Recycling and replacement self-repairs in spontaneous Hungarian conversations*

Zsuzsanna Németh

In this paper I explore recycling and replacement repairs as self-initiated same-turn self-repair strategies in Hungarian. The study concentrates on four factors: repair operation types, syntactic class and length of the repaired segment, and site of initiation. In accordance with previous works (especially Fox et al. 2009), I found that the main organizer of the self-repair process is the speaker's interactional aim. This interactional aim is realized in the interactional functions of repair operations: providing the speaker with extra time in the case of recycling, or exchanging an unintended item in the case of replacement. The working of these interactional functions, however, always adapts to the grammatical possibilities of the particular language. I attempted to describe how these interactional functions adapt to the structure of Hungarian.

Keywords: *Hungarian, recycling, replacement, self-repair*

1 Introduction

The focus of this paper is on the appearance of two repair operations, namely, simple recycling and replacement self-repairs in spontaneous Hungarian conversations. The purpose of the study is to reveal the most important characteristics of these two repair types in Hungarian and make a comparison with the languages examined in this respect so far, such as Bikol, Sochiapam Chinantec, Finnish, Indonesian, English, Japanese, Mandarin (Fox et al. 2009), Hebrew and German (Fox et al. 2010). I explore the length and syntactic class of words Hungarian speakers tend to initiate recycling and replacement repairs in, and describe the relationship between the two repair operations in the repair mechanism. The main hypothesis of the study is that all the analysed factors and the potential connections between them can be traced back to the interactional functions of repair operations. This assumption implies that conversation repairs make it possible for the interactants to achieve their interactional aims. Behind this idea we can find the interpretation of conversation as talk-in-interaction, where interaction is the contingent development of courses of actions (cf. Schegloff 2007, 251).

The paper is organized as follows. After the clarification of the most important concepts, Section 3 provides a description of the data and methods of the study. Section 4 presents the previous findings on recycling and replacement repair and the analysis of the Hungarian data as to repair types, word length and syntactic class. Section 5 compares recycling and replacement repairs, while Section 6 closes the analysis with some aspects of site of repair initiation. Section 7 concludes the study and summarizes the results.

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2 Definitions

2.1 Repair

According to Schegloff et al. (1977), repair is the treatment of some kind of trouble in spontaneous speech. They distinguish repair from error-correction. While error correction serves to replace an error by the correct linguistic form, repair refers to a more general domain of occurrences (Schegloff et al. 1977, 363). Following this definition, Rieger (2003, 48) regards error correction, the search for a word, the use of hesitation pauses, lexical, quasi-lexical, or non-lexical pause fillers, immediate lexical changes, false starts, and instantaneous repetitions as repair. Repair consists of three components, the repaired segment containing the repairable, repair initiation, and the repairing segment. The repairable is not necessarily audible, but can be inferred from the presence of repair initiation and the repairing segment (Rieger 2003, 48). Repair initiation, which marks a "possible disjunction with the immediately preceding talk" (Schegloff 2000, 207), can consist of a cut-off, a filler, or a combination of these, but in the case of repetitions it may be non-observable as well. The repairing segment repairs the trouble that the speaker has perceived (Rieger 2003, 48). Gósy regards repair as the correction of speech disfluencies. She defines speech disfluencies as follows: "Speech disfluencies are generally defined as phenomena that interrupt the flow of speech and do not add propositional content to an utterance" (Gósy 2007: 93).

2.2 Self-initiated same-turn self-repair

Self-initiated same-turn self-repair is the most common type of repair. It comprises the repair strategies in which the repairable and repairing segments occur in the same turn and the repair is performed by the initiator of the repairable (Rieger 2003, 48). Fox et al. (2009, 60) define same-turn self-repair as the process by which speakers stop an utterance in progress and then abort, recast or redo that utterance.

2.3 Recognizable completion

Schegloff (1979) points out that the most common location of repair initiation is just after the start of a turn-constructional unit (post-initiation) or just before its completion (pre-completion), for example, in the case of a word after its first sound or just before its last sound (Schegloff 1979, 275). The relevant domain for post-initiation (or as Fox et al. (2009) term it post-beginning) starts after the first sound is recognizable and continues until the first sound is complete; whereas the relevant domain for pre-completion begins just before the final sound is articulated, and continues until just before the final sound is complete (Fox et al. 2009, 65). We can speak about a repair initiation at recognizable completion if the repair is initiated in or after the last sound of the word (Fox et al. 2009, 71). The location of recognizable completion suggests that the definition was created from the speaker's point of view, what matters is whether a word is intended[1] to be recognizable or not. That is, the definition "plays it safe," by the time recognizable completion is reached, the hearer recognizes the word for sure. The real recognition can happen much earlier. As it focuses on same-turn self-repair, the present study also

[1] The term 'intention' will always refer to the speaker's interactional aims.

concentrates on the speaker's point of view when discussing the interactional functions of repair types.

2.4 Recycling, replacement, simple recycling, simple replacement

Recycling (or repetition) means the repeating, either with no apparent changes or with some additions or deletions, of the repaired segment (Fox et al. 1996, 230). Rieger considers repetition a very prominent self-repair strategy. It consists of the consecutive usage of the same quasi-lexical or lexical item or items (Rieger 2003, 51). At the same time she emphasizes that recycling repair (or as she terms it, repetition) can be regarded as one of the several possible types of self-repair only when it is not used to stress or emphasize what is being said, and if it is not used as a strategy to hold the floor when being interrupted (Rieger 2003, 51). In the latter case the repair is other-, not self-initiated.[2] All in all, Rieger considers the repetitions of one or several lexical items self-repair strategies when their function is to gain linguistic and/or cognitive planning time for the speaker or when used to postpone the possible transition-relevance place (Rieger 2003, 47).

Replacement repair means that the speaker substitutes a quasi-lexical or lexical item or items for another quasi-lexical or lexical item or items, when the repaired and the repairing segments belong to the same syntactic class.[3]

Schegloff et al. (1977) distinguishes four self-repair functions: word search, word replacement, repair of person references, and repair of next-speaker selections (Schegloff et al. 1977, 363 and 370-372). According to Rieger, most of these functions involve the replacement of one lexical item by another (or in the case of repetitions, by the same) lexical item (Rieger 2003, 49). Fox and Jasperson (1995) define seven different self-repair types, all of which are the combinations of four repair operations: repeating or recycling, replacing or substituting, adding or inserting, and abandoning and restarting. Notice that both Schegloff et al. (1977) and Fox and Jasperson (1995) (as well as Fox et al. 2009) regard recycling and replacement as devices to carry out the repair mechanism, but not as subcategories of repair. That is to say, recycling and replacement themselves are not the subtypes of self-repair, but can be the components of them.[4] To sum up, in the related literature we can find more categorizations of self-repair with more terms for the categories (strategies, features, types), and the status of recycling and replacement is not always obvious. In this paper, similarly to Rieger (2003, 50) and Fox et al. (2009, 62).

I will interpret recycling and replacement as repair operations, which (with the other repair operations) can compose the repair phenomenon.

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[2] This does not mean that none of the recyclings used to hold the floor can be considered self-initiated self-repairs. If they are used to postpone the possible transition-relevance place, they are self-initiated self-repairs (Rieger 2003, 51).

[3] It can be problematic how to determine the word type (i.e. the syntactic category) of the repaired segment in the case of repairs where the site of repair initiation is before recognizable completion. Well, in most of these cases the researcher can rely on the context and the fact that function words being a close class with less potential candidates are easier to be recognized.

[4] Although Rieger's list of the possible self-initiated same-turn self-repairs contains immediate lexical change and instantaneous repetition, these cannot be identical with replacement and recycling interpreted above as repair operations. One of the evidences for this is error correction, which can be found on the same list and can be accomplished by replacement (Schegloff et al. 1977, 363). Another evidence is that in the same article Rieger terms "repeating or recycling" and "replacing or substituting" *repair operations* (Rieger 2003, 50).

Simple repairs are repairs where only one repair operation is involved in the repair. This means that simple recyclings are carried out without additions, deletions, or replacements:

(1) *de* *ez* *a* *szervofék* ez ez *nem* *veszélyes?*
but this the servobrake *this* *this* not dangerous
'Is not this servobrake dangerous?'

Simple replacement repairs, however, are replacements without recyclings, additions, or deletions (Fox et al. 2009, 63).[5]

(2) *a* *legtöbbet* *nekünk* e- szörnyű *hallgatni*
the most-ACC for.us *e-* *horrible* listen-INF
'Most of them are horrible for us to listen to.'

Most of the interactional functions of recycling repair are in connection with delaying, i.e. oriented to the upcoming talk: delaying the next item due in a word search (Jefferson 1974), delaying the next content word due (Fox et al. 1996; Rieger 2003; Lerch 2007; Fox et al. 2009; Fox et al. 2010), eliciting gaze from recipients (Goodwin 1981), or treating overlaps in order to produce talk in the clear (Schegloff 1987). Replacement repair, however, usually has a retrospective orientation: its most common interactional function is to solve a problem caused by an unintended item or an unintended pronunciation.

3 Data collection

The data for the study come from two corpora, one compiled in the Institute of Psychology, University of Szeged, and the other in Kempelen Farkas Speech Research Laboratory in the Research Institute for Linguistics of the Hungarian Academy of Sciences, Budapest (Gósy 2008).[6] Its total length is 145' 4". Each corpus consists of casual Hungarian face-to-face conversations among friends (3 participants per interaction). The data represent the speech of 17 speakers across 10 interactions.

The total number of instances is 557 (415 recycling and 142 replacement repairs). Following the methodology of Fox et al. (2009) and Fox et al. (2010) the data collection was restricted to instances of simple recycling and simple replacement repairs where one or more elements of the trouble source were recycled or replaced and there was a clear syntactic relationship between the trouble source and the repair (they belonged to the same utterance). Recycling repairs that occurred in the environment of overlapping talk or were used to stress what is being said were also excluded from the investigation. I coded my data for the following features: syntactic category (function or content word)[7]

[5] Replacement and deletion differ in that in replacement the word type remains, while in deletions the word type is eliminated (Fox et al. 2009, 102).

[6] The examples of the paper come from these two corpora.

[7] Labeling function and content words syntactic classes I also follow Fox et al. (2009). While content words are open-class words with a lexical, statable meaning, the class of function words is closed and carries a grammatical meaning. The reason why they are called syntactic classes is that their distinction plays an important role in characterizing the syntactic properties of sentences (Selkirk 2008, 464).

and length (monosyllabic, bisyllabic, multisyllabic[8]) of all words in the corpus, syntactic category and length of the repaired segment in all recycling and replacement instances in the corpus, and site of initiation (before or after recognizable completion) in all recycling and replacement repairs in the corpus.

4 Repair type, syntactic category and word length in Hungarian

4.1 Recycling repair - syntactic category and word length in Hungarian

The previous studies dealing with recycling and replacement repair as self-initiated same-turn self-repairs have concentrated mainly on showing the most important characteristics of the relationship between grammar and repair. They have described how the methods of repair are shaped by the linguistic resources of languages. In order to accomplish this aim some of them compared languages with different morpho-syntactic structures (Fox et al. 1996; Rieger 2003; Lerch 2007; Fox et al. 2009; Fox et al. 2010).

Schegloff (1979) emphasizes that the privileged function of recycling is the delay of the next item due. For whatever cognitive or interactional reason the recycling happens, its purpose is always to stop the progressivity of the current turn. Continuing this train of thought Fox et al. (2009) suggest that the recycling of function words is an extremely useful device for the speaker to delay the next content word due (Fox et al. 2009, 97). Their study presents and explains the site of repair initiation in seven languages: English, Bikol, Sochiapam Chinantec, Finnish, Indonesian, Japanese and Mandarin, involving site of initiation, word length and syntactic class in the investigation. In five from their seven languages investigated speakers range from moderately to highly more likely to initiate repair in a function word than in a content word (Fox et al. 2009, 97). Fox et al. (2010) present the results of a quantitative analysis of recycle and replacement self-repairs in three languages: English, German, and Hebrew. They found that all the examined languages have function words which precede the content words they serve as adjuncts to and in all three languages there is a tendency to recycle back to function words rather than content words. On the basis of these data they predict that languages with function words preceding their respective content words (mainly verb-initial and verb-medial languages) show a preference for recycling back to function words rather than content words (Fox et al. 2010, 2504). This is supported by earlier studies (Fox et al. 1996; Rieger 2003; Lerch 2007; Fox et al. 2009), among which (Fox et al. 1996, 205) note that in the languages where speakers have no function words preceding nouns (e. g. Japanese), speakers do not use this strategy.

Lerch (2007) draws the same inference after considering the lexical categories serving as destinations of recycling in Hungarian. Hungarian speakers tend to recycle back to function words, which is not surprising as the phrase-beginning elements tend to be function words in Hungarian, hence there are several function words preceding content words. For example, while definite and indefinite articles or demonstrative determiners project an upcoming noun phrase, conjunctions and relative pronouns occur at the beginning of clauses (Lerch 2007, 127).

Hereinafter I will explore how word length and syntactic class influence the execution of recycling repair in Hungarian. Table 1a) and 1b) show the distribution of repair types (i.e. the types of repair operation) by syntactic class and word length in

[8] By multisyllabic words I mean words of three or more syllables.

Hungarian. In each case a 2x2 chi-square test was used to measure the differences between the frequencies of the certain categories. The asterisk will indicate a significant chi-square value.

Table 1a)
Distribution of repair types by syntactic class

	Dest. of recycling	Replaced item	Total
Function words	315 (76%)	48 (34%)	363
Content words	100 (24%)	94 (66%)	194
Total	415	142	557

$\chi^2(1, n=557)= 82.61^*, p= .000$

Table 1b)
Distribution of repair types by word length

	Dest. of recycling	Replaced item	Total
Monosyllabic words	304 (73%)	50 (35%)	354
Bisyllabic words	75 (18%)	32 (23%)	107
Multisyllabic words	36 (9%)	60 (42%)	96
Total	415	142	557

Monosyllabic/Bisyllabic: $\chi^2(1, n=461)= 13.99^*, p= .000$
Monosyllabic/Multisyllabic: $\chi^2(1, n=450)= 95.69^*, p= .000$
Bisyllabic/Multisyllabic: $\chi^2(1, n=203)= 21.69^*, p= .000$

Table 1a) and 1b) demonstrate that Hungarian speakers recycle back most frequently to function words (the distribution is significant) (cf. Gyarmathy 2009) and monosyllabic words (the distribution is also significant).

(3) *gondolkodom* hogy hogy *ki*
wonder-PRES.1SG *that* *that* who
'I am wondering who (is a good singer).'

Let us start the analysis with syntactic categories. Although function words make up 76% of all destinations of recycling compared with 24% to content words, to be sure that this difference comes from the interactional function of recycling we have to consider this result in relation to the whole corpus. Table 2 provides the figures for syntactic class and word length of all words in the corpus.

Table 2
Distribution of words by word length and syntactic class in the corpus

	Function words	Content words	Total
Monosyllabic words	7377	2884	10261 (46%)
Bisyllabic words	1995	4815	6810 (31%)
Multisyllabic words	209	4899	5108 (23%)
Total	9581 (43%)	12598 (57%)	22179

The corpus contains 9,581 function words (43%) and 12,598 content words (57%), which means that the frequency of function words in recycling repairs does not follow from their frequency in the corpus. If we turn to word length, Table 1b) shows that the most common destinations of recycling repairs in Hungarian are monosyllabic words (the distribution is also significant),[9] that is to say, Hungarian speakers most frequently recycle back to monosyllabic function words. Here we can ask whether the speakers make this frequent use of monosyllabic function words because most of the function words are monosyllabic or most of the monosyllabic words are function words in Hungarian. To see clearly, we have to compare the occurrence of monosyllabic and function words in the whole corpus. Table 2 shows that 77% of the function words are monosyllabic and 72% of the monosyllabic words are function words in the corpus. Thus, as Jurafsky et al. (1998) observed in the case of English, high-frequency function words are often phonologically reduced in Hungarian also, and this can explain the high frequency of monosyllabic function words as the destinations of recycling in the language. In other words, when Hungarian speakers recycle back to monosyllabic function words they are more attentive to syntactic class than they are to word length.

It is also interesting to examine word length categories separately. Table 3a), b) and c) below present the three word length categories with the corresponding figures of the whole corpus. Though each table represents the privileged status of function words, the most striking is the case of bisyllabic words. Namely, this is the only word length category where the figures for recycling repairs are in inverse ratio to the same figures for the whole corpus.

Table 3a)
Distribution of monosyllabic words in recycling repairs and the corpus

	Destination of recycling	Whole corpus
Function words	265 (87%)	7377 (72%)
Content words	39 (13%)	2884 (28%)

Table 3b)
Distribution of bisyllabic words in recycling repairs and the corpus

	Destination of recycling	Whole corpus
Function words	47 (63%)	1995 (29%)
Content words	28 (37%)	4815 (71%)

Table 3c)
Distribution of multisyllabic words in recycling repairs and the corpus

	Destination of recycling	Whole corpus
Function words	3 (8%)	209 (4%)
Content words	33 (92%)	4899 (96%)

[9] The frequency of monosyllabic words in recycling repairs does not follow from their frequency in the corpus either. While 46 percent of the words are monosyllabic in the corpus, 73 percent of the destinations of recycling are monosyllabic. The occurrence of monosyllabic words in the corpus does not justify such a high frequency in recycling repairs.

These results corroborate earlier studies (Fox et al. 1996; Rieger 2003; Lerch 2007; Fox et al. 2009; Fox et al. 2010), according to which the languages with function words preceding their respective content words (mainly verb-initial and verb-medial languages) show a preference for recycling back to function words rather than content words so as to delay the next content word due, i.e. because of the interactional function of recycling repair.

4.2 Replacement repair - syntactic category and word length in Hungarian

Fox et al. (2009) point out that English speakers tend to use replacement repairs to replace content words (61 percent of simple replacement repairs in English replace content words) and replacement repairs may occur in cases where an inappropriate word or pronunciation has been produced (Fox et al. 2009, 76). Fox et al. (2010) comparing Hebrew, English and German also presented evidence of the over-representation of content words in replacement repairs in each of the three languages. Jefferson (1974) suggests that replacing a word with another, if the repaired segment is not complete but still recognizable, allows the speaker to produce an inappropriate word without being interactionally accountable for it. She describes this process as "not having 'officially' produced the word in question" (Jefferson 1974, 193). This phenomenon is interesting here because it also supports the more frequent replacements of content words as content words are more likely to be involved in an interactional situation characterized above. Examining English, Indonesian, Bikol, Finnish and Japanese, Fox et al. (2009) remark that content words are open class, hence there are a larger number of potential candidates in any given context than there are for function words in these languages. In addition, as content words are generally of lower frequency than are function words (here we must think of single words), speakers face a greater challenge in selecting the appropriate term (Fox et al. 2009, 103). Moreover, the delaying function of recycling function words can also be an argument for the over-representation of content words in replacement repairs. Why is it necessary to delay the next content word due? As speakers face a greater challenge in selecting the appropriate content word as opposed to the selection of function words, they need more time to do it. On the whole, cognitive planning demands a greater effort in the case of content words than in the case of function words, which can more easily lead to a problem and maybe a replacement repair during the production of the word.

We can now turn to Hungarian. If we look at Table 1a) again (repeated below as Table 4 for the sake of convenience), it is conspicuous that Hungarian speakers employ content words in replacement repairs nearly twice as frequently as function words (66%-34%). Comparing this ratio with the whole corpus again (57%-43%) (Table 2), we can see that the frequency of content words in replacement repairs does not follow from their frequency in the language. This means that the arguments listed above in favour of the privileged status of content words as opposed to function words in replacement repairs proved to be true in the case of Hungarian as well.

Table 4
Distribution of repair types by syntactic class

	Dest. of recycling	Replaced item	Total
Function words	315 (76%)	48 (34%)	363
Content words	100 (24%)	94 (66%)	194
Total	415	142	557

$\chi^2(1, n=557)= 82.61^*, p= .000$

Taking into account word length, however, as Table 1b) (repeated here as Table 5) represents, the distribution is not as unbalanced as it was in the case of recycling repairs.

Table 5
Distribution of repair types by word length

	Dest. of recycling	Replaced item[10]	Total
Monosyllabic words	304 (73%)	50 (35%)	354
Bisyllabic words	75 (18%)	32 (23%)	107
Multisyllabic words	36 (9%)	60 (42%)	96
Total	415	142	557

Monosyllabic/Bisyllabic: $\chi^2(1, n=461)= 13.99^*, p= .000$
Monosyllabic/Multisyllabic: $\chi^2(1, n=450)= 95.69^*, p= .000$
Bisyllabic/Multisyllabic: $\chi^2(1, n=203)= 21.69^*, p= .000$

Though the most common replaced items are multisyllabic words, the difference is notable only between bisyllabic and multisyllabic words. To find an explanation for this, let us involve syntactic class in the examination.

Table 6a)
Distribution of monosyllabic words in replacement repairs and the corpus

	Replacement repairs	Whole corpus
Function words	37 (74%)	7377 (72%)
Content words	13 (26%)	2884 (28%)

Table 6b)
Distribution of bisyllabic words in replacement repairs and the corpus

	Replacement repairs	Whole corpus
Function words	9 (28%)	1995 (29%)
Content words	23 (72%)	4815 (71%)

[10] According to Table 2 the frequency of the certain word length categories in replacement repairs cannot follow from their frequency in the corpus.

Table 6c)
Distribution of multisyllabic words in replacement repairs and the corpus

	Replacement repairs	Whole corpus
Function words	2 (3%)	209 (4%)
Content words	58 (97%)	4899 (96%)

Although Hungarian speakers replace content words at a higher rate than function words, this difference does not appear in the case of monosyllabic words (Table 6a). This follows from the usage of the Hungarian definite article that has two alternants. *A* is used before words beginning with consonants and *az* before vowels. When the article is used for delaying its respective noun phrase, the alternant which is repeated or stretched is always *a*. As the process makes for linguistic and/or cognitive planning (Rieger 2003, 47), the speaker does not know yet which noun she will select (i.e. whether it will start with a consonant or a vowel), hence (possibly for economical reasons) she will use *a*. However, if the selected word still starts with a vowel, she has to replace *a* for *az*.

Table 6c) shows that multisyllabic content words are the most frequently replaced words in Hungarian. Here comes the question again: do the speakers make this frequent use of multisyllabic content words because most of the content words are multisyllabic or most of the multisyllabic words are content words in Hungarian? If we compare the occurrence of multisyllabic and content words in the whole corpus, in Table 2 we can see that 41% of the content words are multisyllabic, and 96% of the multisyllabic words are content words in the corpus. Thus, when Hungarian speakers replace multisyllabic content words, they are more attentive to word length than to syntactic class.

We should still explain the difference between bisyllabic and multisyllabic words. The two word length categories differ from monosyllabic words in that they show the expected proportions in favour of content words in replacement repairs. At the same time, we have to realize that the difference between bisyllabic and multisyllabic words could be explained with the high frequency of content words in the repair type only if there were more content words among multisyllabic words than among bisyllabic words in the language. Nevertheless, as Table 6b) and 6c) demonstrate, there are 4,815 bisyllabic content words and 4,899 multisyllabic content words in the corpus. The numbers are nearly the same, which means that the different representations of bisyllabic and multisyllabic words in replacement repairs cannot be explained by anything else but the fact that multisyllabic words are longer than bisyllabic ones.

All these observations point to the fact that longer words are more likely to take part in replacement repairs than shorter ones. What can be the reason for this? We can suppose that the linguistic planning of longer words demands a greater effort from the speaker in the same way as the cognitive planning of content words does. Therefore, when the speaker has already begun the articulation of a longer word, she is more likely to face a problem endangering her intended production than in the case of a shorter word. That is why speakers replace longer words at a higher rate than shorter ones. This supports the statement of Fox et al. (2009), according to which replacement may occur where an inappropriate word or pronunciation has been produced (Fox et al. 2009, 76).

Apart from replacement repairs we have another device to prove the claim that linguistic planning of longer words demands a greater effort from the speaker than linguistic planning of shorter words. We know that function word recycling can make for the delay of their respective content word providing the speaker with extra time. If this strategy was more frequent before longer words than before shorter ones, it would mean

that speakers may need extra time not only before content words but before longer words as well, namely, the linguistic planning of longer words demands a greater effort than the linguistic planning of shorter words. The great advantage of this method, as opposed to analysing replacement repairs, would be the elimination of syntactic class as all the words to be examined would be content words.

All in all, our analysis of replacement repair and the interactional functions of it has brought to light an interesting fact. Although earlier studies pointed out that replacement repair may occur because of selectional difficulties and inappropriate pronunciation (Fox et al. 2009, 76), our study highlighted that, at least in Hungarian, word length plays an important role in inappropriate pronunciation. Nonetheless, the word *unintended* may be more accurate here instead of *inappropriate* as the speaker's intended pronunciation does not always identical with appropriate pronunciation. That is to say, the perception of a word is influenced not only by its pronunciation but also by the context, which the speaker can recline upon (cf. Sacks 1995, 724), thus inappropriate pronunciation does not always appear as a problem for her. Therefore we have to say that speakers tend to carry out a replacement repair because of selecting an unintended item or because of an unintended pronunciation.[11]

5 Contrasting recycling and replacement repair in the repair mechanism

As we have seen so far, in languages with function words preceding their respective content words recycling repair can help with cognitive and/or linguistic planning, while replacement repair comes into action when the intended production is endangered. This points to the fact that recycling repair, on the grounds of its interactional function, will be a more preferred repair operation in these languages than replacement repair as it provides the speaker with extra time; replacement, however, appears when the articulation of an unintended item or an unintended articulation has already begun. This means that recycling and replacement repairs have different functions in the repair mechanism: while recycling makes for the prevention of a potential problem, replacement can only treat an already existing problem. If this is true, in the languages with function words before content words the same corpus must contain more recycling repairs than replacement repairs. The languages examined justify this statement. What is more, not only languages with function words before content words, but all of them show a preference for recycling repairs over replacement repairs.

Table 7
Recycling and replacement repair in the languages examined so far[12]

	Recycling repair	Replacement repair	Total
English	111 (76%)	36 (24%)	147
Hebrew	128 (83%)	27 (17%)	155
German	98 (69%)	44 (31%)	142
Indonesian	117 (80%)	29 (20%)	146

[11] We have to remark, however, that sometimes despite the replacement repair the repaired segment is intended.

[12] The source of the data: English, Hebrew, German: Fox et al. (2010); Indonesian, Sochiapam Chinantec, Japanese, Mandarin, Bikol, Finnish: Fox et al. (2009).

Sochiapam Chinantec	185 (92%)	16 (8%)	201
Japanese	147 (73%)	53 (27%)	200
Mandarin	115 (77%)	35 (23%)	150
Bikol	162 (88%)	23 (12%)	185
Finnish	116 (72%)	46 (28%)	162
Hungarian	415 (75%)	142 (25%)	557

Considering the data, there is a high possibility that recycling repair is a universally more preferred repair operation than replacement repair. What can be the reason for this? If we try to describe repair operations according to the nature of the trouble they treat, replacement repairs seem to be somehow "stronger" than recycling repairs as they treat an already existing problem instead of preventing a potential one.

Now we can ask that if there exists such a difference between recycling and replacement, does it also exist among the other repair operations? Could we determine a natural order among repair operations, so could we scale them according to the strength of the trouble they treat? The starting point of such a scale would be the weakest repair operation, while the endpoint would be the strongest one. If such a natural order existed, we know that recycling repair would be closer to the starting point, while replacement repair would stand closer to the endpoint. The strength level of a certain repair operation would determine the general preference of it in the repair process. The justification of this model is up to further studies.

6 Site of initiation

As most of the interactional functions of recycling repair are in connection with delaying, i.e. oriented to the upcoming talk, repair initiation in the case of this repair type can be expected after recognizable completion, while in the case of replacement repairs (which have a retrospective orientation), repair initiation can be expected before recognizable completion (Fox et al. 2009, 74). After the analysis of their seven languages, the hypothesis of Fox et al. (2009) proved to be true. However, their cross-linguistic investigation pointed out that this repair initiation pattern can be manifested in various ways in different languages. One possible explanation for the diversity is the role of other factors beyond the interactional functions of repair types. Taking into account word length and syntactic class Fox et al. (2009) found that in languages in which speakers initiate repair mainly in monosyllabic words, they tend toward initiation after recognizable completion, while in languages in which speakers prefer initiation in multisyllabic words, they tend toward initiation prior to recognizable completion. Hungarian belongs to the first group.[13]

7 Conclusion

In my paper I explored recycling and replacement repairs as self-initiated same-turn self-repair strategies in Hungarian. The study concentrated on three factors: repair operation

[13] For more details in relation to site of initiation in Hungarian cf. Recycling and replacement repairs as self-initiated same-turn self-repair strategies in Hungarian (Németh, submitted).

types, syntactic class of the repaired segment, and length of the repaired segment. In accordance with previous works (especially Fox et al. 2009), I found that the main organizer of the self-repair process is the speaker's interactional aim. This interactional aim is realized in the interactional functions of repair operations: providing the speaker with extra time in the case of recycling and restart, or exchanging an unintended item in the case of replacement. The working of these interactional functions, however, always adapts to the grammatical possibilities of the particular language.

As Hungarian belongs to the languages which have function words preceding their respective content words, Hungarian speakers recycle back most frequently to function words. This corroborates earlier studies suggesting that the languages with function words preceding their respective content words show a preference for recycling back to function words rather than content words so as to delay the next content word due (Fox et al. 2010, 2504). The study also supported that the function of replacement repairs is to solve a problem caused by an unintended item or pronunciation (Fox et al. 2009, 76), that is why Hungarian speakers tend to replace multisyllabic content words. It also turned out that they are more attentive to word length than they are to syntactic class when replace multisyllabic content words, and word length in itself plays a very important role in replacement repairs.

Finally, I tried to set up a model which describes the relationship between repair operations on the basis of how they work. While recycling, the function of which is to gain extra time for the speaker, can serve as a means to prevent a potential problem, the replacement of an unintended item or a replacement done because of an unintended pronunciation always treats an already existing problem. Replacement repairs is therefore 'stronger' than recycling. This is supported by the fact that there is a strong preference for recycling repairs not only in Hungarian but all the previously examined languages (Fox et al. 2009; Fox et al. 2010).

Now we could see how recycling and replacement work in Hungarian. If we recall one of the principal claims of the previous literature, namely, that there are underlying universal patterns in the repair mechanism though they are sometimes masked by language-specific features (Fox et al. 2009, 101), I believe that the present study confirms rather the first part of the idea. All the tested universal patterns appeared to be uncovered in Hungarian.

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