ON THE TYPOLOGY OF THE HIATUS RESOLUTION STRATEGIES

Banaru Natalia Vladimirovna
University lecturer
Moldova, Baltsy State University

The sequences of adjacent vowels in many languages evoke a complex problem that views the quantity and the quality of the phonic elements the hiatus consists of. In this case those two adjacent vowels are separated in two different syllables, producing a vocalic continuity called hiatus. During the process of articulation, one of the vowels loses its syllabic character, being included into a single syllable. During a thorough research it came out that in both spoken languages there exists a general predisposition of simplifying the act of communication. There is a wide spread tendency to avoid the hiatus through the introduction of a supporting element between those two adjacent vowels. In some situations the supporting element is not only justified but also inevitable. The aim of the article is to highlight the methods that contribute to hiatus solving.

Key words: hiatus resolution, diphthong formation, epenthesis, vowel elision, glide formation, coalescence.

Although speakers and listeners are able to distinguish the separate words of an utterance, spoken language actually consists of a continuous sequence of words that run together with only a few pauses between them. This running together of words often results in pronunciations that are markedly different from the way the words are pronounced in isolation. Thus in the process of speaking, when articulating a succession of phonemes, the speech organs are constantly changing their position. As the Russian phonetician O. J. Dickushina mentioned that when phonemes are pronounced in sequences, it is observed the phenomenon of adaptation (assimilation) – the speech organs adjust themselves to make a more convenient transition from one articulation to another, they display as it were a certain "economy" of effort. Of course, this "economy" may vary in different languages. The type of adaptation depends on the articulation basis as well as on the concrete phonetic laws functioning in every language [Dickushina 1965, 95].

There are a variety of ways in which languages deal with sequences of vowels that arise through morphological or syntactic concatenation. One alternative of course is to leave the sequence unchanged and syllabify the two vowels into separate syllables, a possibility we may refer to as Heterosyllabification. However, many languages do not readily tolerate adjacent heterosyllabic vowels. In languages which do not, a vowel sequence may be subject to any one of several possible hiatus resolution strategies. These include syllabifying the two vowels into the nucleus of a single syllable (Diphthong Formation), Epenthesis of an intervening consonant, Vowel Elision, Glide Formation (here used exclusively to refer to a process in which the first of two adjacent vowels surfaces as a semivowel), and Coalescence (here defined as a situation in which an underlying /V1+V2/ sequence is realized as a third vowel sharing features of both V1 and V2).

The diphthongs and the sequences are auditorily very similar; they differ in their phonological patterning. Glide- vowel sequences and rising diphthongs coexist in many languages.

A hiatus in Portuguese is a sequence of linked vowels in which each sound retains its phonetic characteristics while remaining as a separate syllable nucleus. All subjects examined showed a tendency to introduce a separating element – more often than not a glot-

tal stop – between those vowels, thus creating incorrect sequences such as *[kaɔ'oɟu]* and *[meɔ' ədɾu]* instead of *[ka'oɟu]* and *[me'ədɾu]*.

Hiatuses are most stable when one of the vowels is stressed and the unstressed vowel is /a/, as in *maestro, caolho, ataude*. If both vowels are unstressed, there is a strong tendency, particularly in fast pronunciation, for the hiatus to become a diphthong. This is easily accomplished if one of the vowels is either /i/ or /u/ as in: *rainhazinha [řa-i-ña-'zɨ̃-ña]*, *reunido [ře-u-'ni-du]*.

If neither unstressed /i/ nor /u/ is present, a diphthong can still be formed. The first step is a process of synalepha whereby the syllableboundary is deleted, so that the two adjacent vowels occur in the same syllable. Then there is raising of unstressed /e/ and /o/, which are actualized as /i/ and /u/ respectively. This makes possible the application of the diphthongization rule which causes the raised vowel to be realized as a phonetic glide.

When two vowels occur next to each other over a word boundary, several solutions are possible. They may be linked, forming a hiatus, as in *aqui esta [a-ki-'ɛs-tə]*; they may be fused, forming a diphthong as in *casa estranha [ka-zəys-tɾ̈-ñə]*; or one of them may be eliminated altogether [Azevedo 1981, 81–88].

In Spanish the general tendency is also to produce diphthongs, but hiatus pronunciation is possible or preferred in certain cases, with a great amount of interdialectal and some idiolectal variation. In Romanian as in Portuguese there is a clear preference for heterosyllabic bivocalic sequences. In Romanian, heterosyllabic [iV] sequences contrast with lexical diphthongs in a relatively small set of lexical items. In Portuguese there is no such contrast. Of the languages examined here, Romanian is the one with the most robust diphthong/hiatus contrast. Speakers' intuitions are consistent and there are near-minimal pairs contrasting in syllabification; e. g. *p[ja]tră* 'stone', with a historical diphthong, contrasts with *p[i.a]stru* 'piaster', with a heterosyllabic sequence [Chitoran 2001, 5].

The same thing we can speak about the English language, a hiatus can be heard in words like playoff, reassure, skiing, and cooperate, and in sequences like he is *silly and stupid* and *to England*. Of course a hiatus may be removed, the vowels in question may be linked, through the insertion of a glottal stop, as in *[kəʊʔɒpəreit],* or a semi-vowel, as in *[hiʲiz siliʲən stju:pid]* and *[tuʷiŋgland]*. As these transcriptions show, a symbol representing a linking sound usually appears as a small superscript.

In English, or at least in some accents of it, the most prominent example of the second type of liaison is the **linking /r/**. The term refers to a link between words through the articulation of a normally unarticulated word-final /r/, which is articulated only when preceded by a vowel in the same word, and followed by an initial vowel in the next word. In the words *far, four,* and *czar,* for example, the /r/ sounds suggested by the spelling are not normally pronounced, so that the words usually end in vowels: *[fɑ:],* *[fɔ: [zɑ:].* The /r/ sounds are pronounced only when followed by words beginning with a vowel, as in the sequences *far away [fɑːr əwei], four eggs [fɔːr egz],* and *czar of Russia [zɑːr əv rʌʃə].*

Many English speakers use an /r/ sound in a similar way even when that sound does not occur in the spelling in the form of the letter "**r**". Such an /r/ sound is called an

intrusive /**r**/. More specifically, the term refers to a link between two consecutive vowels belonging to different words or, less commonly, to different syllables within the same word through the insertion of an /**r**/ that has no historical justification. The **intrusive** /**r**/ is the most prominent example of liaison, the type removing a hiatus. The hiatus in the sequences *media event, visa application*, for example, may be removed through the insertion of an **intrusive** /**r**/, as in *[miːdiəˈrvent], [viːzəˈræplikeiʃn]*.

Some interesting facts are observed when **linking** /**r**/ and **intrusive** /**r**/ are compared:
- They are phonetically identical.
- Both of them characterize the non-rhotic accents of English only – linking and intrusion go hand in hand with R-dropping.
- Since a word-final *"r"* can only be preceded by a broken tense vowel, a broad lax vowel, or, in unstressed final syllables, a schwa it follows that **linking** /**r**/ always follows one of /ɑː, ɔː, ɛː, ə/, that is, a non-high vowel.
- It is a general feature of **intrusive** /**r**/ in all the non-rhotic accents exhibiting it that it does not appear in a random fashion, but after certain vowels only, namely /ɑː, ɔː, ɛː, ə/, that is, after a non-high vowel.
- Both **linking** /**r**/and **intrusive** /**r**/ are always sandwiched between two vowels: they are preceded by a (non-high) vowel and followed by another vowel in the next morpheme. That is, both always pop up between vowels in a hiatus; in fact, they break up, destroy, the hiatus.

How can all these five observations be accounted for in the simplest way? On the one hand, it should be clear that **linking** /**r**/ and **intrusive** /**r**/ are virtually the same: they appear in the same position (intervocalic, after a non-high vowel), and have the same function (to fill a hiatus).

Many careful speakers nevertheless try to avoid it, and, in fact, some try so hard to avoid an **intrusive** /**r**/ that they even seem to be afraid to use a **linking** /**r**/. Instead, they use a **glottal stop** or a semi vowel as a linking sound, or no linking sound at all.

The question arises what happens in hiatuses when the first member is not a non-high vowel. Can they be similarly broken up by a hiatus-filler consonant? The answer is yes, although in such cases it is not a /**r**/ which is inserted but a semivowel. If the first vowel is high and front, for example */iː/,* it is the *yod,* like in the example *me and you [ˈmiːʲ ən ʲuː].* If the first vowel is high and back */uː/,* it is */w/,* as in the sequence, *you and me [ʲuːʷən ˈmiː].* There is a close connection between the high vowels and the glides, and now we are faced with a further example illustrating it. Notice that the choice of the glide is not random, either: */j/* is coronal, that is, produced by the front surface of the tongue (just like */iː/*), while */w/* is formed in the back of the oral cavity, being velar (just like */uː/*). The major difference between the hiatus-filling **glides** and */r/* is that the latter only has this function in non-rhotic accents, whereas the former characterize all the dialects of English.

One of the resyllabification strategies to resolve hiatus is vowel deletion, which involves monophthongization of the original hiatus and the elision of one of the vowels in

the sequence. A number of studies have focused their attention on other strategies of hiatus resolution, specifically diphthongization, when dealing with the categorization of rising vowel sequences into hiatus. Deletion is suggested to fit in a continuum of strategies that apply to adjacent vowels under the effect of durational variability in speech, ranging from hiatus to diphthongization and then to coalescence or deletion, targeting mainly the first vowel in the sequence.

The cross-word investigation of elision under hiatus reveals that in a V1V2 sequence there is an overall preference for V1 elision. Although the type of juncture flanked by the vowels can be a conditioning factor (e.g., when a vowel-final root or word receives a vowel-initial suffix, either V1 or V2 can be elided, the former in the default case, the latter if base identity overrides it, the choice being either language-specific or the same language may exhibit both types), crucially there is no language on record that systematically elides V2 in *all* environments. This universal asymmetry between the two members of hiatuses suggests that the force responsible for eliding one of them is a right-headed relation. Therefore, (V-to- V) government qualifies as a possible candidate: its direction is in most cases right-to-left, and its effect is the demolition of the target's inherent loudness. Also, recall that in CV phonology it is exactly the V1cV2 configuration where V2 is frustrated by not being able to govern since the melody of the consonant is missing. Thus it is proposed that the two vowels of a hiatus enter into a right-to-left governing relationship. This proposal is in sharp contrast with CV/VC analyses, which claim the absence of V-to-V communication in hiatus. Notice, however, that were there not such a relation, no reason could be found for favouring the vowel to the right rather than the one to the left of an empty consonant. It is claimed that government may proceed on either the nuclear projection as a proper government or the melodic level as V-to-C government. It may be the case that V-to-V interaction in hiatus is similarly associated with either of the two, determined by a language-specific or other choice: if V2 governs V1 on the nuclear projection, V1's ability to support melody is destroyed altogether, so hiatus is expected to be resolved by vowel deletion or gliding, as in analysis of such words as *social* and *medial*. If, on the other hand, it governs V1 melodically, government attacks V1's melody directly, and therefore it is forced to decompose diphthongs in monophthongs. One way of avoiding either of these two unpleasant situations involves letting V2 govern a consonant, for example inserting or spreading melody into the sandwiched consonant position: then V2 governs the hiatus-filler melodically, which is therefore required to be as vowel-like as possible (a sonorant, ideally a semivowel) [Casali 1996, 1–8].

A full phonological treatment of vowel elision in a particular language will typically have to address a variety of additional concerns. In many languages, vowel sequences arising in some environments are resolved by elision while those at other boundaries either remain in hiatus or are subject to a different resolution strategy such as epenthesis of an intervening consonant. The relevance of tonal or accentual properties also varies from language to language, as does the presence or absence of compensatory lengthening with the elision. It is also fairly common to find that the choice of which vowel is elided is at least partly sensitive to the identities of the particular vowels comprising the sequence. Vowel length may be relevant as well: there are a number of languages in which long vowels are more resistant to elision than short vowels.

To sum up, let me emphasize that this article dwelled upon some of the changes sounds and words undergo when they are used in speech chain. Many languages disallow hiatus, avoiding it either by deleting or assimilating the vowel, or by adding an extra consonant. These strategies are determined by a number of linguistic contextual factors, sometimes with an intervening **glottal stop**. **Linking /r/** and **intrusive /r/** can be proven to be two forms of virtually the same object, a hiatus-filler inserted after non-high vowels, and as such, they properly fit into the general picture of hiatus resolution, facilitating the smooth transition between the vowels, **yod** for the first high front vowels and **/w/** for front high back vowels. In poetic metre, hiatus can also refer to the failure of two vowels straddling a word boundary to coalesce, for example by the **elision** of the first vowel.

Данная работа основана на сравнении поведения такого феномена, как зияние гласных, в речи на материале нескольких языков. Из этого анализа можно сделать вывод, что в процессе речи зияние подвергается некоторым разрушениям для облегчения процесса речи. Это облегчение происходит при помощи таких методов, как: удаление одной из гласных, дифтонгизация, слияние двух гласных в одну и включение вспомогательной согласной между двух гласных. Поскольку обучение и преподавание фонетики любого языка является сложным языковым аспектом, эта работа может помочь найти подход к эффективному изучению дифтонгов и гласных в зиянии.

Ключевые слова: зияние, разрешение зияния, образование дифтонгов, эпентеза, элизия, образование глайдов.

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