Chapter 8

Post-predicate elements in Early New Persian (10–13th Century CE)

Mehdi Parizadeh[a] & Mohammad Rasekh-Mahand[a]
[a]Bu-Ali Sina University, Hamedan

In this chapter, we investigate post-predicate elements in written Early New Persian texts from four different sources, covering the 10th to 13th centuries. The analysis shows that post-predicate elements are overall far less frequent than in contemporary spoken Persian corpora, and that the effect of semantic role is negligible. In the written texts investigated here, post-verbal elements do not form a semantically homogenous group, and goals are not more prone to postposing than other roles. However, we do find an overall effect of weight, with heavier constituents more likely to be postposed, as well as an effect of register.

1 Introduction

The history of Persian language is normally divided into three main eras: Old Persian (OP) (6th to 4th century B.C.E), Middle Persian (MP) (3rd to 7th century C.E.), and New Persian (NP) (8th to present time). The New Persian era is subdivided differently by different scholars (see Paul 2019: 572–576), but normally the first four centuries are referred to as Early New Persian, which has some peculiar morpho-syntactic features. Paul (2019: 576) gives the following subdivisions: Early New Persian (8th-12th centuries), Standard New Persian (13th - 19th centuries) and Modern (High New) Persian (19th century-present). In this study, we analyze the post-predicate elements from a selection of texts written in Early New Persian. Since there are no authentic written materials from the first two centuries, our corpus covers materials from 10th to 13th centuries. Post-predicate elements are reportedly frequent in contemporary spoken Persian

Mehdi Parizadeh & Mohammad Rasekh-Mahand. 2024. Post-predicate elements in Early New Persian (10–13th Century CE). in Geoffrey Haig, Mohammad Rasekh-Mahand, Donald Stilo, Laurentia Schreiber & Nils N. Schiborr (eds.), *Post-predicate elements in the Western Asian Transition Zone: A corpus-based approach to areal typology*, 231–244. Berlin: Language Science Press. DOI: 10.5281/zenodo.14266345

(Frommer 1981, Rasekh-Mahand et al. 2024 [this volume]). Lazard (1963) is among the first studies which dealt with constituent order in ENP. This study focuses on written materials from the first records of New Persian, in search of similarities and differences between them. A further important source for ENP are Early Judaeo-Persian texts, written mainly from the 10th–12th centuries CE. The Early Judaeo-Persian corpus contains autographs of private letters that represent an authentic colloquial style that is hardly found in ENP literary texts, their analysis could broaden our understanding of word order in ENP (Paul 2013), but lie beyond the scope of the current study. Persian boasts a rich legacy of written texts, affording scholars the opportunity to scrutinize the attributes of this language over the course of centuries. Although various aspects of the language have been examined from a historical standpoint, no prior research has addressed the post-predicate phenomena. By shedding light on word order in Early New Persian, this study brings a much-needed historical perspective into the discussion and a point of departure for quantitative studies on historical Persian (and Iranian) syntax. It also contrasts with the majority of studies in this volume, which focus on spoken language

2 The corpus

Four books from the Early New Persian were selected: *Tārikh Tabari* (10th cent.), *Qābusnameh* (11th cent.), *Tazkerat al-Oliyā* (12th cent.) and *Fihe mā Fih* (13th cent.). Regarding the sampling methodology, approximately 2000 words (five pages) were selected from each book and included in the sample. It is noteworthy that all the selected pages were the first pages of their respective books, with the exception of *Tārikh Tabari* (10th cent.) which was limited to pages 414–419. These samples yielded in total 2228 tokens of non-subject constituents for the analysis. Further details about these texts are briefly introduced in the subsequent sections.

Tārikh Tabari (10th cent.) is written by Mohammad Ibn Jarir al-Tabari, who was a Persian historian and Islamic scholar from Tabarestan, north of Iran. This book is one of the most reliable and famous references for understanding the history of religions and prophets in Iran. The book begins with the creation time and recounts stories of the prophets and kings until the time of the prophet of Islam. In the first part, it narrates the history before Islam, and in the second part, the history after Islam. This book is among the oldest texts available in Early New Persian. From the 11th century, we have used *Qābusnameh*, written by Onsor al-Ma'ali KeyKavus Ibn Iskandar-e Ziyāri, the ruler of parts of Tabarestan, north of Iran. It is arranged in 44 chapters besides an introduction. It is dedicated to

his son, Gilānšāh. In this book, he gives advice to his son as a guidance for his governance. He discusses issues such as military practices and social customs.

Tazkerat al-Oliyā (12th cent.) is a hagiographic collection of ninety-six Sufi stories by the Persian poet and mystic, Farīd al-Dīn Aṭṭār. Aṭṭār's only surviving prose work has 72 chapters, beginning with the life of the Sixth Shi'a Imam, and ending with the Sufi Martyr, Mansur Hallāj. The lives of the Sufis in this book are set in a more or less uniform format. Each biography starts with a set of embellished phrases, rhyming with one another and mentioning the subject's name, and alluding to his or her attributes before expounding on them through stories about their lives, and then by quotations from their sayings. We have excluded these sections from our analysis.

Fihe Mā Fih (13th cent.) is in prose composed by Molānā Jalāl al-Din Mohammad Balkhi (Rumi). The subject of *Fihe Mā Fih* is mystical criticism and Rumi's interpretations of sacred texts. It includes notes written by his students, compiled over the course of 30 years. The text is simple, and it contains thoughts on mysticism, religion and morality.

Table 1 shows the general information and the overall frequency of post-predicate non-subject elements in these selected texts. (TT stands for *Tārikh Tabari* (10th cent.), QA stands for *Qābusnāmeh* (11th cent.), TO stands for *Tazkerat al-Oliyā* (12th cent.), FF stands for *Fihe Mā Fih* (13th cent).

Table 1: Overview of the Early New Persian text corpus

	TT (10 c.)	QA (11 c.)	TO (12 c.)	FF (13 c.)
Sample length (words)	2945	2322	2447	2015
Total number of tokens	694	521	541	505
Number of non-classified tokens	166	81	109	100
% post-pred tokens	0%	9.7%	4.4%	3.7%

3 Post-predicate elements in different roles

The analysis reveals that the rate of post-predicate elements in a written corpus derived from Early New Persian exhibits certain peculiarities in comparison to the spoken-language corpora in WOWA. The primary observation is that the overall frequency of post-predicate elements is markedly low. The range of post-verbal elements varies between zero in *Tārikh Tabari* to approximately 10 percent

in *Qābusnāmeh*, while *Tazkerat al-Oliyā* and *Fihe Mā Fih* have an average of approximately 4 percent. Out of the total of 1819 tokens analyzed, only 89 were found to be in post-predicate position, which amounts to an average of 4.8 percent.

The second point to be noted is that the occurrence of post-predicate elements in written discourse is significantly influenced by the register, the content of the text, and the personal style of the writer. For instance, in *Tārikh Tabari* (10th century), which is a historical account of important events and figures, the writer has adopted a highly formal writing style, and consequently, no elements in post-predicate position are found. Conversely, in *Qābusnāmeh* (11th century), which is a father's advice to his son, the writer employs a more informal style due to the subject matter, and as a result, the text displays the highest frequency of post-posed elements. Thus, the variation in the frequency of post-predicate elements may be attributed to the register, as demonstrated by Frommer (1981) for different varieties of spoken and written informal Persian (Rasekh-Mahand et al. 2024 [this volume]). The number of analyzed tokens and frequency of post-predicate elements for the whole corpus is presented in Table 2:

Table 2: Frequency of post-predicate elements in Early New Persian

Total length	2261	100%
Number of analyzed tokens	1807	79.9%
Number of non-classified tokens	454	20.1%
Rate of post-predicate elements (all roles)	77	4.3%

The non-classified tokens are mainly those which do not have a verb and could not be analyzed. According to the Table 2, the overall frequency of post-posed elements in Early New Persian is determined to be about 4.8%. As no comparable study on written texts in Persian is available, a comparison with such texts could not be made. However, when compared with other studies on Persian post-predicate elements, the rate is found to be significantly lower than those observed in spoken New Persian (Frommer 1981, Rasekh-Mahand et al. 2024 [this volume]). Frommer (1981) reports 16.6% and 12.6% of post-predicate elements for informal and formal spoken Persian, respectively. Rasekh-Mahand et al. (2024 [this volume]) report 18.7% for public register and 26.8% for private register. Contemporary research on word order in formal written Persian does not actually consider post-predicate elements, focusing solely on the ordering of elements (e.g. direct and indirect objects) before the verb (Faghiri et al. 2014, Faghiri & Samvelian

2020). Thus, the general observation is that post-predicate phenomena are less frequent in writing.

In the remaining part of this section, we examine the different roles and frequency of elements in post-predicate position, and provide examples from various roles. It is worth noting that most of the roles contain a limited number of tokens, and post-verbal placement is characterized by exceptionally low frequencies. In Early New Persian, the benefactive role exhibits the highest proportion of post-predicate elements, with 10 out of 57 occurrences appearing in post-predicate position. The following are some examples:

(1) Benefactive:
Early New Persian (Parizadeh 2022: C, 259)
tazkere-i *sāxt-am* ***oliyā*** ***rā***
biography-INDF build.PST-1SG clergies RA
'I created a biography for the clergies.'

In example (1), the benefactive is marked with *rā*. According to Rasekh-Mahand & Parizadeh (2024), it is not uncommon for the benefactive role to be marked by *rā* in addition to other roles in Early New Persian texts. Out of the ten tokens of benefactives in post-predicate position, four are marked by *rā*.

Tokens categorized as "Other" represent the most frequent type of role found in post-predicate position, with a total of 50 out of 508 occurrences. The following examples demonstrate their appearance in post-verbal position:

(2) Other:
Early New Persian (Parizadeh 2022: D, 221)
va *vey* *rā* *vasiyat* *na-kard-i* ***be tafsil***
and 3SG RA will NEG-do.PST-2SG to details
'And you did not bequeath him in detail.'

(3) Other:
Early New Persian (Parizadeh 2022: B, 436)
darviš-i *miy-ām-ad* ***pāy*** ***berahne***
poor-INDF IND-come.PST-3SG feet bare
'A poor man was coming on foot.'

(4) Other:
Early New Persian (Parizadeh 2022: C, 52)
yek *ketāb-e* *digar* *mi-bāyest* *jodāgāne*
one book-EZ other IND-must.3SG separately
'There must be another book separately.'

Out of the 57 tokens classified as ablatives, only three appear in post-verbal position. Similarly, among the 42 tokens of stimulus, only two tokens are found in post-verbal position. Out of 28 instances of instruments, only one has appeared in post-predicate position:

(5) Ablative:
Early New Persian (Parizadeh 2022: B, 346)
valikan qaraz dar ruze mehr-i ast ***az xodāvand-e molk***
but aim in fasting love-INDF be.PRS.3SG from God-EZ world
bar molk-e xiš
to world-EZ self
'The purpose of fasting is the love that God has for his created world.'

(6) Stimulus:
Early New Persian (Parizadeh 2022: C, 3)
va jamāʔati az dust-ān rā raqbati tamām mi-did-am ***be***
and people from friends-PL RA interested much IND-see.PST-1SG to
soxan-e in qom
word-EZ this group
'And I saw some friends were very interested in the words of this group.'

(7) Stimulus:
Early New Persian (Parizadeh 2022: C, 4)
va ma-rā niz meyl-i azim bud ***be motāleʔe-ye ahvāl va***
and 1SG-RA too desire-INDF great be.PST.3SG to study-EZ vita and
soxan-e išān
utterance-EZ 3PL
'I was very interested in studying their lives and sayings.'

(8) Instrument:
Early New Persian (Parizadeh 2022: D, 110)
ke mi-bin-am ***be češm-e sar***
that IND-see.PRS-1SG with eye-EZ head
'That I see through the eyes in my head.'

The number of locatives in out corpus is 93, from which 2 tokens appear post-verbally:

(9) Locative:
Early New Persian (Parizadeh 2022: D, 324)
surat-hā-ye xub namāy-ad ***dar šekam-e ān surat-hā-ye bad***
form-PL-EZ good show.PRS-3SG in abdomen-EZ that form-PL-EZ bad
'He shows good forms inside bad forms.'

(10) Locative:
Early New Persian (Parizadeh 2022: C, 297)
ke in če dard bud-e ast ***dar jān-hā-ye išān***
that this what pain be.PST-PTCPL is in heart-PL-EZ their
'That which was a pain in their hearts.'

In all other Iranian languages examined in the WOWA data set, the highest rate of post-verbal elements is associated with goals of motion and caused motion verbs. However, in Early New Persian texts, only one instance out of 59 was discovered in post-verbal position, and there is no indication of a tendency toward goal-last placement as observed in other languages.

(11) Goal:
Early New Persian (Parizadeh 2022: B, 223)
va hame-ye peyqāmbar-ān rā be rāstgui dān-ad az
and all-EZ prophet-PL RA to truthfulness know.PRS-3SG from
ādam tā ***peyqāmbar-e mā Mohammad***
Adam till prophet-EZ 1PL mohammad
'And he considers all the prophets from Adam to our Prophet Mohammad to be truthful.'

Out of the 67 tokens of complements of 'become', only one is found in post-predicate position. Complements of copular verbs typically precede the verb, but among the 304 instances, three have been observed in post-verbal position.

(12) Complements of 'become':
Early New Persian (Parizadeh 2022: B, 69)
yā be tarkib az do bov-ad ***čon jesm***
or in combination from two become.PRS-3SG like body
'And in combination it becomes one from two things like body.'

(13) Copula complements:
Early New Persian (Parizadeh 2022: B, 2)
ke hiččiz ni-st ***az budani va nābudani***
so nothing NEG-be.PRS.3SG from being and non-being
'There is nothing either being or non-being.'

(14) Copula complements:
Early New Persian (Parizadeh 2022: B, 15)
va mesāl-e šenāxtan čon manquš ast ***va šenāsande čon naqāš***
and example-EZ recognition like paint is and recognizer like painter
'And the example of recognition to recognizer is like paint to painter.'

In Early New Persian, direct objects typically appear before the verb. In our dataset, only four tokens out of 464 were observed in post-verbal position:

(15) Direct object:
Early New Persian (Parizadeh 2022: C, 115)
tā be-dān-i ***fazl-e išān va eflās-e xod***
until SBJV-know.PRS-2SG privilege-EZ 3PL and misery-EZ self
'So that you understand their privilege and your own misery.'

Thus far, we have examined the placement of various constituents in relation to the verb in Early New Persian. In terms of preverbal arguments, benefactives and other roles exhibit a relatively high frequency in post-predicate position, accounting for 60 out of 77 post-verbal tokens. On the other hand, some roles such as addressee, comitative, recipient, and possessive are not attested in post-predicate position. Other roles, comprising only 16 tokens, are rarely observed in post-predicate position. Table 3 shows the total number of clauses in relation to post and preverbal positions for each verb argument.

Figure 1 illustrates the proportions of post-predicate placement for different constituents in Early New Persian.

Table 4 presents the frequency of post-predicate elements in each century, with the exception of *Tārikh Tabari* (10th century), which did not contain any post-predicate elements and is therefore not included in this table.

Table 4 reveals that the majority of post-predicate elements occur in *Qābus-nāmeh* (11th century), which is known for its informal register in comparison to other texts.

Table 3: Early New Persian

	Total number of clauses	preverbal	post-verbal	preverbal	post-verbal
Benefactive	57	47	10	82.5%	17.5%
Other	508	458	50	91.2%	9.8%
Ablative	57	54	3	94.7%	5.3%
Stimulus	42	40	2	95.2%	4.8%
Instrumental	28	27	1	96.4%	3.6%
Locative	93	91	2	97.9%	2.1%
Goal	59	58	1	98.3%	1.7%
'become' complement	67	66	1	98.5%	1.5%
Copular complement	304	301	3	99%	1%
Direct object	464	460	4	99.2%	0.8%
Addressee	46	46	0	100%	0%
Comitative	17	17	0	100%	0%
Goal (caused motion)	14	14	0	100%	0%
Recipient	18	18	0	100%	0%
Recipient + Benefactive	16	16	0	100%	0%
Possessive	17	17	0	100%	0%
Total	1807	1730	77	95.7%	4.3%

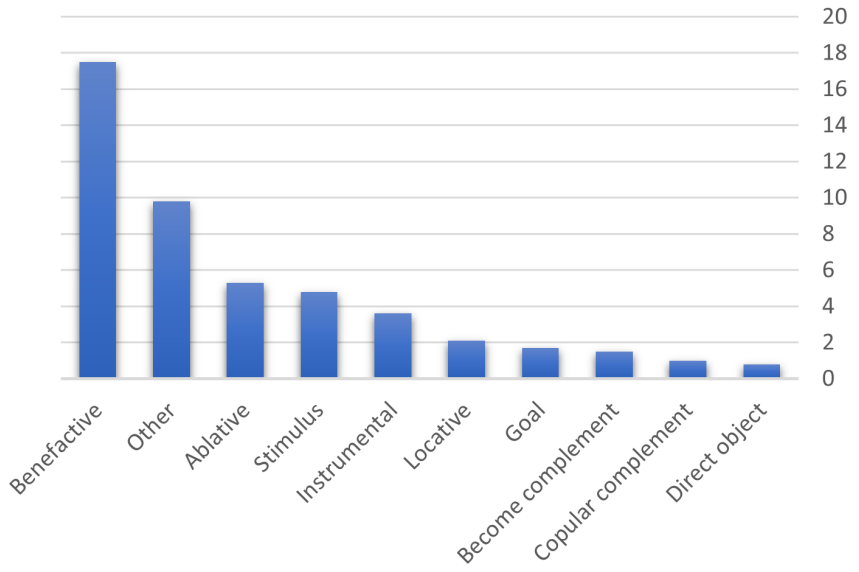

Figure 1: Post-predicate placement of different constituents in Early New Persian

Table 4: Post-predicate elements in three centuries

	QA. 11th cent.	TO. 12th cent.	FF. 13th cent.
benefactive	5	4	1
other	31	10	9
ablative	2	1	0
stimulus	0	2	0
instrument	1	0	0
locative	1	1	0
Goal	1	0	0
'become' complements	1	0	0
copula complements	3	0	0
direct object	0	1	3
Total	45	19	13

4 Heaviness

The impact of heaviness or weight on word order has been extensively discussed in the field of linguistics, with scholars such as Behaghel (1909), Quirk et al. (1972), Hawkins (1995), Wasow (1997), and Arnold et al. (2000) among others exploring this phenomenon. Some argue that in VO languages, short constituents tend to precede heavy ones (Wasow 1997, Stallings et al. 1998, Hawkins 1990, 1995), while others maintain that the reverse order holds (Yamashita & Chang 2001). Several studies have examined the effect of weight on word order in Persian (e.g., Rasekh-Mahand et al. 2016, Faghiri & Samvelian 2014, 2020, Faghiri et al. 2014, 2018), providing various analyses and occasionally conflicting results (for a detailed review, see Rasekh-Mahand et al. 2024 [this volume]). We investigated the impact of weight on post-predicate placement in our dataset, adopting the basic classification of constituent weight applied in WOWA, which recognizes four classes: w1, consisting of one phonological word; w2, consisting of two phonological words; w3, consisting of three phonological words; and w4, consisting of four or more words. Table 5 demonstrates that as the weight of the token increases, the likelihood of appearing in post-predicate position also increases.

The transition between groups w1 and w2, as well as between w2 and w4, exhibits a noticeable jump in post-predicate placement probability, as illustrated in Figure 2. While the difference between groups w3 and w4 is not as substantial, it is still discernible.

Table 5: Percentages of post-verbal placement according to weight (across all constituent types)

Weight	W1	W2	W3	W ≥ 4
Post-predicate	27	28	13	9
Total	1100	471	143	93
Percent	2.5%	5.9%	9%	9.7%

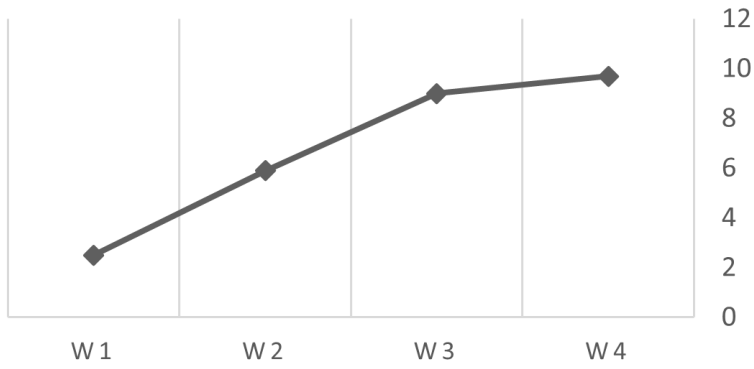

Figure 2: Weight effects on post-predicate elements in Early New Persian

Our findings indicate that weight is a factor for predicting post-predicate placement in written Early New Persian. This is consistent with much of the corpus-based literature (Hawkins 1995, Stallings et al. 1998, Arnold et al. 2000), and is particularly intriguing in the context of this volume, where weight has not yielded consistent or significant results in some of the other languages studied (see Rasekh-Mahand et al. 2024 [this volume]). The most plausible explanation for this discrepancy is the fact that the Early New Persian corpus is the only written corpus included in the WOWA collection; see Schnell & Schiborr (2022) for empirical evidence for the differences between spoken and written corpora in this respect). However, it may also be connected to the content of the texts; this remains to be investigated.

5 Summary

In this chapter, we examined post-predicate elements in written Early New Persian texts. Our analysis revealed that there are relatively few post-predicate el-

ements in these texts compared to related spoken materials, with an average of 4.3%. However, the post-predicate elements that do occur exhibit significant syntactic and semantic diversity, encompassing a range of distinct functions. The most common roles are benefactives and other items that are not easily classified using the WOWA tagging set (coded as "other"). Notably, the "goals last" effect commonly observed in spoken-language corpora studied in this volume is not present in written Early New Persian. Nevertheless, our findings suggest that weight does play a role in post-verbal phenomena in these written texts, with longer constituents being more likely to appear in post-predicate position.

The general paucity of post-verbal elements when compared to contemporary spoken Persian (Rasekh-Mahand et al. 2024 [this volume]), could be ascribed to at least three different causes: a difference in medium (spoken versus written), a difference in chronological stage of the language, or a difference in register, or some combination thereof. For obvious reasons, we have no reliable record of the spoken language in the ENP stage, so it is impossible to say whether our written texts faithfully reflect the language as it was spoken at the time. However, we do have both spoken and written texts for contemporary Persian, and initial findings suggest that there is a considerable difference between them with regard to post-verbal elements. Overall, it can be noted that less formal registers favour greater frequency of post-verbal elements, and spoken language is overall much more likely to exhibit high frequencies of post-verbal elements (Rasekh-Mahand et al. 2024 [this volume]). Our data also exhibit a slight effect of register (the least formal text has the highest overall rate of post-verbal elements), so we are inclined to consider the register and medium effects as persistent characteristics of the Persian culture of literacy over the last 1000 years. In other words, we assume that the spoken language of the ENP period was probably significantly different with respect to post-verbal elements, though the magnitude of the difference is impossible to estimate. We therefore urge caution in interpreting our results as baselines for "the" Persian language; rather we assume that our results reflect quite specific characteristics of written language, which do not necessarily faithfully reflect the spoken language of the period.

Abbreviations

1	first person	IND	indicative
2	second person	NEG	negator
3	third person	PL	plural
EZ	ezafe	PRS	present

PST	past	SG	singular
PTCPL	participle	V	verb
RA	object-marking clitic *=rā*	WOWA	= Haig et al. (2022)
SBJV	subjunctive		

References

Arnold, Jennifer E., Anthony Losongco, Thomas Wasow & Ryan Ginstrom. 2000. Heaviness vs. newness: The effects of structural complexity and discourse status on constituent ordering. *Language* 76(1). 28–55. DOI: 10.1353/lan.2000.0045.

Behaghel, Otto. 1909. Beziehungen zwischen Umfang und Reihenfolge von Satzgliedern. *Indogermanische Forschungen* 25. 110–142.

Faghiri, Pegah & Pollet Samvelian. 2014. Constituent ordering in Persian and the weight factor. In Christopher Piñón (ed.), *Empirical issues in syntax and semantics* (Empirical Issues in Syntax and Semantics 10), 215–232. Paris: CNRS.

Faghiri, Pegah & Pollet Samvelian. 2020. Word order preferences and the effect of phrasal length in SOV languages: Evidence from sentence production in Persian. *Glossa: A journal of general linguistics* 5(1). DOI: 10.5334/GJGL.1078.

Faghiri, Pegah, Pollet Samvelian & Barbara Hemforth. 2014. Accessibility and word order: The case of ditransitive constructions in Persian. *Proceedings of the 21st International Conference on Head-Driven Phrase Structure Grammar*. 217–237. DOI: 10.21248/hpsg.2014.12.

Faghiri, Pegah, Pollet Samvelian & Barbara Hemforth. 2018. Is there a canonical order in Persian ditransitive constructions? Corpus based and experimental studies. In Agnes Korn & Andrej Malchukov (eds.), *Ditransitive constructions in a cross-linguistic perspective*, 165–185. Wiesbaden: Reichert.

Frommer, Paul. 1981. *Post-verbal phenomena in colloquial Persian syntax*. Los Angeles: University of Southern California. (Doctoral dissertation).

Haig, Geoffrey, Donald Stilo, Mahîr C. Doğan & Nils N. Schiborr. 2022. *WOWA — Word Order in Western Asia: A spoken-language-based corpus for investigating areal effects in word order variation*. Bamberg. multicast.aspra.uni-bamberg.de/resources/wowa/.

Hawkins, John A. 1990. A parsing theory of word order universals. *Linguistic Inquiry* 21(2). 223–261.

Hawkins, John A. 1995. *A performance theory of order and constituency*. Cambridge: Cambridge University Press. DOI: 10.1017/cbo9780511554285.

Lazard, Gilbert. 1963. *La langue des plus anciens monuments de la prose Persane*. Paris: Klincksieck.

Parizadeh, Mehdi. 2022. Persian (Early new). In Geoffrey Haig, Donald Stilo, Mahîr C. Doğan & Nils N. Schiborr (eds.), *WOWA — Word Order in Western Asia: A spoken-language-based corpus for investigating areal effects in word order variation*. Bamberg: University of Bamberg. multicast.aspra.uni-bamberg.de/resources/wowa/.

Paul, Ludwig. 2013. *A grammar of early Judaeo-Persian*. Wiesbaden: Reichert.

Paul, Ludwig. 2019. Persian. In Geoffrey Haig & Geoffrey Khan (eds.), *The languages and linguistics of Western Asia: An areal perspective*, 569–624. Berlin: De Gruyter Mouton.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik. 1972. *A grammar of contemporary English*. London: Longman.

Rasekh-Mahand, Mohammad, Mojtaba Alizadeh-Sahraie & Raheleh Izadifar. 2016. A corpus-based analysis of relative clause extraposition in Persian. *Ampersand* 3. 21–31. DOI: 10.1016/j.amper.2016.02.001.

Rasekh-Mahand, Mohammad, Elham Izadi, Mehdi Parizadeh, Geoffrey Haig & Nils Schiborr. 2024. Post-predicate elements in modern colloquial Persian: A multifactorial analysis. In Geoffrey Haig, Mohammad Rasekh-Mahand, Donald Stilo, Laurentia Schreiber & Nils N. Schiborr (eds.), *Post-predicate elements in the Western Asian Transition Zone: A corpus-based approach to areal typology*, 197–230. Berlin: Language Science Press. DOI: 10.5281/zenodo.14266343.

Rasekh-Mahand, Mohammad & Mehdi Parizadeh. 2024. Different functions of ʻrāʼ in New Persian; A semantic map analysis. *Journal of Historical Linguistics* 14(1). 31–57. DOI: 10.1075/jhl.21056.ras.

Schnell, Stefan & Nils N. Schiborr. 2022. Crosslinguistic corpus studies in linguistic typology. *Annual Review of Linguistics* 8(1). 171–191. DOI: 10.1146/annurev-linguistics-031120-104629.

Stallings, Lynne M., Maryellen C. MacDonald & Padraig G. O'Seaghdha. 1998. Phrasal ordering constraints in sentence production: Phrase length and verb disposition in heavy-NP shift. *Journal of Memory and Language* 39(3). 392–417. DOI: 10.1006/jmla.1998.2586.

Wasow, Thomas. 1997. Remarks on grammatical weight. *Language Variation and Change* 9(1). 81–105. DOI: 10.1017/S0954394500001800.

Yamashita, Hiroko & Franklin Chang. 2001. "Long before short" preference in the production of a head-final language. *Cognition* 81(2). B45–B55. DOI: 10.1016/S0010-0277(01)00121-4.