressed syllables in /tju, dju/ syllables in the long term. Already, 'coalesced forms in the onset of accented syllables, e.g. in *assume*, *presume* are increasingly heard in RP, forms with /sj, zj/ becoming refined to Refined RP' [CRUTTENDEN 2008 : 227]. It might never be as widespread as coalescence in stressed syllables in British English as yod dropping is rather well established in this environment. Nevertheless, it is progressing, which makes Hannisdal wonder about the future of RP:

It is evident (...) that yod coalescence involving the alveolar fricatives does not have the same status as coalescence of /tj, dj/. It remains to be seen whether yod coalescence will eventually affect these items, too, or

<sup>7</sup> <http://www.phon.ucl.ac.uk/home/wells/blog0608.htm>

whether yod dropping will prevail, as it has in words like *super*, *suitable*, etc' [HANNISDAL 2006 : 211].

As far as GA is concerned, palatalisation appears very rarely in either dictionary. The most common forms are by far those in which /j/ is elided and the only variants listed are the traditional ones with /j/. Yod dropping has clearly 'won the competition' by a walkover in North America. As far as the rest of the English-speaking world is concerned, palatalisation of /sju, zju/ may not be quite as widespread as coalescence of /tju, dju/, but it does occur in several varieties of English. Hovarth [2008: 101], Trudgill and Hannah [2008: 24] observe that it is particularly common in Australia.

The main loser of the competition is diachronically the yod itself in that it has systematically fallen victim to either elision or palatalisation in /tju, dju, sju, zju/ sequences over the past centuries. With the diffusion of palatalisation in stressed syllables and the competition of yod dropping, /j/ may well have disappeared altogether from the environments described in this article within a few decades. This would certainly appear to be in keeping with some of the principles of language change.

#### *Language change and the misfortunes of /j/*

Language change seems to invariably bring about yod dropping or yod palatalisation. Both are partly motivated by *the principle of least effort*, also known as the *economy principle*. It 'refers to the tendency to save effort, and is behind the shortcuts speakers often take in pronunciation' [DEUTSCHER 2005 : 62]. That tendency is at the basis of a fundamental principle of language change: all languages erode over time, all languages wear away.<sup>8</sup> Assimilation (of which palatalisation is a sub-category) is linked to the principle of least effort and is a manifestation of human articulatory 'laziness' [MCWHORTER 2004 : 15], which translates into articulatory simplification.

It is quite easy to understand how yod dropping partakes of the principle of least effort: one fewer segment is produced when /j/ is elided. Elision is the ultimate form of articulatory simplification. Let us now focus on how the principle of least effort operates in the process of palatalisation

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<sup>8</sup> Other principles counter-balance the principle of least effort: the need to maintain intelligibility [WELLS 1982 : 94] and *expressiveness* (which 'relates to the speakers' attempts to achieve greater effect for their utterances and extend their range of meaning' [DEUTSCHER 2005 : 62]).

by comparing the traditional and the palatalised forms of the words *tune*, *assume* and *presume*.

- *Tune*: traditional [tj] vs palatalised [tʃ] : During the production of [tj], the tip of the tongue forms a closure against the alveolar ridge and then the front of the tongue assumes a position of open approximation below the hard palate. During the production of [tʃ], the [t] element that is produced is palato-alveolar, as opposed to alveolar, which means that it is retracted compared to a [t] that is not part of an affricate. Indeed, the tip and the front of the tongue form a simultaneous closure in the palato-alveolar region during the production of [tʃ]. The two elements of the affricate are thus homorganic, which does reduce the articulatory effort compared to [tj]. This is known as *assimilation of place* (two places of articulation become one). What is more, there is also *assimilation of manner* in the palatalised variant as the one segment [tʃ] which is produced is an affricate while the traditional variant [tj] displays two manners of articulation: plosive (for [t]) and approximant (for [j]).

The passage from traditional to palatalised variants of /tju/ sequences is therefore a good example of how the principle of least effort operates in language change insofar as it illustrates articulatory simplification. Both elision and palatalisation 'can be characterised as yod cluster reductions, and thus processes of simplification' [HANNISDAL 2006 : 121]. The process is virtually the same in /dju/ sequences (ex: *dune*).

- *Assume*: traditional [sj] vs palatalised [ʃ] : Only one segment [ʃ] is produced when palatalisation occurs, as opposed to two segments [s + j]. It involves one palato-alveolar place of articulation as opposed to two places: alveolar (for [s]) plus palatal (for [j]). Articulatory simplification works in the same way when /zju/ sequences are palatalised.

One of the principles of diffusion of innovations of is that of *lexical diffusion*. Bybee [2001] explains that sound changes tend to diffuse in a gradual fashion, following a principle of lexical frequency. First, high-frequency words are concerned. Then, the diffusion spreads to words that are not as frequently used. This goes hand in hand with a much more frequent use of phonetic reduction, including assimilation, in high-frequency words [BYBEE 2001 : 6]. Indeed, the more frequent items are, the more likely they are to be phonetically reduced. This is due to the fact that the brain seems to process high-frequency items more quickly. Thus, frequent items do not need to be articulated as carefully as others in order to be understood [SHOCKEY 2003 : 6]. Assimilation (and therefore

palatalisation) should therefore be more common in high-frequency words. This hypothesis needs to be checked against the entries of pronunciation dictionaries.

### *The apparent time principle*

On several occasions, I have stated that coalescence and palatalisation seem to constitute a change *in progress*. Can this be demonstrated with the two *Agrégation* reference dictionaries? Is it possible to observe changes in progress? Deutscher [2005] explains that the key to language change is variation and that it is possible to observe variation synchronically. To do that, one has to study the different variants that coexist at a given time. One of those variants may well eventually become the norm as it becomes more and more established and as the other variants gradually disappear. In terms of pronunciation, one of the variables is the speaker's age. In order to appreciate variation in its temporal dimension fully, Labov [1994 : 43-112] defines two sorts of observations: observations in *real time* and in observations in *apparent time*. Observations in real time allow linguists to study the regular linguistic process of *age grading*, that is language development which is characteristic of all individuals as they become older. On the other hand, observations in apparent time allow linguists to study the changes that occur from one generation to the next. Therefore, 'the first and most straightforward approach to studying change in progress is to trace change in apparent time: that is, the distribution of linguistic variables across age levels' [LABOV 1994 : 45-46]. By comparing different generations, one should be able to determine whether language change is in progress.

### *Comprehensive study of EPD and LPD*

I will now give the results of a study of two editions of EPD [1980 and 2006] I undertook last year [GLAIN 2011]. The aim is twofold. First, it will allow us to appreciate the evolution of the pronunciation of /tju, dju/ sequences. Pronunciation dictionaries are meant to paint an accurate picture of how English is pronounced at a given time in the history of the language.<sup>9</sup> The 26-year difference between the two editions of EPD can therefore help us 'trace change in apparent time'. Second, we will figure out the selection

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<sup>9</sup> It always takes some time for dictionaries to register linguistic changes once they have been established among a community of speakers. We may therefore consider that, once innovations have been listed in dictionaries, they correspond to pronunciations that have been already established.

process whereby certain words are listed with palatalised variants while others are not.

List of words from EPD

| word                              | EPD 1980           | EPD 2006   |
|-----------------------------------|--------------------|--|
| <i>educate</i>                    | 'edʒukeɪt, -dʒu-   | 'edʒ.ʊ .keɪt, 'edʒu- US 'edʒ.ʊ .keɪt                 |
| <i>assiduous</i>                  | ə'sɪdʒu.əs         | ə'sɪdʒ.u.əs, -'sɪdʒ.u- US -'sɪdʒ.u-                  |
| <i>saturate</i>                   | 'sætfəreɪt, -tʃu-  | 'sætf.ə .reɪt, -tʃ.ə .reɪt US 'sætf.ə .reɪt          |
| <i>actual</i>                     | 'æktʃuəl, -tʃwəl   | 'æk.tʃu.əl, -tʃu US -tʃu.əl                          |
| <i>constitute</i> and derivatives | 'kɒntstɪtju:t      | 'kɒnt.stɪ .tʃu:t, -tʃu:t US 'kɒn.t.stə .tu:t, -tʃu:t |
| <i>altitude</i>                   | 'æltɪtju:d         | 'æ.l.tɪ.tʃu:d, -tʃu:d US 'æ.l.tə.tu:d, -tʃu:d        |
| <i>punctual</i>                   | 'pʌŋktʃuəl, -tʃuəl | 'pʌŋk.tʃu.əl, -tʃu.əl US 'pʌŋk.tʃu.əl                |
| <i>sexual</i>                     | 'seksjuəl, -kʃuəl  | 'sek.sju.əl, -sju.əl, US -ju.əl                      |
| <i>casual</i>                     | 'kæzjuəl, -ʒjuəl   | 'kæz.ju.əl, -zju- US '-u:-                           |
| <i>associate</i>                  | ə'səʊʃiət, -siət   | ə'səʊ.ʃi.ət, -si.ət -US -'səʊ.ʃi.ɪt, -si-            |
| <i>assume</i>                     | ə'sju:m, -'su:m    | ə'sju:m, -'su:m US -'su:m                            |
| <i>consume</i> and derivatives    | kən'sju:m, -'su:m  | kən'sju:m, -'su:m US -'su:m                          |
| <i>disuse</i>                     | di'sju:s           | di'sju:s   |
| <i>tube</i>                       | tju:b              | tju:b, tʃu:b US tu:b, tju:b                          |
| <i>Tuesday</i>                    | 'tju:zdi           | 'tju:z.deɪ, 'tju:z- US 'tu:z-, 'tju:z-               |
| <i>tubercle</i>                   | 'tju:bəkl          | 'tju:.bə.kəl, -bɜ:- US 'tu:.-, 'tju:-                |
| <i>tubercular</i>                 | tju:'bɜ:kju:lə     | tju:'bɜ:.kjə.lə US tu:'bɜ:.kjə.lə, tju:-             |
| <i>destitution</i>                | ˌdestrɪ'tju:ʃən    | ˌdes.trɪ'tju:ʃən US -'tu:.-, -'tju:-                 |
| <i>dune</i>                       | dju:n              | dju:n, dʒu:n US du:n, dju:n                          |
| <i>due</i>                        | dju:               | dju:, dʒu: US du:, dju:                              |
| <i>dual</i> and derivatives       | 'dju:əl            | 'dju:.əl, 'dʒu:- US 'du:əl, 'dju:-                   |
| <i>during</i>                     | 'dʒuərɪŋ, 'dʒuə-   | 'dʒu.ərɪŋ, 'dʒuə- US 'dʊərɪŋ, 'dju:-                 |
| <i>adduce</i>                     | ə'dju:s            | ə'dju:s US ə'du:s, -'dju:s                           |
| <i>adieu</i>                      | ə'dju:             | ə'dju: US ə'du:, -'dju:                              |
| <i>adulation</i>                  | -ædʒu'leɪʃən       | æd.ju'leɪ.ʃən, -ædʒ.ʊ'- US 'ædʒ.ə'-, 'æd.jə'-        |

The variants listed on the left are the main variants, the most common ones. As we read from left to right, the other variants become less and less common. Note that EPD 1980 does not have American pronunciations while EPD 2006 does. Let us first consider /tju, dju/ sequences. In unstressed syllables, coalescence appears in more entries in 2006 than in 1980 (e.g. *assiduous*, *constitute*, *altitude*). Besides, in a number of cases the palatalised variant was not perceived as the main pronunciation in 1980. It had become so by 2006 (e.g. *educate*, *punctual*), which is the sign of a change in progress. Note that the palatalised form is the sole pronunciation in unstressed syllables in American English, except when the vowel is long (e.g. *constitute*, *altitude*).

In order to identify a pattern behind the selection of palatalised variants, let us go through the 2006 entries by alphabetical order and

consider the items that start with the letters <tu> and can potentially contain a yod.<sup>10</sup>

The following words do not display coalescence: *tuber* (1), *tubercle* (1), *tubercular* (1), *tuberculin* (1), *tuberculisational* (1), *tuberculise* (1), *tuberculoïd* (1), *tuberculosis* (1), *tuberculous* (1), *tuberoïse* (1), *tuberous* (1), *tufa* (1), *tuition*, *Tuke* (2), *tulle* (3), *tumefaction* (1), *tumefy* (1), *tumescents* (1), *tumid* (1), *tumidity* (1), *tumult* (4), *tunicle* (3), *Tunis* (2), *Tunisia* (2), *Turandot* (2), *Turania* (2), *tureen* (4), *Turin* (2), *Turing* (2), *tutelage*, *tutelar*, *tutelary*, *Tutin* (2).

What is particularly striking in the list above is that the items in question are words that do not belong to the speaker's sphere and/or are not high-frequency words. For instance, a number of those words refer to sophisticated concepts that belong to the lexical field of medicine, botany, physics or geology. They are marked (1) in the list above. The words marked (2) refer to people, places or works of art that are either foreign or of foreign origin and are therefore remote from people's everyday concerns and language usage. The items marked (3) are rather technical words associated with the clothing sector. As to the words marked (4), they are rare and quite sophisticated. This confirms that high-frequency items are more likely to be reduced/palatalised. Similar conclusions can be drawn about /dju/ sequences. Low-frequency items like *duessa*, *Dubois* or *Dubrovnik* do not have a palatalised variant in EPD 2006.

In stressed syllables, the tendency is towards increasing recognition and acceptance of coalescence. Apart from the word *during*, palatalised variants are not at all listed in EPD 1980. However, they are registered in EPD 2006 in a significant number of cases (ex: *tube*, *tube* and its derivatives, *tubular*, *tubule*, *Tudor*, *Tuesday*, *tulip*, *tumour*, *tumourous*, *tune* and its derivatives, *tunic*, *tutor*, *dune*, *due*, *dual*). The difference in treatment between the two editions of the same dictionary is a sign that coalescence in stressed syllables is diffusing rather quickly among the linguistic community. Besides, all of those words display yod dropping in American English, which again shows the close relation that exists between palatalisation and elision. Hannisdal [2006 : 121] goes as far as to say that 'yod coalescence is related to yod dropping'. The competition between the two phonological processes may leave little room for traditional forms with yod in the future.

EPD does not recognise yod palatalisation in stressed syllables in /sju, zju/ sequences. However, the evolution in unstressed syllables shows an increase of palatalised variants listed as the main pronunciation (cf. *sexual*,

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<sup>10</sup> Words like *Tuscan*, *tusker*, *turn*, *turtle* or *Tucson* are excluded from our list as they have /ʌ/ or /ɜ:/.



*casual*), at the expense of traditional forms with /j/. To figure out the palatalisation patterns in stressed syllables, let us now turn to LPD, which has recognised the phenomenon since its first edition in 1990.

| word  | LPD 1990   | LPD 2008   |
|---|--|--|
| <i>assume</i>   | ə'sju:m, -'su:m, §-'ju:m US ə'su:m                   | ə'sju:m -'su:m - §'ju:m US ə'su:m                    |
| <i>consume</i><br>and<br>derivatives                      | kən'sju:m, -'su:m, §-'ju:m US<br>kən'su:m            | kən'sju:m, -'su:m, §-'ju:m US<br>kən'su:m            |
| <i>disuse</i>   | ɒdɪs'ju:s, §ɒdɪf -                                   | ɒdɪs'ju:s, §ɒdɪf -                                   |
| <i>disunity</i>   | ɒdɪs'ju:nəti, §ɒdɪf US -ətʃi                         | ɒdɪs'ju:nəti, §ɒdɪf US -ətʃi                         |
| <i>disunion</i>   | ɒdɪs'ju:njən, §ɒdɪf -                                | ɒdɪs'ju:njən, §ɒdɪf -                                |
| <i>subsume</i>  | səb'sju:m, -su:m US -su:m                            | səb'sju:m, -su:m US -su:m                            |
| <i>sue</i>  | sju:, su: US su:                                     | sju:, su: US su:                                     |
| <i>suet</i>   | 'su:t, 'sju:-  | 'su:t, 'sju:-  |
| <i>Suez</i>   | 'su:z, 'sju:- US ʃu:'ez                              | 'su:z, 'sju:- US ʃu:'ez                              |
| <i>sui</i>  | 'su:ai, 'sju:  | 'su:ai, 'sju:  |
| <i>suicide</i>  | 'su:saɪd, 'sju:-                                     | 'su:saɪd, 'sju:-                                     |
| <i>suit</i> and<br>derivatives                            | 'su:t (72%), 'sju:t (28 %) US 'su:t (100 %)          | 'su:t (72%), 'sju:t (28 %) US 'su:t (100 %)          |
| <i>super</i> and<br>words<br>containing<br><i>super</i>   | 'su:pə, 'sju:p-                                      | 'su:pə, 'sju:p-                                      |
| <i>supine</i>   | 'su:pam, 'sju:p-                                     | 'su:pam, 'sju:p-                                     |
| <i>supra</i> and<br>words<br>containing<br><i>supra</i>   | 'su:prə, 'sju:p-                                     | 'su:prə, 'sju:p-                                     |
| <i>sural</i>  | 'sjuərəl, 'suərəl US 'sɒrəl                          | 'sjuərəl, 'suərəl US 'sɒrəl                          |
| <i>pseud</i>  | sju:d, su:d US su:d                                  | sju:d, su:d US su:d                                  |
| <i>pseudo</i> and<br>words<br>containing<br><i>pseudo</i> | 'sju:dəʊ, 'su:- US 'su:dəʊ                           | 'sju:dəʊ, 'su:- US 'su:dəʊ                           |
| <i>presume</i> et<br>dérivés                              | prɪzju:m (76%), -zu:m (16%), §-ʒu:m (8%)<br>US -zu:m | prɪzju:m (76%), -zu:m (16%), §-ʒu:m (8%)<br>US -zu:m |
| <i>resume</i>   | rɪzju:m, -zu:m, §-ʒu:m US -zu:m                      | rɪzju:m, -zu:m, §-ʒu:m US -zu:m                      |
| <i>exude</i>  | ɪg'zju:d, -zu:d US -zu:d                             | ɪg'zju:d, -zu:d US -zu:d                             |
| <i>exuviae</i>  | ɪg'zju:vii, -zu:v- US -zu:v-                         | ɪg'zju:vii, -zu:v- US -zu:v-                         |
| <i>zeugma</i>   | 'zju:gmə, 'zu:g- US 'zu:g-                           | 'zju:gmə, 'zu:g- US 'zu:g-                           |
| <i>Zeus</i>   | zju:s, zu:s US zu:s                                  | zju:s, zu:s US zu:s                                  |

The symbol § means that the form listed is not seen as belonging to RP.

Palatalisation in /sju, zju/ sequences in stressed syllables is listed in both LPD 1990 and LPD 2008 (and it is still considered as non-RP in LPD 2008). Let us concentrate on the items which do not have a palatalised variant:

*subsume, sue, suet, Suez, sui, suicide, suit* (and its derivatives), *super* (and words containing *super*), *supine, supra* (and words containing *supra*), *sural, Surinam, pseud, pseudo* (and words containing *pseudo*), *exude, exuviae, zeugma, Zeus*).

Some of those items are not palatalised because they remain distant from the speaker's sphere, either because they are rare and somewhat sophisticated or because they are of foreign origin (*subsume, suet, Suez, sui, supine, sural, Surinam, pseud, pseudo, super, supra, exude, exuviae, zeugma, Zeus*). It seems that the other items do not display palatalisation because elision is so common that it is established as their number one form (*sue, suicide, suit, super, supra*),<sup>11</sup> even in British English.

Let us now have a closer look at the items that do exhibit palatalisation so as to determine the environments in which they appear. In /zju/ sequences, only the items *presume* and *resume* exhibit a palatalised variant, and only in British English. In /sju/ sequences, the words *assume, consume* and their derivatives have a variant with /ʃ/ in British English but the elided form is more common. They both display the lone elided form in American English. On the other hand, the items *disuse, disunity* and *disunion* have a radically different behaviour from all the words we have focused on so far. Indeed, they are listed with a palatalised variant near the traditional form with /j/ in both British and American English. What is more, /j/ is elided in neither variety. However surprising this may first seem, it makes perfect sense if we consider the *structure* of the words in question. In American English, the forms of *use, unity* and *union* (the radicals of the three words) are /ju:z, 'ju:nətli, 'ju:niən/ [LPD 2008], which invariably contain a yod.<sup>12</sup> It is the presence of /j/ in the radical that triggers the process of assimilation and allows palatalisation in American English. This is also the reason why such words do not have variants in which /j/ has been dropped. Eliding the yod in those words would be tantamount to altering the pronunciation of the radicals into \*/u:z, 'u:nətli, 'u:niən/.

### **Conclusion**

The data presented in this article show that the disappearance of /j/ from /tju, dju, sju, zju/ sequences is already well established in unstressed syllables and that it is developing in stressed syllables, as a result of either yod dropping or yod palatalisation. This is the continuation of historic processes that have invariably led to the loss of /j/ from /Cju/ sequences since the beginning of modern English. If this continues (and I do not see any

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<sup>11</sup> Note that the absence of palatalisation in *super* and *supra* can be justified by either of the two explanations.

<sup>12</sup> Initial /j/ is maintained even in varieties that have undergone Generalised Yod Dropping. It is only elided after a consonant.

reason to speculate otherwise), /j/ might vanish from this environment altogether in the long term- particularly if the principle of lexical diffusion continues to proceed in an orderly manner and if the phonological processes described in this paper are gradually applied to lower-frequency items. Another factor of language change is contact between languages and contact between varieties of the same language. In one of the videos at the *Evolving English* exhibition of the British Library, David Crystal explains that a new era in the evolution of English has started with the globalisation of the language. For the first time in history, there are more L2 than L1 speakers who use English on a daily basis. This will undoubtedly have a great impact on the pronunciation of English in the decades to come—and on the fortunes and misfortunes of /j/.

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