STRUCTURAL LEXICAL REDUCTION IN INFORMAL ON-LINE COMMUNICATION[1]

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Abstract: The paper establishes a taxonomy of structural lexical reductions in informal on-line communication and substantiates that initial parts of lexemes are more important than others. If a word is reduced, then the central and the final reductions prevail over the initial reductions, and the initial parts of lexemes, as major information carriers, remain predominantly unchanged. In addition to this, the reduced parts of lexemes are dominated by vowels because they carry less information than consonants.

Key words: clipping, grapheme, lexeme, on-line communication, reduction, substitution, syllable.

1. Introduction

This paper represents a probe into the economy principle that was found to operate on the lexical level of the English language, particularly with clipped lexemes. The economy principle is based on the tendency toward minimizing the amount of energy necessary to achieve the optimum result. It is regarded as a common principle shared by all living organisms, not only in biology, but also in language (Lančarič & Pavlík 2016; Zipf 1936).

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The study of economy mechanism, which operates in language, has a long tradition, and deals with the creation of a variety of reduced language forms existing at all linguistic levels (Borys 2018; Fischer 1998; Gavurová 2013; Hrbáček 1979; Lančarič 2008; Lančarič & Pavlík 2016; Ološtiak 2005; 2011 inter alia). Since the communicants use shorter, incomplete, or even defective language units, utterances are contracted or ellipted (e.g., *Can't find my phone ← I cannot find my phone*) (cf. Šipošová & Bojo 2016), and often completely defective structures occur (e.g., *Name? ← What will the baby's name be?*). In this regard, Hankerová (2018: 34) highlights that the grammar of a language should not be viewed simply as a list of certain rules regarding the particular forms and grammatical structures, but should be understood more complexly, taking into account lexical semantics and pragmatics. On the level of lexis, polysyllabic lexemes are clipped (e.g., *app ← application*), multiword lexemes are initialized or acronymized (e.g., *VGA ← video graphics array*). Our preceding research (cf. Lančarič 2008; 2011; 2015; Lančarič & Pavlík 2016) confirmed that in informal on-line communication the process of lexical reduction is associated with the process of substitution, which means that some sounds or graphemes are replaced by graphemes or numbers (e.g., *cr8ng ← creating*).

Minimizing articulatory activity by structurally reducing language units on various levels results from man's innate tendency to make the most of his communicative resources with the least expenditure of physical, cognitive, and social effort (cf. Zipf in Danesi 2012: 260). The principle of least effort is often counterbalanced by the principle of distinctiveness, since linguistic forms in effective communication must not only be sufficiently simple, but also sufficiently distinct (Lančarič & Pavlík 2016: 60). However, despite the fact that structurally reduced forms have fewer distinctive elements, the members of the same social group can use them with ease or without any significant limitations in understanding, because they share the same social context, in which both the speaker/writer and the hearer/reader predict the context of the ongoing discourse. Below is a short example of an on-line chat room discussion:

A: *Hi ppl, I send you gbh; everything be ok, gbh*

B: *Hi 2 all in the room 2day how r u?*

A: *25 swf nc lookin to chat*

B: *Tnks, cw2cu, lol*

(Twitter https://twitter.com/)

In the first sentence of the above example, "ppl" is a skeleton clipping (i.e. a group of consonants functioning in the derivational base as a skeleton of all graphemes) standing for "people". The following "gbh" is an initialism (i.e. a sequence of initial graphemes of the multiword motivating lexeme) representing "great big hug"; "ok" is a multiword initialism of "all correct".

In the second sentence, "2" is used twice: It is a number substituting for the preposition "to" and the first syllable of "today". The graphemes "r" and "u" function as substitutive reduction representing the sound realization of "are" and "you".

In the third sentence, the initialism "swf" stands for "single white female" and "nc" means "no children". The word "lookin" is a final clipping of "looking".

In the last sentence, "Tnks" is a skeleton clipping of "Thanks"; "cw2cu" standing for "Can't wait to see you" can be considered a sentential initialism (i.e. a sequence of initial graphemes of a sentence) combining alphabetic signs and numbers; "lol" is an initialism substituting "laughing out loud".

As can be seen from the example above, the process of online reduction may occur within a simple lexeme or it may exceed the level of lexis. For the purpose of our research, we have focused on the reduction processes taking place on the level of simple lexemes.

The aim of this paper is to work out a taxonomy of lexical reductions in informal on-line communication, which results from a detachment of a part of the derivational base (clipping). The analysis also concerns the lexemes which are the product of substitution of one part of the original lexeme and simultaneous production of a shorter, reduced variant (substitutive reduction). Our objective is to identify the lexeme segments which are the dominant information carriers. Some substitutions though result from language puns and do not contribute to the economy of language. Such instances of substitution will not be regarded. This paper is also aimed at testing the prevalence of the types of clippings and the types of clipped segments in an effort to identify the "information carriers" of lexemes.

2. The economy principle on the lexical level

There is a great formal variety of structural reductions in English lexis without any clear-cut rule of what is to be removed and what is to remain within the reduced variant. Nevertheless, since the initial part of lexemes in English carry more important information than their final part it is the final part of simple lexemes which usually disappears in the process of reduction (Ološtiak 2005: 47). In addition to this, structurally reduced units usually preserve consonants since they are more important information carriers and have a lower degree of predictability than vowels (Lančarič 2008: 14; Ološtiak 2005: 48).

As far as multiword (complex) lexemes are concerned, their structural reduction is normally conducted through the alphabetisation of individual constituents, which highlights the communicative need for brevity and speed. The final product of this process is acronyms in the case of the orthoepic realization of phonemes, and initialisms in the case of their orthographic realization (Lančarič & Pavlík 2016: 24-25).

Contrary to multiword lexemes, simple lexemes are typically reduced through the process of clipping and, in the case of informal communication, also through the process of

substitutive reduction. The latter phenomenon results from graphemic replacement which, at the same time, leads to the reduction of the derivational base constituents and thus contributes to language economy; it is especially effective in computer keyboard-to-screen communication, during which pressing one letter or number key instead of a sequence of letters saves space and may also save time (cf. e.g., *l8r ← later; ur ← you are*).

In this paper, we will concentrate on two basic types of structural reduction of simple lexemes: clipping and substitutive reduction.

2.1 Clipping

Clipping is a process which represents a complex area of research in English. Different social, age, and professional groups generate clippings, just as different groups tend to create their own languages, their slangs, or jargons. Arnold (1986: 135) defines the process of clipping as the reduction of a lexeme to one of its parts, as a result of which the new form acquires some linguistic value on its own. Thus, the new form consists of one or more syllables (or phonemes/graphemes) of the derivational base. According to Štekauer (2000), clipping is the process of shortening the original word retaining the same meaning and word class. Katamba (2005: 180) adds that clipping denotes the formation of a new word-form, with the same meaning as the original lexeme, by lopping off a portion and reducing it to a monosyllabic or disyllabic rump. We share Bauer's opinion (1983: 233) who also states that clipping refers to the process whereby a lexeme is shortened retaining its original meaning. However, following Lappe (2010: 27), the conceptual meaning of clippings often deviates from the conceptual meaning of the derivational base. As the author posits, *credibility*, for instance, generally refers to "the quality of being credible", while *cred* refers to credibility in a very specific context, meaning "reputation or status among one's peers". Similarly, the meaning of *exam* is

restricted to "testing knowledge only", whereas its motivating counterpart *examination* has a broader range of reference.

Since the conceptual meaning or the semantic range of clipped units may deviate from the conceptual meaning or the semantic range of their derivational bases, and since the clipped units are more economical in language, the longer derivational base may disappear from the language. The clipped forms thus become lexicalized and completely replace the base form (e.g., *bus* replaces *omnibus*, and *car* is used instead of *motorcar* (Jackson & Amvela 2000: 88). In addition to this, lexicalized clipped units can adopt all the features of regular lexemes (e.g., *vegetarian → vegan*), and a further semantic derivation of the already clipped unit or its further clipping may even lead to the process of remotivation and appearance of etymological doublets (e.g., *shadow → shade; courtesy → curtsy; defence → fence; history → story*; etc.) (Lančarič & Pavlík 2016: 108-109).

The process of clipping may be affected by different processes in language. Regarding hypocoristics, for example, clipping may be combined with suffixation: first we remove one fragment, and then we add another fragment (e.g., *ammunition /ˌæmjʊˈnɪʃ(ə)n/ → ammo /ˈæməʊ/, mercenary /ˈmɜː(r)s(ə)n(ə)ri/ → merc /ˈmɜː(r)k/, husband /ˈhʌzbənd/ → hubby /ˈhʌbi/*). On the orthographical level, clipping may lead to a change in spelling without substantially changing the pronunciation of the remaining part of the derivational base (e.g., *cocaine /kəʊˈkeɪn/ → coke /kəʊk/; details /ˈdiːteɪlz/ → deets /ˈdiːts/; delicious /dɪˈlɪʃəs/ → delish /dɪˈlɪʃ/; tranquilizer /ˈtræŋkwɪlaɪzə(r)/ → trank /ˈtræŋk/; naturally /ˈnætʃ(ə)rəli/ → natch /ˈnætʃ/; because /bɪˈkɒz/ → cos /kəz/*) (cf. Borys 2018). However, since the elimination is merely cognitive, the examples of hypocoristics are not included in our corpus.

2.2 Substitutive reduction

On-line communication also uses numbers to substitute the derivational base (e.g., *great → gr8*; *tomorrow → 2morrow*). In many cases the process of structural reduction is thus accompanied by grapheme or number substitution (e.g., *because → bcuz; forget → 4get*), or a combination of grapheme and number substitution (e.g., *together → 2getha*), which most typically affects the spelling of the lexeme retaining the same or similar pronunciation.

3. Material, methods, and hypotheses

The research is conducted as a quantitative corpus analysis of structurally reduced lexical items in informal communication. A thorough analysis of structural reductions is applied to examine the corpus on the type of structural reduction. The data are tested statistically; a statistical chi-square goodness of fit test will be applied to compare the inspected categories against expected frequencies and to identify the statistical significance of the difference between the observed and the expected counts. Since the number of groups exceeded two, we used the post-hoc test and calculated the significance level for all individual comparisons to lower the error rate.

In order to verify the issues outlined in the research aims, the following hypotheses are proposed:

We assume the prevalence of non-initial clipping types in informal online communication, because in English, the initial parts of lexemes usually carry the most important segment and thus tend to be preserved. We also assume the prevalence of consonants over vowels in the clipped units of informal online communication, because they are important carriers of information and are not as predictable as vowels.

H_1 (null hypothesis): All lexeme segments are equal information carriers; all types of clippings are distributed equally.

H$_{1\ \text{(alternative hypothesis)}}$: Informal online communication is marked by a significant prevalence of final and central clippings as "less important" information carriers.

H$_{2\ \text{(null hypothesis)}}$: In informal online communication, clippings are marked by an equal removal of vowels and consonants.

H$_{2\ \text{(alternative hypothesis)}}$: Informal online communication is characterized by a significantly prevalent removal of vowels as less important information carriers.

3.1 The corpus

We concentrated on online computer-mediated discourse on Twitter, which became one of the dominant social networks in 2006, and which can be communicatively asynchronous (asynchronous communication does not require communication to be held at the same time in order to send and receive a message) and also quasi-synchronous. By quasi-synchronicity we mean that the communicants issuing messages are co-present and expect immediate reactions; however, they cannot see the reaction while it is being produced but only when it has been transmitted (Jucker & Dürscheid 2012: 3).

Clipping and substitutive reduction are marked by many irregularities along with sound and grapheme assimilation associated with special sound and graphic iconic symbols. We focused on asynchronous and quasi-synchronous chat messages whose span is restricted to 140 signs. Out of 800 tweets analysed, we selected 228 clipped units which were divided into six basic categories: initial, final, central, edge-clipping, combined central and final clipping and substitutive reduction, with the reference to sequential or non-sequential character of the reduction on the one hand, and the derivational base monosyllabic and polysyllabic structure on the other.

3.2 Procedure

At the first stage, online lexemes in question will be sorted out. Next, they will be divided into types based on the common features they display and the taxonomy will then be

established. The further stages will be devoted to testing the hypotheses on the prevalence of the above-outlined lexical items.

4. Corpus analysis

Our analysis is descriptive and taxonomic; we have therefore not studied the frequency of occurrence of individual tokens within particular categories and types. Since the aim was to eliminate all nonce words and coinages, only the types represented by at least two tokens in at least two different tweets and used by at least two different tweeters have been incorporated into our taxonomy.

The selected units will be categorized and treated within the following forms of linear lexical reduction: initial clipping, final clipping, central clipping, edge-clipping, and substitutive reduction.

4.1 Initial clipping

Initial clipping may occasionally be referred to as "fore-clipping" (Algeo & Algeo 1993: 8; Borys 2018: 26; Hauptman 1993: 21; Jamet 2009:18; Mattiello 2013: 74, etc.), or "front clipping" (Kvetko 2009: 39). In addition, the denomination "apheresis" is used by Hauptman (1993: 21) and Jamet (2009: 18), and "initial truncation" by Lančarič & Pavlík (2016: 36).

The formation of this kind of clipping process involves the deletion of the initial segment of the derivational base while the final part remains intact. In contrast to final clipping, this type of clipping is not so productive (Lančarič & Pavlík 2016: 36-37), which might be explained by the fact that it is easier to identify final clipping (the beginning of the lexeme is enough) than initial clipping.

In our corpus, we have identified several types of initially clipped units. The majority of them have been sequential, which means that the eliminated element is uninterruptible and is moved in a specific position in the lexeme.

4.1.1 Sequential initial clippings

In the sequential initial clippings, the eliminated element is the first uninterruptible part of the derivational base.

*4.1.1.1 Type **puter** (computer)*

In this type of clipping the first part of the derivational base is deleted. The following initially clipped sequential units have been found in our corpus. All of them are reduced variants of a polysyllabic derivational base:

    a) monosyllabic derivational base:

none;

    b) polysyllabic derivational base:

appen ← happen; *appy* ← happy; *Bama* ← Alabama; *bout* ← about; *droid* ← android; *puter* ← computer; *wich* ← sandwich.

*4.1.1.2 Type **'cause** (because)*

In this type of initial clipping the deleted element is marked by an apostrophe:

    a) monosyllabic derivational base:

none;

    b) polysyllabic derivational base:

'cause ← because; *'fraid* ← afraid; *'tween* ← between.

*4.1.1.3 Type **xcellent** (excellent)*

From the orthographic point of view, this type is represented by initially clipped lexemes. Nonetheless, from the orthoepic point of view, the related clipped units exhibit a sort of

sound iconicity of the first grapheme, and thus can be considered as a partial substitutive reduction. In our corpus, this type was represented by lexemes beginning with ex- and any-:

a) monosyllabic derivational base:

none;

b) polysyllabic derivational base:

ngage ← engage; *ny* ← any; *nywhere* ← anywhere; *xam* ← exam; *xcellent* ← excellent; *xcept* ← except; *xcite* ← excite; *xcuse* ← excuse; *xquisite* ← exquisite; *xtreme* ← extreme.

4.1.2 Non-sequential initial clipping

In the non-sequential clippings, the eliminated element is interruptible and multiple, as in random clipping (cf. Borys 2018: 9). In our corpus, we have not found any initially clipped non-sequential units.

Table 1. Initial clipping – summary

Initial clipping – type			
Sequential	Type *puter*	Monosyllabic derivational base	0
		Polysyllabic derivational base	7
	Type *xcellent*	Monosyllabic derivational base	0
		Polysyllabic derivational base	10
Non-sequential			0
			Σ 17

4.2 Final clipping

The phenomenon is equally known as "back-clipping" (Hauptman 1993: 21; Jamet 2009: 17; Kvetko 2009: 39; Mattiello 2013: 72) "apocopation" (Jamet 2009: 17), "apocope" (Arnold 1986: 138; Hauptman 1993: 21; Jamet 2009: 17), "hind clipping" (Algeo & Algeo 1993: 8), "terminal clipping" (Cannon 1989: 108), or "final truncation" (Lančarič & Pavlík 2016: 36). Final clipping is a very productive type of structural reduction in English, whose product is that part of the derivational base, which is retained after the final part of the same base is omitted.

In our corpus, we have identified the following types of finally clipped units:

4.2.1 Sequential final clipping

In the sequential final clippings, the eliminated element is the final uninterruptible part of the derivational base.

*4.2.1.1 Type **vid** (video)*

The clipping process of this type does not correspond to syllabic or morphological boundaries of the derivational base. The clipped counterpart mostly ends in one or two consonants, which belong to the subsequent syllable of the derivational base. Our corpus has proved that this is a frequent process. The following finally clipped sequential units have been found:

      a) monosyllabic derivational base:

none;

      b) polysyllabic derivational base:

ac ← account; *adv* ← advanced; *app* ← application; *availab* ← available; *cert* ← certificate; *cont* ← continue; *cred* ← credit; *deg* ← degree; *dev* ← developer; *diff* ← difficult; *dig* ← digital; *disc* ← discussion; *elem* ← elementary; *grad* ← graduation; *hon* ← honey; *incl* ← including; *int* ← intermediate; *meth* ← method; *obv* ← obviously; *opp* ← opportunity; *opt* ← optional; *poss* ← possibilities; *poss* ← possible; *proj* ← project; *reg* ← regularly; *req* ← requirement; *specif* ← specific; *unf* ← unfortunately; *vid* ← video; *voc* ← vocabulary.

*4.2.1.2 Type **digi** (digital)*

Clippings belonging to this type end in a vowel and, in contrast to, for instance, Type *vid*, they correspond to the syllable boundaries of the derivational base:

      a) monosyllabic derivational base:

none;

b) polysyllabic derivational base:

cosmo ← cosmopolitan; *diffi* ← difficult; *digi* ← digital; *eco* ← ecological; *emo* ← emotional; *obse* ← obsession; *perso* ← personal; *tea* ← teacher.

*4.2.1.3 Type **lan** (language)*

This type represents clippings ending in one or two consonants marking the boundary of the first syllable retained:

　　a) monosyllabic derivational base:

none;

　　b) polysyllabic derivational base:

lan ← language; *pic* ← picture; *ques* ← question.

*4.2.1.4 Type **sub** (substitute)*

Clippings of this type are coined from derivational base prefixes which are retained after the final part of the derivational base is clipped. They thus follow syllabic as well as morphological boundaries of the derivational base:

　　a) monosyllabic derivational base:

none;

　　b) polysyllabic derivational base:

con ← conversation; *dis* ← disrespect; *mid* ← midway; *sub* ← substitute

*4.2.1.5 Type **w** (week)*

This type of final reduction is on the boundary between initialism and final clipping since the initial grapheme represents the whole lexeme:

　　a) monosyllabic derivational base:

t ← to; *w* ← week*;*

　　b) polysyllabic derivational base:

b ← birthday; *e* ← everybody.

*4.2.1.6 Type **hav** (have)*

The number of derivational base syllables is preserved in this type of a clipped form. Similarly to Type *xcellent*, some of these clipped units may exhibit a function of sound icons if pronounced alphabetically, and thus the process of clipping partially overlaps with the process of substitutive reduction (cf. *mayb ← maybe*). In our corpus we have found the following examples:

    a) monosyllabic derivational base:

ar ← are; *bac ←* back; *doz ←* doze; *fo ←* for; *hav ←* have; *lov ←* love; *ther ←* there; *tho ←* though;

    b) polysyllabic derivational base:

befo ← before; *mayb ←* maybe.

*4.2.1.7 Type **comin** (coming)*

This process of clipping results in the omission of "g" grapheme from the derivational base "-ing" suffix. Thurlow (2003: 3) posits that such units serve both the need for reduction and phonological approximation:

    a) monosyllabic derivational base:

none;

    b) polysyllabic derivational base:

bein ← being; *blazin ←* blazing; *comin ←* coming; *cookin ←* cooking; *dyin ←* dying; *helpin ←* helping; *interestin ←* interesting; *leavin ←* leaving; *lovin ←* loving; *playin ←* playing; *rollin ←* rolling; *steppin ←* stepping.

4.2.2 Non-sequential final clipping

In our corpus, we have not found any non-sequential final clippings.

Table 2. Final clipping – summary

Final clipping – type			
Sequential	Type *vid*	Monosyllabic derivational base	0
		Polysyllabic derivational base	30
	Type *digi*	Monosyllabic derivational base	0
		Polysyllabic derivational base	8
	Type *lan*	Monosyllabic derivational base	0
		Polysyllabic derivational base	3
	Type *sub*	Monosyllabic derivational base	0
		Polysyllabic derivational base	4
	Type *w*	Monosyllabic derivational base	2
		Polysyllabic derivational base	2
	Type *hav*	Monosyllabic derivational base	8
		Polysyllabic derivational base	2
	Type *comin*	Monosyllabic derivational base	0
		Polysyllabic derivational base	12
Non-sequential			0
			Σ71

4.3 Central clipping

Central clipping is the process by which the derivational base's medial segment is removed. The process manifests itself in the reduction of the number of syllables or graphemes in the derivational base as well as in the violability of its syllable boundaries (Borys 2018: 22). Thus, both the initial and the final parts of the derivational base are retained. The process is also called "internal clipping" (Algeo & Algeo 1993: 9), "medial clipping" (Arnold 1986: 138; Cannon 1989: 108; Kvetko 2009: 40), "median clipping" (Jamet 2009: 18), "syncope" (Arnold 1986: 138; Hauptman 1993: 21), or "central truncation" (Lančarič & Pavlík 2016: 37). The following subtypes of central clipping have been detected.

4.3.1 Sequential central clipping

In the sequential central clippings, the eliminated element is the central uninterruptible part of the derivational base.

*4.3.1.1 Type **grp** (group)*

This type of clipping involves the omission of one monophthong or one diphthong of the derivational base. In contrast with final clipping, central clipping is not only typical of polysyllabic lexemes but frequently occurs with monosyllabic lexemes, too:

    a) monosyllabic derivational base:

bck ← back; *btch* ← bitch; *clm* ← calm; *cme* ← come; *fcts* ← facts; *frm* ← from; *grp* ← group; *grt* ← great; *hve* ← have; *jst* ← just; *knw* ← know; *nxt* ← next; *pln* ← plan; *prs* ← pairs; *scrn* ← screen; *snds* ← sounds; *thn* ← than; *thn* ← then; *thnk* ← think; *thr* ← their; *txt* ← text; *wrds* ← words;

    b) polysyllabic derivational base:

abt ← about; *bettr* ← better; *givn* ← given; *lttle* ← little; *nevr* ← never; *pple* ← people; *reasn* ← reason; *rlly* ← really; *schdule* ← schedule; *secnd* ← second; *shring* ← sharing; *supposd* ← supposed; *tcher* ← teacher.

*4.3.1.2 Type **sthing** (something)*

This is a type of morphological clipping process (cf. Type *gf*) in which only one morpheme of the polymorphemic derivational base is clipped:

    a) monosyllabic derivational base:

none;

    b) polysyllabic derivational base:

bday ← birthday; *classrm* ← classroom; *itslf* ← itself; *sthing* ← something.

*4.3.1.3 Type **yr** (year)*

Units falling within this type have a framed form (cf. "frame abbreviations" in Lančarič 2008) because they consist of the initial and the final grapheme of the derivational base, thus representing its formal margins.

    a) monosyllabic derivational base:

bk ← book; *cn* ← can*; dd* ← did; *fr* ← for; *ft* ← fight; *gd* ← good; *hr* ← hour; *hw* ← how; *keep* ← kp; *nd* ← need; *nt* ← night; *nt* ← not; *pt* ← point; *wd* ← would; *wk* ← week; *yr* ← year;

      b) polysyllabic derivational base:

qn ← question; *sr* ← senior; *tr* ← teacher.

4.3.1.4 Type **cud** *(could)*

Clipped units of this type exhibit omission of at least one grapheme representing a consonant and one grapheme representing a vowel.

      a) monosyllabic derivational base:

cud ← could; *mth* ← month; *pse* ← please; *sml* ← small; *shud* ← should; *tnks* ← thanks;

      b) polysyllabic derivational base:

teachg ← teaching.

4.3.2 Non-sequential central clipping

As already mentioned above, in the non-sequential clippings the eliminated element is interruptible and similar to random clipping. In contrast to some other types of clipping, the non-sequential central clipping is very productive, which has been proved by the examples in our corpus.

4.3.2.1 Type **tchr** *(teacher)*

This is the type of clippings coined from polysyllabic lexemes. They consist of a group of consonants which mark the formal skeleton or the supposed structure of the unreduced derivational base (cf. "skeleton abbreviations" in Lančarič 2008). Graphemes in the clipped unit represent all the consonants of the polysyllabic derivational base. In our corpus we have found the following clippings of this type:

      a) monosyllabic derivational base:

none;

b) polysyllabic derivational base:

chngd ← changed; *dwntwn* ← downtown; *fcbk* ← facebook; *nvr* ← never; *ppl* ← people; *prblm* ← problem; *rsrch* ← research; *sggst* ← suggest; *smtms* ← sometimes; *tchr* ← teacher; *wrkld* ← workload.

4.3.2.2 Type *smts* (sometimes)

In contrast to Type *tchr*, clippings belonging to this type have preserved only some of the graphemes representing consonants of the derivational base:

a) monosyllabic derivational base:

none;

b) polysyllabic derivational base:

btr ← butter; *fbk* ← facebook; *fdbk* ← feedback; *hmwk* ← homework; *lkg* ← looking; *lrng* ← learning; *pjct* ← project; *rmbr* ← remember; *rqmt* ← requirement; *smtg* ← something; *smts* ← sometimes; *tmrw* ← tomorrow.

4.3.2.3 Type *mngment* (management)

This is another type of skeleton clippings (cf. type *tchr*) which preserve not only derivational base consonants but also vowels:

a) monosyllabic derivational base:

none;

b) polysyllabic derivational base:

appt ← appointment; *awrness* ← awareness; *hwy* ← highway; *mngment* ← management; *pbly* ← probably; *whitbd* ← whiteboard.

Table 3. Central clipping – summary

Central clipping – type			
sequential	Type *grp*	Monosyllabic derivational base	22
		polysyllabic derivational base	13
	Type *sthing*	monosyllabic derivational base	0
		polysyllabic derivational base	4
	Type *yr*	monosyllabic derivational base	16
		polysyllabic derivational base	3
	Type *cud*	monosyllabic derivational base	6
		polysyllabic derivational base	1
Non-sequential	Type *tchr*	monosyllabic derivational base	0
		polysyllabic derivational base	11
	Type *smts*	monosyllabic derivational base	0
		polysyllabic derivational base	12
	Type *mngment*	monosyllabic derivational base	0
		polysyllabic derivational base	6
			Σ 94

4.4 Edge-clipping

Edge-clipping (Mattiello 2013: 75) is also referred to as "mixed clipping" (Kvetko 2009: 39), "syncope" (Jamet 2009: 18), or "combined truncation" (Lančarič & Pavlík 2016: 37). This type of clipping is rare in English (Mattiello 2013: 75). It consists in simultaneous deletion of the initial and the final parts of the derivational base (e.g., *flu ← influenza; van ← advantage*), and thus leads to the conservation of the central part of the derivational base (cf. Borys 2018). In our corpus, we have found no example of this type.

Table 4. Edge-clipping – summary

Final clipping – type	
Edge-clipping	0
	Σ 0

4.5 Combined central and final clipping

This is a process of clipping that involves omission of the central and the final part of the derivational base.

4.5.1 Type *dn* (done)

This type of clipping involves omission of two vowels: middle and final. In our corpus it occurred only with monosyllabic derivational bases:

    a) monosyllabic derivational base:

cm ← come; *dn* ← done; *hr* ← here; *mr* ← more; *sm* ← some; *thr* ← there;

    b) polysyllabic derivational base:

none.

4.5.2 Type *pp* (paper)

Clippings of this type originate from disyllabic derivational bases and contain consonants representing the beginning of each of their syllables. Similarly to Type *dn*, this process combines central and final clipping (cf. Type *dn*):

    a) monosyllabic derivational base:

none;

    b) polysyllabic derivational base:

bb ← baby; *mb* ← mobile; *pp* ← paper.

4.5.3 Type *eqt* (equity)

Clippings of this type originate from polysyllabic derivational bases and combine central and final clippings:

    a) monosyllabic derivational base:

none;

    b) polysyllabic derivational base:

droppn ← dropping; *eqt* ← equity; *prap* ← perhaps; *spk* ← speaking; *txtin* ← texting.

4.5.4 Type *gf* (girlfriend)

This is a type of morphological clipping (cf. "morphological abbreviations" in Lančarič & Pavlík 2016: 27), following the boundaries between the morphemes of the derivational

base. Morphological clippings thus consist of graphemes which function as initial graphemes or phonemes of the derivational base's morphological constituents:

    a) monosyllabic derivational base:

none;

    b) polysyllabic derivational base:

ath ← anything; *bg* ← background; *dl* ← download; *gf* ← girlfriend; *ho* ← hangout; *nth* ← nothing; *ts* ← transcript.

Table 5. Combined central and final clipping – summary

Combined central and final clipping		
*Type **dn***	monosyllabic derivational base	6
	polysyllabic derivational base	0
*Type **pp***	monosyllabic derivational base	0
	polysyllabic derivational base	3
*Type **eqt***	monosyllabic derivational base	0
	polysyllabic derivational base	5
*Type **gf***	monosyllabic derivational base	0
	polysyllabic derivational base	7
		Σ 21

4.6 Substitutive reduction

In standard written communication, graphemes are elements without a causal relation to the sound they represent. This apriori conventionalized feature of the grapheme may be used as the phonic icon in a different graphematic context (e.g., *enuf* ← *enough*; *ezy* ← *eazy*; *nrg* ← *energy*) (cf. Lančarič 2015: 107). Phonic iconicity, which simplifies informal keyboard-to-screen communication, is a frequent phenomenon. It can be defined as an analogy or similarity between the form of a derivational base and its target reduced variant. In our corpus, we have identified units manifesting their sound iconicity in combinations of graphemes as well as graphemes and numbers whose phonic makeup represents the sound nature of the derivational bases or syllables (ibid., 106). This type of phonic replacement contributes to the economy of language when the units not only

imitate the original phonic structure of the derivational base, but reduce the number of its graphemes. Since this type of reduction is represented by both graphemes and numbers, we have subdivided it into two categories: alphabetic substitutive reduction and alphanumeric substitutive reduction.

4.6.1 Alphabetic substitutive reduction

Through the process of alphabetic substitutive reduction, we do not only reduce the number of graphemes, but also change the spelling so that it corresponds to the pronunciation of the derivational base.

4.6.1.1 Type *tyga* (tiger)

This type represents sequential final alphabetic substitutive reductions. The process operates at the end of the derivational base but some graphic changes may occur in the medial parts:

      a) monosyllabic derivational base:

none;

      b) polysyllabic derivational base:

eva ← ever; *ova* ← over; *sista* ← sister; *tyga* ← tiger; *weneva* ← whenever.

4.6.1.2 Type *leet* (elite)

This type clipping involves sequential central alphabetic substitutive reductions combined with initial clipping:

      a) monosyllabic derivational base:

none;

      b) polysyllabic derivational base:

leet ← elite; *varsity* ← university.

*4.6.1.3 Type **bcome** (become)*

This type represents sequential medial alphabetic substitutive reduction associated with letter iconicity. The process operates in the middle of the derivational base. In our corpus we have found only one example of this type:

      a) monosyllabic derivational base:

none;

      b) polysyllabic derivational base:

bcome ← become.

4.6.2 Alphanumeric substitutive reduction

*4.6.2.1 Type **2day** (today)*

This type involves sequential numeric initial substitutive reductions. Both monosyllabic and polysyllabic derivational base variants have been identified in our corpus:

      a) monosyllabic derivational base:

1ce ← once;

      b) polysyllabic derivational base:

2day ← today; *2gether* ← together; *2night* ← tonight; *4ever* ← forever; *4get* ← forget.

*4.6.2.2 Type **4evr** (forever)*

This type represents non-sequential initial numeric substitutive reductions combined with central clipping. In our corpus we have identified only polysyllabic units of this type:

      a) monosyllabic derivational base:

none;

      b) polysyllabic derivational base:

2nt ← tonight; *4evr* ← forever.

*4.6.2.3 Type **gr8** (great)*

This sequential final numeric substitutive reduction was represented several times but only by one form:

     a) monosyllabic derivational base:

gr8 ← great;

     b) polysyllabic derivational base:

none.

*4.6.2.4 Type **l8tr** (later)*

This type represents non-sequential central numeric substitutive reduction combined with central clipping:

     a) monosyllabic derivational base:

none;

     b) polysyllabic derivational base:

cr8ng ← creating; *b2wn* ← between; *l8tr* ← later; *b3* ← battery.

Table 6. Substitutive reduction – summary

Substitutive reduction – type			
Alphabetic substitutive reduction	Type *tyga*	Monosyllabic derivational base	0
		Polysyllabic derivational base	5
	Type *leet*	Monosyllabic derivational base	0
		Polysyllabic derivational base	2
	*Type **bcome***	Monosyllabic derivational base	0
		Polysyllabic derivational base	1
Alphanumeric substitutive reduction	Type *2day*	Monosyllabic derivational base	1
		Polysyllabic derivational base	5
	Type *4evr*	Monosyllabic derivational base	0
		Polysyllabic derivational base	2
	Type *gr8*	Monosyllabic derivational base	1
		Polysyllabic derivational base	0
	Type *l8tr*	Monosyllabic derivational base	0
		Polysyllabic derivational base	4
			Σ 21

H$_1$ – testing

Table 7. H$_1$ – testing

Type	No:
Initial clipping	17
Final clipping	71
Central clipping	94
Combined central and final clipping	21
Edge-clipping	0
Substitutive reduction	21
	Σ224

Due to the nature of the hypothesis (Informal online communication is marked by a significant prevalence of final and central clippings as "less important" information carriers), central and final clipping have been organized into one category. Also, the category of edge-clipping has been removed because it contains 0 tokens. The results may be observed in the table below.

Table 8. H$_1$ – results

Type	No:
Initial clipping	17
Final clipping / central clipping / combined central and final clipping (merged)	186
Substitutive reduction	21
	Σ224

The results will be statistically verified using the Chi-square goodness-of-fit formula.

Table 9. Chi-square goodness-of-fit test

	Observed	Expected	Difference	Difference Sq.	Diff.Sq./Exp Ft.
Initial	17	74.7	-57.00	3249.00	43.32
Final + central + combined	186	74.7	111.00	12321.00	164.28
Subst. reduction	21	74.7	-54.00	2916.00	38.88
					246.480

The results of the goodness-of-fit test are the following: Chi^2 = 246.480, $p < .00001$. The result is significant at $p < .01$. This means that there is a significant difference among the inspected categories compared to the expected frequencies. To find out which particular categories are different, a series of post-hoc pair-wise goodness-of-fit tests have been carried out. Since there are 3 categories, the significance level was reduced to 0.05/3 = 0.0166.

Table 10. Post-hoc pair-wise goodness-of-fit tests

	Observed	Expected	Difference	Difference Sq.	Diff.Sq./Exp Ft.
Initial	17	19	-2.00	4.00	0.21
Subst. reduction	21	19	2.00	4.00	0.21
					0.421

	Observed	Expected	Difference	Difference Sq.	Diff.Sq./Exp Ft.
Initial	17	101.5	-84.50	7140.25	70.35
Final + central + combined	186	101.5	84.50	7140.25	70.35
					140.695

	Observed	Expected	Difference	Difference Sq.	Diff.Sq./Exp Ft.
Final + central + combined	186	103.05	82.50	6806.25	65.76
Sub. reduction	21	103.05	-82.50	6806.25	65.76
					131.522

The results of the post-hoc pairwise goodness-of-fit tests are the following:

Initial vs. Non-initial (final + central + combined): Chi^2 = 140.695, $p < .00001$.

Initial vs. Substitutive reduction: Chi^2 =0.421, $p = .51641$.

Non-initial vs. Substitutive reduction: Chi^2 = 131.522, $p < .00001$.

In the post-hoc test we compared all categories individually. The partial comparison shows statistically significant differences in 2 out of 3 categories.

This means that there are statistically significant differences among tested categories. In terms of the tested hypothesis, we can state that non-initial clipping is indeed more frequent than any other type of clipping. H_1 has been confirmed.

H_2 – testing

H_2 tests the assumption that consonants are primary carriers of the meaning. Thus, when a lexeme is reduced (clipped), in clipped parts, vowels prevail over consonants while consonants (the main carriers of meaning) remain. To test this assumption, the total number of vowels and consonants in all clipped lexemes will be identified and their ratio will be determined. The obtained values will be statistically tested for the significance of the difference in the distribution of vowels and consonants in clipped elements.

Table 11. H_2 – testing

Type of clipping	Lexeme count	Clipped vow. count	Clipped cons. count
Initial clipping	17	19	12
Final clipping	71	135	144
Central clipping	94	177	45
Combined (central+final)	21	45	35
Sub. reduction	21	34	27
	Σ224	**Σ410**	**Σ263**
Total number of clipped elements	**673**		

Table 12. H_2 – results

Type of clipping / reduction	Clipped/reduced vow. count	Clipped/reduced cons. count
	410	**263**

Table 13. Chi-square goodness-of-fit test

	Observed	Expected	Difference	Difference Sq.	Diff.Sq./Exp Ft.
Clipped / reduced vowels	410	336.5	73.50	5402.25	16.05
Clipped / reduced consonants	263	336.5	-73.50	5402.25	16.05
					32.108

The Chi^2 value is 32.108. The p-value is < .00001. The result is significant at $p < .05$. The results of the goodness-of-fit test are the following: Chi^2 = 32.108, $p < .001$. This means that vowels are dropped significantly more often than consonants during clipping. H_2 has been confirmed.

6. Conclusions

The linguistic economy principle applies to different levels of language as a consequence of our tendency to take the least effort to most of our communicative resources. This paper has been concerned with economizing processes operating during computer-mediated on-line communication, which often requires spontaneous reactions and such utterances are thus condensed, ellipted or clipped. In particular, lexemes are initialized, acronymized or structurally reduced. In English, however, there is no clear-cut rule of how to reduce the lexical units. The processes are marked by many irregularities as well as phonological approximation and orthographic assimilation associated with special sound and graphic iconic symbols. In addition to this, the phonetic realization of the reduced lexeme does not usually perfectly correspond to the sound of the original unreduced lexeme. However, the reductions are interpreted with ease in understanding within the given social group sharing the same communicative context.

We have identified and categorized the structural reduction of simple lexemes with a focus on clipping and substitutive reduction processes. We have described 224 reduced units and grouped them into initial, final, central clippings, edge-clippings, combined central and final clippings and substitutive reductions, with respect to sequential or non-sequential nature of reduction as well as monosyllabic and polysyllabic structure of the derivational base.

Within the pilot study, we had assumed the prevalence of final clipping types, because in English the initial parts of lexemes usually carry the most important segment and thus tend to be preserved. We had also assumed the prevalence of consonants in the reduced units because they are important carriers of information and are not as predictable as vowels. Since the research was descriptive and taxonomic, we did not study the frequency of the occurrence of individual tokens. Particular categories and types were determined and all the nonce coinages were eliminated.

The taxonomy we suggested consists of six major types of structural reductions of lexemes. Two hypotheses were tested; H_1 focused on the prevalent type of clipping which supposedly determines certain parts of lexemes as primary information carriers. The category of central clipping was linked to the category of final clipping. In accordance with the previous assumption that initial parts of lexemes are the primary information carriers whereas the remaining parts, in this respect, come as secondary, the complex category of final + central + combined clipping was tested as prevailing over the other categories. This finding was tested statistically. The level of statistical significance, the p-value $< .00001$ and $< .00005$ proved that the observed counts are significantly disproportional against the expected counts. These findings provide enough evidence for the falsification of H_0 (All lexeme segments are equal information carriers; all types of clippings are distributed equally) and acceptance of H_1 (Informal online communication is marked by a significant prevalence of final and central clippings as "less important"

information carriers). Since the initial parts of lexemes appear to be primary information carriers, these would less likely be clipped. Clipped lexemes will predominantly involve the remaining parts of lexemes, which, with respect to the information-carrier status, come as secondary.

H_2 focused on a dominance of information carriers on the vowel and the consonant level. Consonants, as the primary information carriers were supposed to be clipped less frequently than vowels. Aggregate categories of clipped vowels (410) and clipped consonants (263) were established, counted out of all clipped lexemes. The research identified the category of vowels as prevalent in clipped parts of lexemes. This finding was tested statistically with the p-value $< .00005$ proving it significance. The level of significance provided us with the evidence for the falsification of H_0 (In informal online communication, clippings are marked by an equal removal of vowels and consonants) and the acceptance of H_2 (Informal online communication is characterized by a significantly prevalent removal of vowels as less important information carriers).

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Résumé

Present-day English is quite remarkable for various processes of language economy. This modern phenomenon is strikingly significant in on-line chat communication where the message delivered by a lexeme appears to be more relevant than its actual make-up. As a result, lexemes of various lengths are commonly structurally reduced. This article presents a two-level research into the processes of lexical reductions of lexemes, particularly regarding clippings and substitutive reductions. In the introductory part, six major categories of structural reductions of lexemes were established based on corpus findings. The second part of the research assumed that, with respect to carrying information, some

parts of lexemes are more important than others. H_1 tested the assumption that final clippings, as less relevant from the message-carrying perspective, will be the prevalent types of clippings. The category of central clipping appears to overlap between the initial and final clippings. To secure the objectivity of the category, it was coupled with the final clipping category and was tested against the other types of clippings. The findings proved the joint category of final and central clippings significantly prevalent, which provided evidence for the acceptance of H_1. H_2 tested the assumption that consonants are primary information carriers and thus they tend not to be clipped or are clipped less frequently than vowels. The research identified vowels as significantly prevalent in the clipped parts over consonants, which provided us with enough evidence for the falsification of H_0 and the acceptance of H_2. Based on the research findings, a generalization may be made that even though the decision, on which part of a lexeme is to be reduced may appear quite arbitrary, it is still governed by the semantic values of the lexical parts which are to be removed.