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## Phonological Reduction in Pashto

### Abstract:

*The study is concerned with the phonological reduction in Pashto. The study particularly focuses on the reduction in the structure of complex predicates, verbal clitics and postpositional phrases in Pashto. The study finds out that the phonological reduction has syntactic/semantic or phonological factors allowing or constraining it. These more or less reduced and expanded forms are closely related to a number of linguistics abstractions. In structures with verbal clitics and postpositions, the reduction is optional, while in structure with complex predicates, the phonological reduction is obligatory if the compound verb denotes imperfective aspect. The obligatory reduction makes a single phonological unit from two syntactic units by omitting consonants or vowels in the structure of the phrase. The reduction is avoided if it creates an ambiguity of some kind or if the meaning of the lexical items is changed, and so, its allowance in one structure is constrained in another.*

### Key Words:

Phonological Reduction, Verbal Clitics, Complex Predicate, Postpositional Phrase, Pashto

### Introduction

Phonological reduction in natural language may happen at a word or phrase level. The word itself for some researchers is either purely a syntactic (Bloomfield, 1993), a morphological (Anderson, 1985) or a phonological (Nespor & Vogel, 1986) unit. For others, the word is not a unified construct but rather a domain within which rules of various grammatical components may apply (Dai, 1990). There is not always one to one correspondence and realization of a word at different levels of language (syntactic, morphological and syntactic or semantic word) and two syntactic words could be two phonological words or two syntactic words could be one phonological word. That is why we have two syntactic and two phonological words in the first example below (*cat* and *is*) and two syntactic words but one phonological word (*cat's*) in the second example.

- 1) a) He cat is going to eat.
- b) The cat's going to eat.

(Dai, 1990)

The above different treatment for words (one phonological word for two syntactic words in 1b) for almost the same meaning overrides the one-to-one mapping of phonological and syntactic words. The above examples show that the phonological operations like deletion, substitution and permutations may apply to words and syntactic units. The present study focuses on these syntactic aspects of phrases in Pashto, allowing the optional and obligatory phonological reduction and so, making a single phonological unit from two syntactic units. These expanded and the reduced phonological forms of optional reduction and reduced phonological forms of obligatory reduction in Pashto phrases are governed by lexical

and syntactic factors. The variation though language-dependent is related to the extra-phonological parameter like grammatical function, morphology, syntax (Schachtenhaufen, 2013). These more or less reduced and expanded forms are closely related to a number of levels of linguistics abstractions. The phenomena happen in the structure containing complex predicate (obligatory phonological reduction), postpositional phrases and verbal clitics (optional phonological reduction). Complex predicates in Pashto represent actions through

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compound verbs. The compound verb is the combination of verbal and non-verbal elements in Pashto (Roberts, 2000; Rahman, 2014). The verbal clitics (VC) are clitics phonologically attached with a verb or with a postposition. The clitics are phonologically deficient grammatical categories bound to be attached to the neighboring host word (Trask, 1996). The cliticization is the attachment of the weak pronoun (phonologically deficient form in the form of verbal clitics in Pashto) with verbs or postpositions showing agreement features for a person. The verbal clitic identifies the person features of the antecedent cognitively accessible in the context of the discourse (Rahman, Din & Iqbal, 2017). The following examples show a complex predicate (2a), a verbal clitic (2b) and a postpositional phrase (2c).

- 2) a) Maa piala *mata kra*  
1.SG cup.F.NOM break.F.NOM do.F.NOM.PST.PF  
I broke the cup.
- b) pa Ahmad pase *WAR sha*  
PREP Ahmad after VC.3. go  
Go after Ahmad.
- c) agha ba *WAR sara* lar she  
3.SG PREP VC.3 with go do.PRST.IMP  
He will accompany him/her.

The optional phonological reduction in Pashto happens in structures where it does not create ambiguity in terms of aspect/tense or lexical meaning through the combination of grammatical categories. But if it creates ambiguity (because of some syntactic and semantic factors) of some kind, it is avoided, and the full forms are used. The obligatory phonological reduction, being syntax-based happens irrespective of the concept of ambiguity.

### Incorporation in Pashto

Incorporation is the inclusion of a lexical element into the structure of another lexical element (Olthof, 2020) in such a way that the two constitute a single word (Haugen 2015). Incorporation is found in polysynthetic languages (Murasugi, 2014). In nouns incorporation, the noun functioning as object or modifier incorporates into the verb (Haugen, 2007) forming a complex and single stem, where the noun is the incorporated element, and the verb is the host to which the noun attaches (Olthof, 2020). Incorporation of other lexical or grammatical categories has been reported cross-linguistically. The incorporated element is a separate stem or single morpheme root in incorporation (Štekauer et al., 2012). But this incorporation is quasi-incorporation in the sense of Booij (2008) which is a combination of noun and verb in the form of phrasal predicates in construction with its own semantic and syntactic properties. This combination of noun and verb can be split in certain syntactic constructions and so is phrasal in nature as separable complex (Carlson 2006; Booij, 2008). The verbal clitics in Pashto are also incorporated with the verbs they that do not have meaning in isolation or if they have the meaning of some kind, their meaning is different from the meaning of the combination of verbal clitic and verb. The following example shows the verbal clitic *raa* incorporated into the verb. These verbal clitics are explained from the perspective of motion typology of verbs.

- 3) maa hagma *RAAkhko*  
1.SG 3.SG 1.VC.drag  
I dragged him.

The meaning of the verb *raakhko* 'to drag' includes the dragging towards the speaker and so the verbal clitic *raa* is incorporated into the verb *khko*. Other verbal clitics identifying second and third person are not used with the same verb. The change of person of the subject (speaker) has no effect upon the structure of the incorporated word. If we change the first person above to second or third person, the same verbal clitic *raa* is used with them.

- 4) a) taa hagma RAAkhko  
2.SG 3.SG 1.VC.drag  
You dragged him.  
b) hagma za RAAkhkam  
3.SG 1.SG.NOM 1.VC.drag  
He dragged me.

It is because of the inherent meaning of the motion verb *raakhkal* 'to drag' in Pashto, which is the movement (pulling) of the things towards the objects (person). The verbal *RAA* identifying the first person is used with the second person and third person subject. Other similar verbs are *raaparzawal*, *raakhista*, etc. Some other verbs take either one or two of the verbal clitics and do not take a third verbal as the verb *niwal* 'to catch' can be *RAAniwal* 'to catch in the sense to hold something with oneself' but not *DARniwal* 'to catch in the sense to hold something with you' and *WARniwal* 'to catch in the sense to hold something with others'. The root is not *niwal* as its meaning is different from the meaning of *RAAniwal*.

- 5) a) maa Ahmad RAAwaniwo  
1.SG ahmad 1.VC.catch.PST.PF  
I caught Ahmad.  
b) za Ahmad RAAnism  
1.SG Ahmad 1.VC.catch.PRES.IMP  
I am catching Ahmad.

The same verb if replaced with another verb like *rgharrawal* 'to roll' can take any type of verbal clitic and so, we have *raargharrawal* 'to roll something towards me', *darrgharrawal* 'to roll something towards you (pushing)', *warrgharrawal* 'to roll something towards him/her/them' (pushing). Note that English has different words for *push* and *pull*, Pashto has a single word (verb as a host) and the different incorporated elements (verbal clitics) make different words. The incorporated element (clitic) is a noun (either as arguments see [Roberts \(2000\)](#) or agreement features, see [Rahman \(2014\)](#) which is attached to the host verb. The morphosyntactic behavior of the verbal clitic helps a lot in deriving new words from the already existing words showing the person features in the form of directional operators. The concept of direction towards the subject (with respect to the speaker) is conveyed by verbal clitic incorporated to the verb. This concept of movement (with respect to the speaker) through verb is conveyed if verbal clitic (clitic identifying the first person specifically) is incorporated into verb.

### Phonological Reduction in Verb Phrases

Verbal clitics are used in Pashto along other second position clitics instead of full noun phrases. These verbal clitics identifying full dative arguments or agreement marker are used for active arguments cognitively accessible and previously mentioned or understood from the context of discourse instead of full noun phrases ([Rahman, Din & Iqbal, 2017](#)). They undergo an optional phonological reduction in the structure of the verb phrase in which they appear. If the verbal clitic precedes the verb that begins with a vowel sound, the second consonant sound in verb may be omitted, e.g., if we have the verbal clitic and verb combination like in the structure *DAR aghlam* 'I am coming to you', this combination becomes *DARalam* where the second consonant of the verb has been omitted. Same is the case with other verbal clitics occurring with the same verb, e.g., *WAR aghlam* becomes *WARalam* 'I have been to him/her/them/there' and *RAA aghlam* 'I came' becomes *raalam* 'came'.

- 6) a) za der wakht bad RAA aghlam  
1.SG very time after 1.VC.come.PST.PF  
I came after a long time.  
b) za der wakht bad RAAalam  
1.SG very time after 1.VC.come.PST.PF  
I came after a long time.

The first example above (6a) contains the full form of the compound verb, which is a combination of the main verb and the verb clitic attached to the verb. The second example (6b) shows the phonologically reduced form of the verb, i.e. the  $\Upsilon$  consonant sound represented by ‘gh’ letters is omitted.

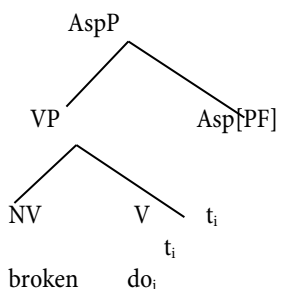
### Phonological Reduction in Complex Predicates

Words or phrases are often produced with fewer possible segments, and wherever possible phonological reduction happens. This phenomenon is especially done in languages or structures where the information can be conveyed through many syntactic and morphological representations. Languages like Pashto, in a similar fashion, reduce the phonological forms or even omit the entire words (for example, pro in Pashto, see [Rahman, Din and Iqbal, 2017](#)). Complex predicates in Pashto represent actions through compound verbs. The compound verb is the combination of verbal and non-verbal elements in Pashto ([Roberts, 2000](#); [Rahman, 2014](#)). The compound verbs can show the perfective and imperfective aspects. The phonological reduction in case of imperfective is obligatory while in case of perfective is not allowed (see [Roberts \(2000\)](#) for details of aspect in Pashto). The following examples show the phonological reduction for imperfective and expanded form for perfective aspect.

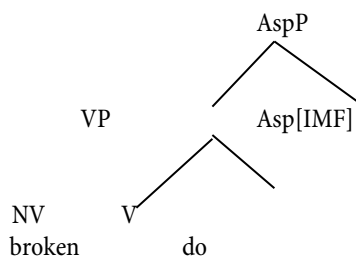
- 7) a) Sangin kirkay matai  
 Sangin.NOM window.NOM break.do.PRES.IMP  
 Sangin is breaking the window.  
 b) Sangin kirkay mata kra  
 Sangin.ERG window.F.NOM break.F.NOM do.F.NOM.PST.PF  
 Sangin broke the window.

[Roberts \(2000\)](#) assumes the following configurations for perfective and imperfective aspects of the compound verb *mat kawal* ‘breaking’ in the above examples.

#### Perfective



#### Imperfective



([Roberts, 2000](#)).

After the perfective moves to Asp, we have the following prosodic structures of the perfective and imperfective, where compound verb for perfective has two prosodic words divided by the maximal projection VP, and the imperfective a single prosodic word.

[ ω broken ] [ ω do ]

[ ω broken ]

The phonological reduction in the compound verbs happens in combining the two elements of the compound verbs to make a single phonological word from two syntactic words. If the nonverbal element of the compound verb ends in a consonant sound, the initial consonant (k) of the imperfective auxiliary is omitted, and both make a single phonological word. For example, the imperfective *maat kom* ‘I am breaking’ becomes *matom* but the perfective *mat*

*karay* ‘I broke’ does not become \**mataray*.

- 8) a) za war matom

- 1.SG.NOM door.SG.NOM braek.PRES.IMP.NOM  
I am breaking the door.  
b) Maa war mat karay  
1.SG.ERG door.SG.NOM.M break.NOM.M do.PST.PF.M  
I have broken the door.

([Roberts, 2000](#))

The first example above (8a) shows the imperfective aspect and the second example (8b) shows the perfective aspect. According to [Roberts \(2000\)](#), in the first example, showing imperfective, the compound verb makes a single phonological word that agrees with the subject, while in the last example showing perfective aspect, the compound verb has two distinct phonological words; the non-verbal element is a distinct phonological word. The phonological reduction happens in case of imperfective (making one phonological word from two syntactic words). But if the non-verbal element in imperfective ends with a vowel sound, the phonological reduction does not happen.

- 9) a) Za khabara kom  
1.SG.NOM talk.SG.NOM do.PRES.IMP.NOM  
I am talking.  
b) Maa khabara kawala  
1.SG.ERG talk.SG.NOM do.PST.IMP.NOM  
I was taking.

Lack of this obligatory reduction is again lexical and syntactic in nature. If we apply the same phonological process here to make a single phonological word from the imperfective and two distinct phonological words from the perfective, the above sentences become.

- 10) a) \*Za khabrom  
I am talking  
b) \*maa khabrawala  
I was talking.

The above two examples are ungrammatical in a sense to give the same meaning as the above two sentences. Otherwise, they are grammatical if they convey the meaning given below.

- 11) a) Za khabrom  
1.SG.NOM inform.SG.NOM  
I am informing him/her/them  
b) maa khabrawala  
1.SG.ERG inform.SG.NOM  
I was informing her.

When we apply the same phonological process to the above verbs, the same sentences have totally different meanings from the sentences without applying this process. There is again no phonological reduction in the following examples for imperfective below.

- 12) a) Maa war pore kawo  
1.SG.ERG door.SG.NOM.M shut do.PST.IMP  
I was shutting the door  
b) \*maa war porawo  
I was shutting the door.

The above examples show that the phonological process of the omission of the initial (k) from the auxiliary is only possible when the non-verbal element before it retains its root form and the agreement marking suffixes of the auxiliary. But in the case of perfective, if the initial consonant (k) of the verbal element is omitted, it no more shows a perfective aspect in compound verbs. So, the two elements of the compound verb make a single

phonological word if the non-verbal element ends on a consonant sound. But the phonological reduction is not possible for the perfective aspect of the same compound verb. The aspect (grammatical function along with syntactic abstraction) either allows or does not allow the possibility of phonological reduction but the presence and absence of consonant and vowel in the word highlight phonological conditioning as well. The constraints for phonological reduction thus could be both syntactic and phonological in nature.

### Phonological Reduction in Postpositional Phrases

The verbal clitic functions as an object of postposition (or agreement markers of the indirect object) where the last consonant of the verbal clitic for the third person is omitted like *WAR ta* becomes *WA ta* and *DAR ta* becomes *Da ta*.

- 13)       za DA ta kal kom aw               ta bezi ye  
           1.SG VC.2               POST call do and you busy are  
           I am calling you but you are busy.

Interestingly, the postpositional phrases and verb phrases behave differently in terms of phonological reduction. That is, phonological reduction of verbal clitics for the second person is allowed in postpositional phrases, as shown above (13) but not in other phrases (15d). The reason for this constraint is partly lexical and partly syntactic. If *DAR ta* is phonologically reduced, it becomes *DA ta*, which is a combination of pronoun and postposition (see examples 15e and 15f). Similarly, the verbal clitic for third-person *RAA ta* does not change because it becomes *Rata* which is a word of measurement in Pashto. So phonological reduction in Pashto is syntax-based and wherever allowed (not creating lexical or syntactic ambiguity) is done in postpositions and other structures.

The phonological reduction is so common in the language that sometimes the verbal clitic used with other words appears to be preposition as in 13b below. But actually, they are verbal clitics, phonologically simplified by the elision of consonant sound at the end of an incorporated element. This kind of morphological sameness should not be confused with the verbal clitic identification with a proper preposition as in (14c). The determining factors (to be a preposition or a verbal clitic) are lexical and syntactic/semantic, not their same morphological forms.

- 14)   a)        aga DAR pore khandi  
           3.SG 2.VC on laugh.PRES.IMP  
           He is laughing at you.  
       b)        aga DA pore khandi  
           3.VC 3.VC at khandi  
           He is laughing at you.  
       c)        aga DA pore kali day  
           3.SG PREP across village be.PRES.3.SG  
           He is from the village opposite to us.

### Phonological Reduction Constraints

The clitics in Pashto may occur in the form of clusters (Roberts, 2000). These clusters could be a combination of second position clitics or a combination of verbal clitic and a second position clitic. If the verbal clitics are used, preceding second position clitic, the same phonological process does not happen as it changes the meaning (verbal clitic becomes perfective marker). The verbal clitic for third-person *WAR*, if followed by the second position clitic *me* is phonologically reduced, it becomes *WA ME* from *WAR ME*. As *WA* in Pashto is also a perfective marker, it creates ambiguity where the easier meaning is that of perfective marker not that of verbal clitic. Therefore, ‘r’ in the third person verbal clitic *WAR* in (15a) cannot be omitted, as it changes the meaning altogether (15b). The examples (in 15) bellow do not contain full arguments, but the arguments are

realized by second position clitic (*me*) and verbal clitic. Note that the same does not happen with second person verbal clitic *DAR*, which is a verbal clitic for the second person (15c). This verbal clitic may not be phonologically reduced as it turns into a pronoun *DA* for third-person singular visible in the context of discourse (15e, 7f).

- 15) a)                                      *WAR me ko*  
  3.VC 1.CL                                      give.PST  
  I gave it to him.
- b)                                      *WA me ko*  
  PERF 1.CL do.PST.PF  
  I did the work.
- c)                                      *DAR me ko*  
  2.VC 1.CL                                      give.PST  
  I gave it to you.
- d)                                      \**DA me ko*
- e)                                      *DA me book RAAwrro*  
  3.SG 1.CL book VC.bring.PST.PF  
  He brought my book.
- f)                                      *DA ta nan pata walageda*  
  2.SG to today news. hear.PST.PF  
  He realized today/He got the news today.

The above examples show that the perfective marker and preposition appear in the same position where verbal clitic appears (15b, 15e). The perfective marker *WA* and the preposition *DA* here are not the short forms of the verbal clitic *WAR* and *DAR*.

## Conclusion

The present study was concerned with the phonological reduction in Pashto. The study particularly focused on the reduction in the structure of complex predicates, verbal clitics and postpositional phrases in Pashto. The study found out that the phonological reduction (both optional and obligatory) has syntactic/semantic and phonological factors allowing or constraining the process. These more or less reduced and expanded forms were closely related to a number of levels of linguistics abstractions. In structures with verbal clitics and postpositions, the reduction was optional, while in structure with complex predicates, the phonological reduction was obligatory if the compound verb denoted imperfective aspect. The obligatory reduction made a single phonological unit from two syntactic units. The final consonant sound of the verbal clitic was elided when it was attached to the host verb or postposition, and it did not change the meaning of the incorporated element and the host combination. But if the phonological reduction changed the meaning of the derived verbal or postpositional complex, it did not happen. This incorporation results in the derivation of new words where the meaning of the derived complex was so dense that if the incorporated element (verbal clitics) was removed, the host could not give its original meaning. The incorporated element, therefore, behaved differently with different host verbs and postpositions. The phonological reduction may happen in the sounds of the incorporated element or in the sounds of the host. If the verbal clitic preceded the verb that begins with a vowel sound, the second consonant in the verb could be omitted. In case of verbal clitics attachment with postposition, the final consonant of the verbal clitic was omitted. Bur in case of verbal clitic for first-person having vowel sound at the end, the phonological reduction did not happen. These expanded and the reduced phonological forms of optional reduction and reduced phonological forms of obligatory reduction in Pashto phrases are governed by lexical and syntactic/semantic factors. The aspect (grammatical function along with syntactic abstraction) either allowed or did not allow the possibility of phonological reduction but the presence and absence of consonant and vowel in the word highlighted phonological conditioning as well.

The verbal clitics in Pashto are also incorporated with the verbs that do not have meaning in isolation, or if they have the meaning of some kind, their meaning is different from the meaning of the combination of verbal clitic and verb. The first consonant sound of the verb in the verbal complex is omitted. If the nonverbal element of the compound verb ends in a consonant sound, the initial consonant (k) of the imperfective auxiliary is omitted, and both make a single phonological word. But if the non-verbal element in imperfective ends with a vowel sound, the phonological reduction does not happen. Similarly, if the verbal clitics are used, preceding second position clitic, the same phonological process does not happen as it changes the meaning. The constraints for phonological reduction thus could be both syntactic/semantic and phonological in nature. Interestingly, the postpositional phrases and verb phrases behave differently in terms of phonological reduction. That is, phonological reduction of verbal clitics for the second person is allowed in postpositional phrases but not in other phrases. The reason for this constraint is partly lexical and partly syntactic. The phonological reduction is so common in the language that sometimes the apparent morphological form of the proposition is actually the reduced form of verbal clitic.



## References

- Anderson, R. S. (1985). Inflectional morphology. In S. Timothy (Ed.) Language typology and syntactic description (150-201). Cambridge: *Cambridge University Press*.
- Anderson, R. S. (1992). A-Morphous morphology. Cambridge: *Cambridge University Press*.
- Anderson, R. S. (2005). Aspects of the Theory of Clitics. New York: *Oxford University Press*.
- Bloomfield, L. (1933). Language. New York: Henry Holt & Co.
- Booij, G. E. (2008). Pseudo-incorporation in Dutch. *Groninger Arbeiten zur Germanistischen Linguistik*, 46, 3-26.
- Carlson, G. (2006). The meaningful bounds of incorporation. In: S. Voegeleer and L. Tasmowski (Eds.) Non-definiteness and plurality (35–50). Amsterdam: John Benjamins.
- Dai, J. X. L. (1990). Syntactic constructions in serial verb expressions in Chinese, The Ohio state University working papers in Linguistics 3, 316-33.
- Haugen, J. D. (2007). Denominal verbs and noun incorporation: Uto-Aztec evidence for a unified syntactic account. In F. Hoyt, N. Seifert, A. Teodorescu & J. White (Eds.), *Morphosyntax of underrepresented languages*(145–165).
- Kayne, R. (1975). French syntax: The transformational cycle. Cambridge: *MIT Press*.
- Khan, A, A. Anees, M. Rahman, G. (2020). The Patterns of Code-Switching in Pashto-English Bilingual Data. *Global Social Science Review*; V, (I) 123 - 133.
- Khan, A. A. & P. Muysken. (2014) Strategies for incorporating nouns and verbs in code-mixing: the case of Pashto-English bilingual speech. *Lapudum* 18, 97-137.
- Khan, A. A. Khalid, A. (2018). Pashto-English Code switching: Testing the Morphosyntactic Constraints of the MLF Model. *Lingua-Elsevier* 201, 78—91
- Khan, A. A. Khalid, A., Rahman, G. (2020). The Integration of Embedded Language Islands in Pashto-English Bilingual data: *Hamdard Islamicus*, 43(1) 439-459.
- Khan, A.A & Bukhari, H.N. (2014). Descriptive Study of Compound Verbs and Light Verbs Constructions in Pashto-English Code Switching. *Kashmir Journal of Language and Research* 17(2) 2-14
- Khan, A.A. Bukhari, H.N. & Khalid, A. (2018). Pashto-English Bilingual data: Testing the Diagnostic Features for the Patterns of Codemixing. *Kashmir Journal of Language and Research* 21(1) 39-59
- Khan, A.A. Bukhari, H.N., Khalid, A., Abbas, N.S. (2019). The prediction of morphemes distribution at surface and abstract level: the case of Embedded Language nonfinite verbs Pashto-English Bilingual data. *Kashmir Journal of Language and Research*, 22
- Murasugi, K. (2014). Noun incorporation, nonconfigurationality, and polysynthesis. In A. Carnie, Y. Sato & D. Siddiqi (Eds.), *The Routledge handbook of syntax* (283-303). London: Routledge.
- Nespor, M. and Vogel, I. (1986). *Prosodic theory*. Dordrecht: *Foris*.
- Nikolaeva, T. M. (2008). Non-paradigmatic linguistics: History of wandering particles. Moscow: Yazyki slavianskikh kultur.
- Olthof, M. (2020). Formal variation in incorporation: A typological study and a unified approach. *Linguistics*, 58(1), 131–205.
- Rahman, G. (2014). Verbal Clitics in Pashto. (Unpublished doctoral dissertation). Azad Jammu and Kashmir University: Muzaffarabad, Pakistan.
- Rahman, G, Riaz, D. & Iqbal, M. (2017). Cognitive Accessibility and Referents Encoding Possibilities. *Kashmir Journal of Language Research*, 20(2), 37-50.
- Rahman, G. & Bukhari, N. H. (2014). Case System in Pashto: *Kashmir Journal of Language Research*, 17(1), 173-193.
- Rivas, A. (1977). A Theory of Clitics. Unpublished doctoral dissertation). Massachusetts Institute of Technology: Massachusetts, USA.
- Roberts, T. (2000). Clitics and Agreement. (Unpublished doctoral dissertation). Massachusetts Institute of Technology: Massachusetts, USA.

- Schachtenhaufen, R. (2013). Phonetic reductions and linguistic factors. In *New Perspectives on Speech in Action. Proceedings of the 2nd SJUSK Conference on Contemporary Speech Habits* (167-179). Copenhagen: Samfundslitteratur.
- Štekauer, P., Valera, S., & Kórtvélyessy, L. (2012). *Word-formation in the world's languages: A typological survey*. Cambridge: *Cambridge University Press*.
- Strozer, J. R. (1977). *Clitics in Spanish*. (Unpublished doctoral dissertation). University of California, Los Angeles, USA.
- Tegey, H. (1975). A Study of Pashto clitics and implications for linguistic theory. *Studies in the Linguistic Sciences* 5(1), 154-196.
- Tegey, H. (1977). *The grammar of clitics: Evidence from Pashto and other languages*. (Unpublished doctoral dissertation). University of Illinois at Urbana: Champaign, USA.
- Trask, R. L. (1996). *Dictionary of Phonetics and Phonology*. New York: *Routledge*.
- Zimmerling, A. (2009). Dative subjects and semi-expletive pronouns in Russian. In G. Zybatow, U. Junghanns, D. Lenertova, P. Biskup (Eds.). *Formal Slavic Phonology, Morphology, Syntax, Semantics and Discourse Structure* (253–268). New York: *Peter Lang Publishing*.