



## Palatal controversies

Péter Siptár

### 1 Introduction

Unlike the palatal approximant /j/ that occurs in 85% of the world's languages (Ladefoged & Maddieson 1996 : 322), other palatal consonants are relatively rare cross-linguistically. We can come across the palatal nasal /ɲ/ in 31% of the 451 languages represented in the UPSID database (Maddieson 1984), while the plosives /c ɟ/ and/or the affricates /t͡ʃ d͡ʒ/ are even less well-attested (Ladefoged 2005 : 163). Voiceless /c/ occurs in 12%, and voiced /ɟ/ in 9.5%, of the languages of UPSID. Both plosives exist eg in Azerbaijani, Basque, Breton, or Turkish, as well as in the Uralic languages Komi (Zyryan) and Nganasan; only voiceless /c/ is found in Vietnamese or Khanty (Ostyak). Long /c:/ is said to be present in a single language of the database: Waray, spoken in Australia; and long /ɟ:/ to only occur in Wolof, spoken in Gambia and Senegal. Of the palatal affricates, voiceless /t͡ʃ/ appears in 2.7% and voiced /d͡ʒ/ in 1.8% of languages in the database. Both can be found,<sup>1</sup> eg in Albanian, Mandarin Chinese, and Komi (thus, in the latter, the two plosives contrast with the two affricates). The voiceless palatal fricative /ç/ occurs in 2.44% of the languages as a contrastive segment, eg in Irish, Mandarin, and Norwegian; and its voiced counterpart /j/ in 2.66%, eg in Inuit (Greenlandic). Both fricatives can be found in Komi (a language that can now be seen to exhibit as many as six palatal obstruents). Returning to the more frequently occurring palatals: /ɲ/ is attested in 141 languages of the database, and /j/ in 378, thus turning out

<sup>1</sup> The database takes Hungarian to be one of the languages that have both palatal affricates (and neither of the palatal stops); in other words, it claims that the Hungarian palatal obstruents orthographically represented as *ty* and *gy* are affricates, rather than plosives. This is of course controversial, see section 3 below. Hungarian *ty* and *gy* are not represented in the database, either as long plosives or as long affricates; *ny* and *jj* are also absent.

to be, after /m/ and /k/, the third most frequently occurring consonant in the world's languages.<sup>2</sup>

In Hungarian speech, palatal consonants come in a variety of shapes and sizes: almost all logically possible combinations of manner of articulation, voicing, and length can be found in one or another position or context. The set of attested “speech sounds” includes plosives ([c c: ʃ ʃ:]), fricatives ([ç j]), affricates ([t͡ʃ c͡ʃ ʃ͡j ʃ͡j:]), nasals ([ɲ ɲ:]), and approximants ([j j:]), fifteen phonetically distinct items in all. Contrastive segments (phonemes), however, are less numerous: there are only four short palatals: /c ʃ ɲ j/, as the following minimal triplets show: *atya* ‘father’ : *agya* ‘his brain’ : *anya* ‘mother’; *gyár* ‘factory’ : *nyár* ‘summer’ : *jár* ‘walk (v)’ (plus their long counterparts in words like *pötty* ‘polka dot’, *meggy* ‘sour cherry’, *könny* ‘tear (n)’, and *gally* ‘twig’).

In this paper, we will first summarise what we can find out concerning the frequency of occurrence of Hungarian palatal consonants from a recent statistical survey (§2), then we will consider the issue whether non-continuant palatal obstruents are to be phonologically categorised as plosives or as affricates (§3). Finally, we will look at the distribution of palatal fricatives and (non-nasal) approximants;<sup>3</sup> our primary question will be whether /j/ is a fricative or a glide (or perhaps something quite different; §4). In §5 we give a brief summary of our conclusions.

## 2 On the frequency of occurrence of palatal consonants

According to a recent survey of phoneme statistics involving a fairly large spontaneous speech sample (100 speakers, 26 hours of material, 151,161 words, 748,099 phonemes), the token frequencies of Hungarian palatal consonants are as follows (Beke et al. 2012): /j/ is the eighth most frequent consonant, involving 4.75% of the total number of occurrences; /j:/ is the 16th most frequent (1.72%); /ɲ/ is the 20th (0.72%), and /c/ is the 38th

<sup>2</sup> Taking all palatal consonants as a class, 405 languages (90%) of UPSID have at least one palatal; of the 919 different consonants found in the database, 63 types of palatal consonants are told apart, almost 7% of all consonant types. Most of these, however—including rather exotic types like “voiceless aspirated palatal lateral affricated click”, “prenasalised voiced palatal sibilant affricate” or “voiced palatal trill”—occur in a single language (different ones, of course) of the 451 languages considered.

<sup>3</sup> The nasal approximant [j] is a lenited variant of /ɲ/, occurring in words like *lányság* [la:jfa:g] ‘maidenhood’, *hányszor* [ha:jsor] ‘how many times’, *vénnyre* [ve:jre] ‘by prescription’. This segment (and the palatal nasal in general) will be ignored in what follows.

(0.02%). The authors counted long consonants separately; /ɲ:/ occupies the 28th place (0.156%), /j:/ is the 40th (0.0097%), /ʃ:/ is the 42nd (0.0076%) and /c:/ is the least frequent consonant of all (45th place, 0.0004%). However, in order to be able to interpret all these figures, we have to see what exactly it was that the authors counted.

As they point out in their article, they counted phonemes in the generative sense (ie underlying segments) rather than (surface/taxonomic) phonemes in the structuralist sense. This means, for instance, that the word *portya* [pɔrcɔ] ‘cruise’ would be taken into account as containing /c/ but the word *partja* [pɔrcɔ] ‘its shore’ would qualify as containing a /t/ and a /j/, and not as containing a /c/. Similarly, in *padja* [pɔʃɔ] ‘its bench’, *kinja* [kiɲɔ] ‘its agony’, the authors would find /d/ plus /j/ and /n/ plus /j/, respectively, rather than /ʃ:/ and /ɲ:/. No wonder that /t/ and /n/, the most frequent Hungarian consonants anyway, show up as even more loaded than they actually are: they take the first two places with 11.97% and 10.98%, respectively (while /d/ comes in 11th, with 3.69%). Thus, owing to the particular principles of what counts as what, dentals and /j/ show higher occurrence figures than we would expect, and the rest of the palatals appear to be even less widespread than they are in reality. The extremely poor result of /c/ is especially conspicuous: falling far behind the other short consonants, it ended up at the 38th place, intermingled with long consonants (even though the occurrence of long consonants was also rather under-calculated by the authors: they considered underlying geminates only, disregarding derived ones).<sup>4</sup> It is true that word initial /c/ is notoriously rare: apart from a few interjections, it only occurs in *tyúk* [cu:k] ‘hen’ and its derivatives. However, word internally and word finally, it can be heard in spontaneous Hungarian speech a lot more times than what the statistics suggest (that is, more often than once in every five thousand segments, cf Gósy 2004: 85–89).

But that is still not the whole story. It is not even the case that the authors counted underlying phonemes (as they claim they did): what they actually counted were the letters of the orthographic transcript of their spon-

<sup>4</sup> On the distinction between underlying vs derived geminates, cf Siptár (2012a) and the literature cited there. Note that the under-representation of long consonants mentioned in the text is compensated for to some extent by the fact that degeminated consonants were counted as long (geminate) ones; for instance, in *hallgat* [hɔlgɔt] ‘listen’, the authors would count /l:/ (accordingly, long /l:/ occupies the 22th place in their list, as the second most frequent long consonant after /t:/ that sits in the 19th place).

taneous speech material. This is revealed<sup>5</sup> by the fact that — in addition to overall frequency of occurrence — they counted positional frequency, too, and they suggest that the very illustrious fourth place of /j/ in word final position is due to the fact that the conjunction *hogy* ‘that’ and the indefinite article *egy* ‘a/an’ turn up extremely often in spontaneous speech. Actually, however, *egy* ends in long [j:] rather than in [j], at least before a pause or a vowel-initial word (while before words beginning with a voiceless consonant, the final segment is [c] in both *egy* and *hogy*). Of course, the authors have their good reasons for ignoring voicing assimilation (as long as they are interested in underlying segments), but then they have to abstract away from degemination, too: and then the word *egy* must end in /j:/ (in any position). The fact that conventional Hungarian orthography prescribes the spelling *egy* for /ɛj:/, rather than the more faithful *eggy*, is by no means a phonological (phoneme frequency-related) matter.

### 3 Plosives or affricates?

Turning to the classification of the non-continuant obstruents /c j/, there is no consensus in the Hungarian literature concerning whether they are plosives or affricates (cf Kovács 2002 and the literature cited there).<sup>6</sup> Their surface realisation may indeed be affricate-like ([c̥ç], [j̥j]) to a variable extent.<sup>7</sup> Before stressed vowels (*tyúk* [çu:k] ‘hen’, *gyár* [j̥ja:r] ‘factory’) and word finally (*korty* [korç] ‘gulp’, *vágy* [va:j̥j] ‘desire’) they tend to be quite strongly

<sup>5</sup> In addition to their remark that, before beginning their statistical survey, they replaced all orthographic *ly*’s by *j* (as both graphemes stand for /j/ in Hungarian orthography). This would have been totally unnecessary if the material had been available in phonemic transcription (rather than in conventional orthography) in the first place.

<sup>6</sup> It is also debated whether, in terms of the active articulator involved, they are coronal or dorsal; that is, exactly which region of the tongue they are articulated with. We will not go into this issue here (cf Geng & Mooshammer 2004). What is more, it has even been claimed (Pycha 2009: 26–27) that the Hungarian sounds corresponding to the orthographic symbols *ty*, *gy*, *ny* are not palatal but rather palatalised: [tʲ, dʲ, nʲ] — this, however, is clearly based on some misunderstanding and will not be further discussed here.

<sup>7</sup> The following account is based on observation/self-observation (cf Siptár 1994: 206–207, Siptár & Törkenczy 2000: 82–83), hence it is to be treated “with a pinch of salt”; Kovács (2002) presents experimental results with respect to some of the contexts listed here (intervocalic /c/, word initial /j/) but, unfortunately, the most “sensitive” environments have been left out of her otherwise very carefully designed experiments — on the basis of which, incidentally, she also comes to the conclusion that these two consonants are plosives, rather than affricates.

affricated; much less so before an unstressed vowel (*ketyeg* [kɛcɛg] ‘tick (v)’, *magyar* [mɔjɔr] ‘Hungarian’), and not at all before a plosive (*hagyta* [hɔctɔ] ‘left it’, *ágyban* [a:jbɔn] ‘in bed’). The fricative component is variably present before /r/ (*bugyrok* [buʃrok] ~ [buʃjrok] ‘bundles’); before /l/ lateral release can be observed as in plosives (compare *fátylak* [fa:cɔk] ‘veils’ with *hátlap* [hɔ:tlɔp] ‘reverse side’) and only under strong emphasis do we find a fricative component as with true affricates (compare *fátylak* [fa:c̥ɔk] ‘veils’ with *vicclap* [vi:tlɔp] ‘comic journal’).<sup>8</sup> Of the nasals, /m/ may be preceded by slight affrication (*hagyma* [hɔjmɔ] ~ [hɔj̥jmɔ] ‘onion’), but /n/ and /ɲ/ may not (*hagyna* [hɔjnɔ] ‘he would leave some’, *hegynyi* [hɛj̥ji] ‘as large as a hill’). The degree of affrication depends further on style and rate of speech: in slow, deliberate speech it is much stronger than in fast or casual styles. This wide range of variables and varieties should raise our suspicion that we have to do with plosives here which, under the appropriate circumstances, are more or less affricated due to obvious physiological factors; notice that true affricates fail to exhibit such extensive variability.

All this is quite suggestive—but what we would need at this point is some concrete evidence that makes the plosive interpretation of /c j/ not only possible but strongly motivated as well. Two such pieces of evidence readily come to mind (Siptár 1994:206–207). The first concerns the surface realisation of the first consonant in plosive + plosive vs affricate + plosive clusters. In a pre-plosive position, plosives can be realised by their unreleased variants, eg *kapta* [kɔp̚tɔ] ‘he got it’, *rakta* [rɔk̚tɔ] ‘he put it’, whereas affricates obviously cannot, since they do not have such allophones: *barack* [bɔrɔtsk] (\*[bɔrɔt̚k]) ‘peach’, *bocskor* [boʃkor] (\*[boʃk̚kor]) ‘moccasin’. Now, /c/ and /j/ are usually unreleased in this position: *hegytől* [hɛc̚tøɪ] (\*[hɛc̥t̚øɪ]) ‘from the hill’, *hagyd* [hɔj̥d] (\*[hɔj̥d̚]) ‘leave it!’.<sup>9</sup> This property clearly shows that they pattern with plosives.

The other argument is based on the phenomenon that affricates are resistant to OCP-driven fusion across a word boundary (cf Siptár 2012a). Sequences of identical plosives are merged into geminates in any style of speech and under any speech rate: *szép pár* [se:p̥a:r] ‘nice couple’, *két tag* [ke:t̥ɔg] ‘two members’, *sok kör* [ʃok̥ø:r] ‘many circles’, whereas pairs of affricates remain unmerged in careful speech and are pronounced as se-

<sup>8</sup> Before /j/, palatal /c j/ behave exactly like the other pair of coronal plosives (/t d/): *bátyja* [ba:c̥jɔ] ‘his brother’ ~ *látja* [la:c̥jɔ] ‘he sees it’, *hagyjon* [hɔj̥jɔn] ‘let him leave some’ ~ *adjon* [ɔj̥jɔn] ‘let him give some’.

<sup>9</sup> In some cases (before velars?) /c/ may vacillate though: *hetyke* [hɛc̥ke] ~ [hɛc̥k̥e] ‘pert’.

quences of two separate, full-fledged affricates (*rác cég* [ra:ts̄ t̄se:g] ‘Serbian firm’, *bölcs csere* [bølt̄ t̄ʃeɾɛ] ‘wise change’). In colloquial speech, the first affricate may lenite into a fricative ([ra:ts̄se:g], [bølt̄ʃeɾɛ]), and it is only in fast and/or casual speech that the OCP has its way, followed by degemination where appropriate ([ra:t̄se:g], [bølt̄ʃeɾɛ]). Now if we look at phrases like *négy tyúk* ‘four hens’, *nagy gyár* ‘big factory’, we find that the merger applies automatically and obligatorily:<sup>10</sup> [ne:c:u:k], [nø:ɟa:r], as opposed to what happens in true affricates. On the basis of what we said in the previous paragraph, this is not at all surprising: a merged fake geminate is nothing but the sequence of an unreleased and a “normal” realisation of the given consonant.

In sum: /c ʃ/ are palatal plosives in Hungarian; in the appropriate phonetic contexts, under appropriate conditions in terms of stress, speech rate, and speech style, they become affricated, as is to be expected for physiological reasons. However, this does not warrant their classification as affricates.<sup>11</sup> Next, we turn to some controversial issues surrounding the classification of the palatal continuant, /j/.

#### 4 Fricative or glide?

The traditional (Hungarian) definition of /j/ is “voiced palatal fricative” (eg Kassai 1998: 130); this is plainly wrong in that fricatives (as a subclass of obstruents) are supposed to exhibit turbulent noise whereas /j/ —in the contexts #\_V, V\_V, V\_#, V\_C, C\_V, eg in *jó* ‘good’, *hajó* ‘ship’, *haj* ‘hair’; *rajta* ‘on it’, *rakja* ‘puts it’, that is, in the overwhelming majority of all possible contexts — is a palatal approximant (phonetically), produced without any noise of friction and without being (actively) “voiced” in the sense in which voiced obstruents are.<sup>12</sup> There is, however, a special context in which true fricative allophones of /j/ are found: C\_# (followed either by a pause or a

<sup>10</sup> In over-careful speech, two separate (released) consonants may occur with a brief pause sandwiched in between: [ne:c-cu:k], [nø:ɟa:r], but then this is also possible for the other plosives ([se:p-pa:r], etc). However, “deaffricated” forms like \*[ne:çcu:k], \*[nø:ɟa:r] are totally unacceptable, unlike in the case of true affricates.

<sup>11</sup> Think of the somewhat similar case of English /t/: in a number of accents — including RP itself, cf Buizza & Plug (2012)—it undergoes affrication in the appropriate environments ([ts]), but this obviously does not affect its place in the system of phonemes.

<sup>12</sup> For further details on this issue, cf Siptár (2003: 457–458) and the literature cited there.

consonant initial word).<sup>13</sup> Here, if the left-flanking consonant is voiceless (and its effect is not undone by a voiced obstruent in the next word, as in *lépj be* ‘enter!’), /j/ will be realised as a voiceless (fortis) palatal fricative ([ç]): *kapj* [kəpç] ‘get!’, *rakj* [rəkç] ‘put!’, *döfj* [døfç] ‘stab!’, while if the left-flanking consonant is a sonorant or a voiced obstruent, /j/ is realised as a lenis palatal fricative ([j]) as in *fürj* [fyrj] ‘quail’, *szomj* [somj] ‘thirst’, *dobj* [dobj] ‘throw!’. The final [j] here will be fully voiced if a consonant initial word follows;<sup>14</sup> whereas if nothing follows, it will lose most of its vocal cord vibration (just like utterance final voiced obstruents in general) but will not become fortis.<sup>15</sup>

Thus, the “elsewhere” allophone of /j/ (*jó, hajó, haj; rajta, rakja; rakj oda*) is not a fricative phonetically. But perhaps phonologically this segment nevertheless behaves as an obstruent? If this were the case, its classification would not have to care that its phonetic quality shows otherwise in almost all contexts; as we have just seen, /j/ does have fricative allomorphs, too, albeit in a very restricted set of contexts. However, it cannot be an obstruent phonologically, either: in that case it would have to participate in voicing assimilation—but it neither triggers nor undergoes that process (cf *fáklya* [fa:kjɔ] (\*[fa:gjɔ]) ‘torch’ and *ajtó* [ɔjto:] (\*[ɔçto:]) ‘door’, respectively), except in the word final cases mentioned in the previous paragraph, where it is obstruentised first.

But if /j/ is not an obstruent, hence not a fricative, what is it? The major classes of sonorants are nasals, liquids, and glides (semivowels). Given that /j/ is obviously not a nasal, three possibilities remain open: we either set up a brand new class for it within sonorants (“approximants”), or we classify them as liquids, or as glides. All three solutions have been proposed in the literature.

The solution involving a novel category was proposed by Dressler & Siptár (1989: 44), noting that there is no general phonetic or phonological reason why /j/ should share a natural class with /l/ and /r/.<sup>16</sup> Similarly,

<sup>13</sup> On the other hand, in the context C<sub>#</sub>V, we get the approximant allophone again, eg *rakj oda* [rəkjodɔ] ‘put me there!’.

<sup>14</sup> Except, of course, when the following word begins with a voiceless obstruent: in that case, due to the general rule of voicing assimilation, the whole cluster—or rather, all obstruents in it—will become voiceless, eg *vágj ki* [va:kçki] ‘cut out!’.

<sup>15</sup> For further details and a rule-based analysis, cf Siptár (2003: 463–468); see also Siptár & Törkenczy (2000: 205–206).

<sup>16</sup> As we will see later, this claim is false; cf also Dressler & Siptár (1998: 51) where the claim is withdrawn.

/j/ is taken to be an approximant as the sole member of a separate category by Szende (1992); cf also Cser & Szende (2002). Unless, however, both of the other two options turn out to be untenable, Occam's razor suggests that this is the least preferable option of the three. Second, /j/ is taken to be a liquid in Nádasy & Siptár (1989 : 15–16), also in eg Siptár (1993, 2003), and it will be argued to be a liquid here, too. But in most of the relevant literature (eg Vago 1980, Olsson 1992, etc, and all current element-based accounts, cf Szigetvári 1998, 2001, and the copious literature referred to there) we find the claim that /j/ is a glide.

Now if /j/ is a glide, the first question that arises is whether there are diphthongs in Standard Hungarian. This has been repeatedly argued not to be the case (and refuted beyond reasonable doubt),<sup>17</sup> but, although the relevant arguments clearly disprove the existence of diphthongs, they do not actually exclude the possibility that /j/ should be a glide sitting in onset/coda position. Nevertheless, I wish to maintain that /j/ in Hungarian is a liquid ([+ cons, + son]), and not a glide ([– cons, + son]). Part of my reasons for that are based on the existence of the obstruent allophones mentioned above; these are technically easier to derive if the segment is underlyingly [+ cons] to begin with. But the claim that /j/ is not simply the vowel melody /i/ sitting in a nonnuclear syllable position (ie a glide) can also be supported by some empirical evidence. This is what we turn to now.<sup>18</sup>

The first piece of evidence is based on the phenomenon of hiatus resolution (cf Siptár & Törkenczy 2000 : 282–286; Menyhárt 2006, Olaszy 2010). Some languages resolve each and every hiatus or do not make it possible for hiatuses to come about in the first place, or else get rid of them in some other way (cf Siptár 2012b : 673–678); whereas others, like Hungarian, exhibit both resolved and unresolved hiatuses (eg *dió* [diːo:] 'walnut', *tea* [tɛɔ] ~ % [tɛjɔ] 'tea', *fáraó* [fa:ɾo:] ~ \* [fa:ɾjo:] 'pharaoh', where % identifies a form that is not accepted by all Hungarian speakers, and \* identifies one that no native speaker would accept as correct).

What determines which hiatus is resolved and which one is not (cf Markó 2012; Rácz 2012a, b)? Whether the vowel cluster is monomorphemic

<sup>17</sup> Phonetic diphthongs do occur in Hungarian, and it has been argued (by Kylstra & de Graaf 1980, Kylstra 1984) that they are best analysed as such in phonological terms, too. The counterarguments presented by Kassai (1982, 1984) and by Siptár (1994 : 172–174, 200; 2003 : 406–407; Siptár & Törkenczy 2000 : 16–18) are more than sufficient to dispel this notion once and for all and will not be repeated here.

<sup>18</sup> The arguments that follow are based on those presented in somewhat more detail in Siptár (2003).



or arises across a morpheme (or even word) boundary is irrelevant: *kiált* [kiʎa:lt] ‘cry’ and *kiállít* [kiʎa:lit] ‘exhibit’ (preverb + verb) both show hiatus resolution (just like *ki áll itt?* [kiʎa:lit:] ‘who is standing here?’), whereas *Bea* [bɛɔ] (a first name) and *bead* [bɛɔd] ‘hand in’ (preverb + verb) both surface with unresolved hiatus (as does *be a dobozba* [bɛɔdobozbɔ] ‘into the box’).

Rather, the key is the quality of the two vowels involved: if one or both is/are either /i/ or /i:/, resolution is (practically) obligatory, if one or both is/are /e:/, resolution is optional; and there is no resolution in any other case (ie if both vowels are either low or round or both): more exactly speaking, no spreading of the melody of an adjacent /i/ or /i:/, or of part of the melody of an adjacent /e:/, to the empty onset position can take place since there is no such melody present on either side (Siptár 2012b: 686–687; see Siptár 2008 for an optimality-theoretic analysis of the whole issue of hiatus avoidance/resolution in Hungarian).

The fact that makes this phenomenon relevant to our present purposes is that the intrusive [j] like sound that resolves hiatus is (or may be) weaker, more transitional, than the implementation of an underlying /j/ (Siptár 2011: 154–156). Compare pairs of forms like *kiáll* [kiʎa:l] ‘stand out’ and *kijár* [kija:r] ‘go out (repeatedly)’, *Adria* [ɔdriʎɔ] ‘the Adriatic’ and *Adrija* [ɔdrijɔ] ‘his Adrienne (dim)’, *baltái* [bɔlta:ʎi] ‘his hatchets’ and *altáji* [ɔlta:ji] ‘Altaic’, *estéi* [ɛʃte:ʎi] ‘his evenings’ and *estélyi* [ɛʃte:ji] ‘evening dress’, or *kávét után* [ka:ve:ʎuta:n] ‘after coffee’ and *kávét jut ám* [ka:ve:juta:m] ‘there will be coffee’: the difference indicated in the transcription is clearly observable in guarded speech — although it may be blurred in more colloquial renderings. If we now assume that /j/ is a liquid, while the inserted element involved in hiatus resolution is obviously a glide (on the spreading account hinted at above, it cannot be anything else), this potential phonetic difference is automatically explained in a simple and elegant manner.

The second piece of evidence concerns syllabification. On the assumption that syllable structure is assigned in the course of phonological derivation rather than listed in the lexicon,<sup>19</sup> minimal pairs and quasi-minimal pairs like *mágia* [ma:gi.ʎɔ] ‘magic’ vs *máglya* [ma:g.jɔ] ‘stake’, *ion* [i.ʎon] ‘ion’ vs *jön* [jɔn] ‘come’, and *fiola* [fi.ʎo.lɔ] ‘phial’ vs *fjord* [fjɔrd] ‘fjord’ cannot be properly syllabified if /i/ and /j/ are underlyingly identical (this putative uniform underlying segment that may surface either as [i] or as [j], depending on the syllabic position it finds itself in, will be symbolised as /I/ from now on). As can be seen from these examples, prevocalic /I/ will be

<sup>19</sup> Of course, in any framework where syllable structure is assumed to be lexically given (cf Szigetvári 2011a, 2011b), this argument becomes invalid. — In the examples that follow, syllable boundaries are indicated by ‘.’ in the transcriptions.

syllabified either as another nucleus (that of the previous syllable) or as an onset: the choice is more or less arbitrary. Although it must be admitted that *jön* and *fiola* are the expected patterns as opposed to *ion* and *fford*,<sup>20</sup> word medial cases like *mágia* vs *máglya* are strictly unpredictable.<sup>21</sup>

With postvocalic /I/, we find a similar — or even higher — degree of arbitrariness concerning whether it will be a nucleus or a coda: *fái* [fa:ːi] ‘his trees’ vs *fáj* [fa:j] ‘it hurts’, *bokái* [bo.ka:ːi] ‘his ankles’ vs *bokály* [bo.ka:j] ‘decanter’, *estéi* [ɛf.te:ːi] ‘his evenings’ vs *estély* [ɛf.te:j] ‘evening party’, *tavai* [tɔ.vɔ:ːi] ‘his lakes’ vs *tavaly* [tɔ.vɔ:j] ‘last year’, *karai* [kɔ.rɔ:ːi] ‘its faculties/choirs’ vs *karaj* [kɔ.rɔ:j] ‘pork chop’. It might be argued that these examples are less than fully convincing, given the morphological boundary in *fái* (etc) vs the lack of boundary in *fáj* (etc). But note that, in addition to the possessive plural marker seen in examples like *fái*, several other suffixes, inflectional and derivational ones alike, also consist of a sole *-i-*, whereas the imperative marker consists of a sole *-j-*, hence it is easy to construct examples in which postconsonantal word final [i] and [j] are in contrast with one another: *tép-i* [te:pi] ‘tears it’ vs *tép-j* [te:pç] ‘tear!’, *tér-i* [te:ri] ‘spatial’ vs *tér-j* [te:rj] ‘turn!’, *tör-i* [tø:ri] ‘history-dimin.’ vs *tör-j* [tø:rj] ‘break!’. Given that /I/ would constitute a morpheme in itself in all of these cases, it cannot be claimed that different position in terms of morphological boundaries should be the reason for the difference in syllabification.

Furthermore, pairs like *síel* [ʃi:ːɛl] ‘ski (v)’ vs *ijed* [i.jɛd] ‘get frightened’ and *leír* [le:ːir] ‘put down in writing’ vs *lejig* [le.jig] ‘as far as a leu (= Romanian currency)’ indicate that an /I/ associated to two timing slots can be syllabified either as a branching nucleus ([i:]) or as a pair of syllabic constituents: in particular, nucleus plus onset ([ij]) or onset plus nucleus ([ji]), as the case may be. And finally, the nouns *íj* [i:j] ‘bow’, *díj* [di:j] ‘prize’, *szíj* [si:j] ‘strap’ would contain the common melody /I/ associated to three timing slots and multiple ambiguity would arise as to how to syllabify them:

<sup>20</sup> That is: word initially, if another possible onset consonant is not present, the /I/ will tend to be an onset ([j]) rather than a nucleus ([i]), whereas if there is such a consonant, the /I/ will more readily syllabify as a nucleus than as part of the onset cluster; however, counterexamples like *ion* and *fford* do occur.

<sup>21</sup> Examples include *ária* [a:ri:ːɔ] ‘air’ vs *árja* [a:r.jɔ] ‘Aryan’, *kópia* [ko:pi:ːɔ] ‘copy (n)’ vs *kopja* [kop.jɔ] ‘pike’, *Tokió* [to:(i).ki:ːo:] ‘Tokyo’ vs *toklyó* [tok.jo:] ‘young sheep’, etc as well as some surface minimal pairs that are, however, morphologically dissimilar, hence not necessarily as unpredictable as the former items are: *variál* [vɔ:ri:ːa:l] ‘diversify’ vs *varrjál* [vɔ:r.ja:l] ‘sew!’, *pária* [pa:ri:ːɔ] ‘social outcast’ vs *párja* [pa:r.jɔ] ‘its counterpart/a pair of them’, *túri-e* [ty:ri:ːɛ] ‘whether he tolerates it’ vs *túrje* [ty:r.jɛ] ‘he should tolerate it’, etc.

'bow' could in principle be \*[ji:], \*[jij], \*[iji], or [ij:] as well (the last version actually does occur as an alternative pronunciation of this word). All these complications are avoided if /i/ and /j/ are segmentally represented in two different ways.

The claim that /j/ is consonantal (ie a liquid) is corroborated by several phonological processes in which it acts as a (consonantal) target, eg *j*-obstruentisation (briefly referred to above) as in *kapj* [kɒpɟ] 'get!', *férj* [fɛrɟ] 'husband' (Siptár 2001:391–393; 2003:463–468) and *j*-assimilation as in *moss* [mof:] (< /mof+j/) 'wash!', *rázz* [raz:] (< /ra:z+j/) 'shake!' (Vago 1980:36; Siptár 1994:254–255), or as a (consonantal) trigger, eg *l*-palatalisation as in *alja* [ɔj:ɔ] 'its bottom', *állj* [a:j(:)] 'stop!' (Siptár & Törkenczy 2000:178–182).

Thus, we have a number of good reasons to think that /j/ is a liquid, just like /l/ and /r/. This conclusion, once it is accepted, makes it easier to account for processes in which these three consonants behave in a uniform manner. Such processes include optional nasal assimilation (as in *olyan lassú* [ɔjɔl:ɔs:u] 'so slow', *olyan rossz* [ɔjɔr:os:] 'so bad', *olyan jó* [ɔjɔj:ɔ:] 'so good', cf Siptár & Törkenczy 2000:209–210) and liquid deletion (with compensatory lengthening if the vowel involved is originally short, see *ibid* 212–213), a process that is also optional, or rather rate and register dependent. It is true that the latter process does not apply to the three liquids with equal ease, but this need not prevent us from claiming that it is basically the same process. Of the three liquids, the one that gets deleted the most easily is /l/, eg *balra* %[bɔ:rɔ] 'to the left', *elvisz* %[ɛ:vis] 'carry away', *el kell mennem* %[ɛ:kɛ:mɛn:ɛm] 'I must leave'. The deletion of /r/ as in *egyszer csak* %[ɛ:tsɛ:ɟɔk] 'suddenly' is usually restricted to casual speech, although it occurs even in formal situations in the items *arra* [ɔ:rɔ] 'that way', *erre* [ɛ:rɛ] 'this way', *merre* [mɛ:rɛ] 'which way' (Siptár 1993). Finally, /j/ gets deleted the most readily after (high or mid) front vowels as in *gyűjt* [jy:t] 'collect', *szíjra* [si:rɔ] 'to fetters', *mélység* [mɛ:fɛ:g] 'abyss', *éjszaka* [ɛ:sɔkɔ] 'night'. But despite these minor asymmetries, the three liquids can be seen as behaving as a class with respect to this process, too.<sup>22</sup>

In sum: Hungarian /j/ is neither a fricative nor a glide: it is a liquid.

<sup>22</sup> Further evidence (dialectal and historical) for the claim that /l r j/ exhibit parallel behaviour in a number of respects is provided by Lőrinczy (1972). Cf also Siptár (2003:470) for a potential empirical counterargument and its refutation.

## 5 Conclusion

In this paper, we discussed some debated issues concerning the palatal consonants of Hungarian. First, although it is true that all of them occur in spontaneous speech relatively infrequently, the exact frequency data are crucially affected by what is being counted in a recorded corpus: underlying segments, surface/taxonomic phonemes, or indeed phonetic segments (sounds). Second, we argued that /c/ and /j/ are not affricates but palatal plosives in this language that may, however, be variably produced in an “affricated” manner, due to obvious physiological factors, under the appropriate circumstances in terms of phonetic environment, stress pattern, rate of articulation (tempo), and/or register (speech style, emphasis, etc). Third, with respect to /j/, we concluded that this segment is not a fricative (as traditionally claimed with respect to Hungarian) but not a semivowel (as currently claimed in several frameworks), either: it is a nonnasal consonantal sonorant, ie a liquid like /l/ and /r/.

### REFERENCES

- Beke, András, Mária Gósy, and Viktória Horváth. 2012. Gyakorisági vizsgálatok spontán beszédben [Frequency statistics in spontaneous Hungarian speech]. In: Mária Gósy (ed.), *Beszédkutatás 2012* [Speech Research 2012]. Budapest: Research Institute for Linguistics of the Hungarian Academy of Sciences. 260–277.
- Buizza, Emanuela and Leendert Plug. 2012. Lenition, fortition and the status of plosive affrication: the case of spontaneous RP English /t/. *Phonology* 29 : 1–38.
- Cser, András and Tamás Szende. 2002. The question of [j]: systemic aspects, phonotactic position, and diachrony. *Sprachtheorie und germanistische Linguistik* 12 : 27–42.
- Dressler, Wolfgang U. and Péter Siptár. 1989. Towards a natural phonology of Hungarian. *Acta Linguistica Hungarica* 39 : 29–51.
- Dressler, Wolfgang U. and Péter Siptár. 1998. A magyar nyelv természetes fonológiája felé [Towards a natural phonology of Hungarian]. *Általános Nyelvészeti Tanulmányok* 19 : 35–59.
- Geng, Christian and Christine Mooshammer. 2004. The Hungarian palatal stop: Phonological considerations and phonetic data. *ZAS Papers in Linguistics* 37 : 221–246.
- Gósy, Mária. 2004. *Fonetika, a beszéd tudománya* [Phonetics, the science of speech]. Budapest: Osiris Kiadó.
- Kassai, Ilona. 1982. A magyar köznyelvben nincsenek diftongusok [There are no diphthongs in Standard Hungarian]. *Nyelvtudományi Közlemények* 84 : 395–397.
- Kassai, Ilona. 1984. Kell-e a magyar köznyelvben diftongusnak lennie? [Do there have to be diphthongs in Standard Hungarian?]. *Nyelvtudományi Közlemények* 86 : 152–154.
- Kassai, Ilona. 1998. *Fonetika* [Phonetics]. Budapest: Nemzeti Tankönyvkiadó.

- Kovács, Magdolna. 2002. Az affrikáták időszerkezetéről [On the temporal structure of affricates]. In: László Hunyadi (ed.), *Kísérleti fonetika, laboratóriumi fonológia 2002* [Experimental phonetics and laboratory phonology 2002]. Debrecen: Debreceni Egyetem Kosuth Könyvkiadója. 39–54.
- Kylstra, Andries Dirk. 1984. Még egyszer a magánhangzó + j kapcsolatról a magyarban [Once more on vowel + j combinations in Hungarian]. *Nyelvtudományi Közlemények* 86: 148–151.
- Kylstra, Andries Dirk and Tjeerd de Graaf. 1980. Vannak-e diftongusok a magyar köznyelvben? [Are there diphthongs in Standard Hungarian?]. *Nyelvtudományi Közlemények* 82: 313–317.
- Ladefoged, Peter. 2005. *Vowels and Consonants. An Introduction to the Sounds of Languages*. Second Edition. Oxford: Blackwell.
- Ladefoged, Peter and Ian Maddieson. 1996. *The Sounds of the World's Languages*. Oxford: Blackwell.
- Lőrinczy, Éva B. 1972. Az *l, r, j* hangok azonos magatartásformái a magyar nyelv bizonyos kételemű mássalhangzó-kapcsolódásaiban [The similar behaviour of *l, r, j* in some consonant clusters of Hungarian]. *Magyar Nyelv* 73: 20–30
- Maddieson, Ian. 1984. *Patterns of Sounds*. Cambridge: Cambridge University Press.
- Markó, Alexandra. 2012. Az irreguláris zöng szerepe a magánhangzók határának jelölésében V(#)V kapcsolatokban [The role of irregular phonation in boundary marking in V(#)V clusters]. In: Mária Gósy (ed.), *Beszédkutatás 2012* [Speech Research 2012]. Budapest: Research Institute for Linguistics of the Hungarian Academy of Sciences. 5–29.
- Menyhárt, Krisztina. 2006. Koartikulációs folyamatok két magánhangzó kapcsolatában [Coarticulatory processes involving Hungarian vowel clusters]. In: Mária Gósy (ed.), *Beszédkutatás 2006* [Speech Research 2006]. Budapest: Research Institute for Linguistics of the Hungarian Academy of Sciences. 44–56.
- Nádasdy, Ádám and Péter Siptár. 1989. Issues in Hungarian phonology: Preliminary queries to a new project. *Acta Linguistica Hungarica* 39: 3–27.
- Olaszy, Gábor. 2010. Az [i] + V és V + [i] hangkapcsolódások akusztikai elemzése a hiátustöltés magyarázatához [An analysis of [i] + V and V + [i] clusters: Towards an explanation of hiatus resolution in Hungarian]. In: Mária Gósy (ed.), *Beszédkutatás 2010* [Speech Research 2010]. Budapest: Research Institute for Linguistics of the Hungarian Academy of Sciences. 76–81.
- Olsson, Magnus. 1992. *Hungarian Phonology and Morphology*. Lund: Lund University Press.
- Pycha, Anne. 2009. Lengthened affricates as a test case for the phonetics–phonology interface. *Journal of the International Phonetic Association* 39: 1–31.
- Rácz, Péter. 2012a. *Saliency in sociolinguistics: A quantitative approach*. PhD Dissertation, Albert-Ludwigs-Universität, Freiburg.
- Rácz, Péter. 2012b. Saliency in sociophonetics: A case study of Hungarian hiatus resolution. In: Ferenc Kiefer & Zoltán Bánréti (eds.), *Twenty years of theoretical linguistics in Budapest: A selection of papers from the 2010 conference celebrating the twentieth anniversary of the Theoretical Linguistics Programme of Eötvös Loránd University*. Budapest: Research Institute for Linguistics of the Hungarian Academy of Sciences. 109–122.
- Siptár, Péter. 1993. Marginalia in Hungarian phonology. *Eurasian Studies Yearbook* 65: 73–84.

- Siptár, Péter. 1994. A mássalhangzók [The consonants]. In: Ferenc Kiefer (ed.), *Strukturális magyar nyelvtan 2. Fonológia* [A structural grammar of Hungarian. Vol. 2: Phonology]. Budapest: Akadémiai Kiadó. 183–272.
- Siptár, Péter. 2001. Három felemás magyar mássalhangzó [Three asymmetrical consonants in Hungarian]. *Magyar Nyelv* 97: 385–404.
- Siptár, Péter. 2003. Hungarian yod. *Acta Linguistica Hungarica* 50: 457–473.
- Siptár, Péter. 2008. Hiatus resolution in Hungarian: An optimality theoretic account. In: Christopher Piñón and Szilárd Szentgyörgyi (eds.), *Approaches to Hungarian 10: Papers from the Veszprém Conference*. Budapest: Akadémiai Kiadó. 187–208.
- Siptár, Péter. 2011. Alakváltozatok, allomorfolk, alternációk [Allomorphs and alternations]. *Magyar Nyelv* 107: 147–160.
- Siptár, Péter. 2012a. Tényleg van-e a magyarban degemináció? [Does Hungarian really exhibit degemination?]. In: Alexandra Markó (ed.), *Beszédtudomány: Az anyanyelv-elsajátítástól a zöngékezédségi időig* [Speech science: From first language acquisition to voice onset time]. Budapest: Eötvös Loránd University and Research Institute for Linguistics of the Hungarian Academy of Sciences. 19–34.
- Siptár, Péter. 2012b. The fate of vowel clusters in Hungarian. In: Eugeniusz Cyran, Bogdan Szymanek, and Henryk Kardela (eds.), *Sound, Structure and Sense. Studies in Memory of Edmund Gussmann*. Lublin: Wydawnictwo KUL. 673–693.
- Siptár, Péter and Miklós Törkenczy. 2000. *The Phonology of Hungarian*. Oxford: Oxford University Press.
- Szende, Tamás. 1992. *Phonological Representation and Lenition Processes*. Budapest: Research Institute for Linguistics of the Hungarian Academy of Sciences.
- Szigetvári, Péter. 1998. Kormányzás a fonológiában [Government in phonology]. *Általános Nyelvészeti Tanulmányok* 19: 165–213.
- Szigetvári, Péter. 2001. Szótagtalan fonológia [Phonology without syllables]. In: Péter Siptár (ed.), *Szabálytalan fonológia* [Phonology without rules]. Budapest: Tinta Könyvkiadó. 37–76.
- Szigetvári, Péter. 2011a. Syllable. In: Bert Botma, Nancy C. Kula, and Kuniya Nasukawa (eds.), *Continuum Companion to Phonology*. London and New York: Continuum. 64–94.
- Szigetvári, Péter. 2011b. The skeleton. In: Marc van Oostendorp, Colin J. Ewen, Elizabeth Hume, and Keren Rice (eds.), *The Blackwell Companion to Phonology*. Oxford: Wiley-Blackwell. 2963–2989.
- Vago, Robert M. 1980. *The Sound Pattern of Hungarian*. Washington DC: Georgetown University Press.

Péter Siptár  
 siptar.peter@nytud.mta.hu  
 Research Institute for Linguistics,  
 Hungarian Academy of Sciences &  
 Eötvös Loránd University, Budapest