

The emergence of the indefinite article in Old Persian: A Construction Grammar account

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This paper aims to identify and account for the grammatical constructions expressing indefiniteness in Old Persian. Based on the extant data from this stage, the use of the 'indefinite article' *aīva* in marking noun phrases (exclusively) denoting human beings is elaborated on. In the corpus, we find both this usage of *aīva* and its original function as numeral 'one'. Here, it is argued that the former usage emerged as the result of a specific construction that the latter found itself in: 'There is only one X, the X represents a human being'. The metonymic relations triggered reanalysis of *aīva* to an 'indefinite article' which in turn paved the way for its metaphoric extension. To depict this path of development, a Construction Grammar model is adopted. This study is based on the corpus of Old Persian gathered by Schmitt (2009). Our investigation illustrates that the token frequency of the aforementioned indefinite article in the total NPs (4130) amounts to 0.5%. This percentage is not very high; however, it implies that it is a newly formed grammatical construction in the oldest extant texts of Persian language. The indefinite article emergence in this stage and lack of a definite marker make Persian another counter example to the languages of the world, since the emergence of the latter in grammar is superior to the former.

KEYWORDS: indefinite article, Construction Grammar, metonymy, metaphor, Old Persian.

1. Introduction

'Definiteness' and 'indefiniteness' are two terms usually employed in relation to noun phrases. The analectic grammatical elements codifying definiteness and indefiniteness are known as definite and indefinite 'articles', respectively. On the basis of expressing (in)definiteness using articles, Juvonen (2006: 486) distinguishes four types of languages:

1. Languages without articles
2. Languages with both definite and indefinite articles
3. Languages with only definite articles
4. Languages with only indefinite articles

Based on the above classification, Old Persian (henceforth **OP**) belongs to type (4); despite Kent (1944: 8) who contends, “One may safely conclude that OP had no well-developed definite article; that *hya* and its forms had as yet appropriated only a small part of the field which we recognize as belonging to the definite article”, the definite article, properly speaking, is lacking in OP (Kent 1953: 85). However, indefiniteness is expressed using an article in this stage, which will be clarified through the paper.

The most common source for indefinite articles in the languages of the world is the numeral ‘one’ (Givón 1981; Lyons 1999; Heine & Kuteva 2002; Lehmann 2015). Although it has been claimed that there is no definite or indefinite article in OP (Skjærvø 2009: 100), OP, similar to the other languages in the world, has used numeral ‘one’ *aiva* as the source to express indefiniteness grammatically.

The development of linguistic elements expressing indefiniteness has been investigated by some scholars, among others Paul (2008). In the treatment of the subject, Paul describes the development of linguistic elements expressing indefiniteness in three stages established for Persian language. His findings (Paul 2008: 310) are represented as follows:

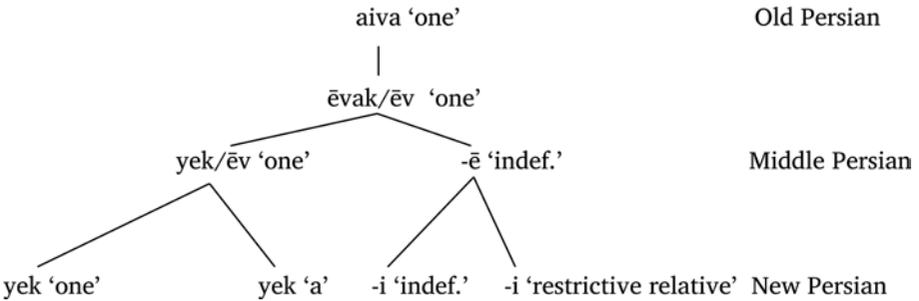


Figure 1. Illustration of the history of *-i* and *yek*.

In his study, *aiva* is only identified as numeral ‘one’ and little attention is paid to mechanisms, constructions, and contexts in which this development occurred.

Despite many treatments of the indefinite articles, there is almost no agreement on the definition of the term and also on how they should be viewed and located in grammar (Heine 1997: 67). This paper, in the framework of Construction Grammar, will shed new light on some of the ambiguities about the grammaticalization of Persian indefinite article in OP.

Only a minority of the languages of the world have grammaticalized indefinite markers (Heine 1997: 68). According to Moravcsik (1969), the presence or absence of definite and indefinite articles in the languages of the world can be observed cross-linguistically. In his sample of 108 languages, Moravcsik identified 42 languages with both indefinite and definite markers, while in 61 languages only definite markers were present. 5 languages contained only indefinite markers. This means that languages tend to grammaticalize definite markers rather than indefinite ones and a small fraction of languages possess indefinite markers. In this regard, Persian deserves studying. This is in line with Croft's observation (2003: 132) who notes "definite referents outrank specific indefinite referents which in turn outrank nonspecific referents". The hierarchy is as follows:

(1) definite < specific (indefinite) < nonspecific

The above hierarchy illustrates if a language codifies specific indefinite referents grammatically, it absolutely marks definite referents. We are going to figure out that up to where OP marks the referents regarding the hierarchy.

This paper seeks to identify indefinite markers in OP and shed new light on their development path in this period of Persian language. As it was mentioned, this study builds on the framework of Construction Grammar (CG henceforth).

The paper is structured as follows: section 2 belongs to the introduction of CG which is the framework of this paper. In section 3, we briefly discuss the distribution of numeral 'one' *aīva* in OP. Section 4 presents the criteria of articlehood and the existence of the indefinite article in OP. Section 5 provides the theoretical discussion to illustrate the context in which the indefinite article emerged. Section 6 is dedicated to reanalysis and the explanation of indefinite article emergence. In section 7, it is illustrated OP is another counter example to the languages of the world. Finally, the paper ends with a conclusion.

2. Construction Grammar

It is more than two decades now that an increasing interest in construction-based approaches to grammar is observed (for example Lakoff 1987; Croft 2001; Langacker 2005; Goldberg 2006). The applications of the model to language variation and change issues have been developing recently. For example Hollmann (2003), Hollmann & Siewierska (2007),

and Hilpert (2008) base their studies on the findings of CG. In what follows, we present the main tenet of this model.

In CG, it is assumed that all levels of grammar involve constructions. By construction, we mean the pairing of form and meaning which are conventionalized (Hoffmann & Trousdale 2011: 2). The constructions are not just listed but instead they form a structured inventory in the speakers' mind (Croft & Cruse 2004: 262-265). Due to the structured inventory of constructions which form a network, in CG model there is no distinction between lexicon and syntax; therefore, all constructions can be located on a lexicon-syntax continuum (Fillmore, 1988). This allows for constructions to possess more or less lexical/grammatical characteristics. Consequently, no mere distinction between synchronic and diachronic phenomena is observable. As Andersen (2001: 228) notes, "changes are always manifested in synchronic variation, and past changes can commonly be found to be reflected in synchronic alternations, or attested in written records".

In this process, a change in the network of constructions is said to be observable in the course of time. In CG model, the process does not operate on a single word or morpheme but on the whole construction by syntagmatic relations (Lehmann 1992: 406). Due to this feature, Rostila (2006) uses the term 'constructionalization' for this process. This notion is captured by CG framework where reanalysis and analogy are given new treatments (Hoffmann & Trousdale 2011). Reanalysis and analogy in given contexts account for new grammatical constructions (for more discussion on context and constructional change see Freid 2009; Bergs & Diewald 2009).

This reanalysis based on metonymic relations in the context of change which in turn paves the way for metaphoric extension results in grammaticalization (Davari & Naghzhguy-Kohan 2017), being a construction creation in CG. Thenceforth, it results in the formation of micro-construction level. Following this, similar constructions with a higher frequency are formed analogically; this new level is meso-construction level. Constructions with high type frequency and common meaning, can give rise to abstract grammatical patterns, or macro-constructions (Goldberg 2006: 39, 98-101; Bybee 1985; 1995; 2006); in this level, macro-constructions, the construction is totally grammaticalized or an abstract grammatical pattern has been created. This model and its envisioned chain of changes can be summarized as follows:

(2) Metonymic relation > reanalysis > metaphoric relation > new construction > analogy

As we suggest in section 6, this is precisely the case in the indefinite marker development in OP.

Departing from Heine *et al.* (1991) and Heine (1993), who put emphasis on the importance of metaphor in grammaticalization, this article will focus on the metonymic relations in the process of the indefinite article's development in OP. This conforms to constructional approaches that emphasize on the reciprocal influence relevant constructions apply to each other (Traugott 2007: 525; see also Hopper 1988; Israel 1996; Tomasello 2003), and thus resulting in the emergence of new constructions (Boas 2008).

3. The distribution of *aiva* in Old Persian

In OP, *aiva* 'one' occurs in the following three positions (a-c):

- a) Before inanimate NPs; it indicates its original function, the numeral 'one' (*aiva* is rendered as '1' in the corpus (Schmitt 2009))

(3) *Garmapada-hya mā-hyā 1 rauca*
 Garmapada.SG.M-GEN month.SG.M-GEN one day.NOM.SG.N
θak-ata-m āha complete-PTCP-NOM.SG.N be.PST.3SG
 'Of the month Garmapada one day was past' (Schmitt 2009: 64) (DB, 308).

(4) *adam = šaj ... 1 cašm-a ā-vaj-am*
 1SG = PRO.3SG ... one eye.SG.N-ACC IPFV-gouge_out.PST-1SG
 'I ... gouged out one eye of his' (Schmitt 2009: 60) (DB, 274-275).

- b) Before NPs referring to human beings; in this usage, by introducing a new person into the discourse, *aiva* expresses 'indefiniteness':

(5) *pasā-va 1 martiya maguš āha Gaumāta*
 after-that one man.NOM.SG.M Magian.NOM.SG.M be.PST.3SG Gaumata
nām-a haṃ udapata-tā hacā Paššiyāuvād-āyā
 name.SG.N-ACC 3SG rise.PST-3SG from Paishiyauvada.SG.F-ABL
 'Afterwards, there was one [=a] man, a Magian, Gaumata by name; he rose up from Paishiyauvada' (Schmitt 2009: 42) (DB, 136-137).

(6) *1 Nidintabaṣra nām-a Bābiruviya haṃ*
 oneNidintu-Bel name.SG.N-ACC Babylonian.NOM.SG.M 3SG
a-durujiya
 IPFV-lie.PST.3SG
 'One [=a] Nidintu-Bel by name, a Babylonian; he lied' (Schmitt 2009: 76) (DB, 413).

c) In two formulaic construction used consecutively. Here, it means numeral ‘one’ too. The construction is mentioned in (7):

- (7) *aīva-m parū-nām xšāyaθiya-m aīva-m parū-nām*
 one-ACC many-GEN king.SG.M-ACC one-ACC many-GEN
framā-tār-am
 lord.SG.M-A-ACC
 ‘One king of many, one lord of many’ (Schmitt 2009: 97) (DEa, 9-11).

However, when *aīva* does not precede the human NP, no person is introduced into discourse and the NP has generic reading (8):

- (8) *θā-ti Dārayava-uš xšāyaθiya naj āha*
 say.PRS-3SG Dāryuš.SG.M-NOM king.NOM.SG.M NEG be.PST.3SG
martiya
 human.NOM.SG.M
 ‘Says Darius the king: There was not a man’ (Schmitt 2009: 44) (DB, 148).

Unlike human NPs, inanimate NPs which are indefinite can be introduced into the discourse without any markers (9):

- (9) *Uvādaicaya nām-a vrdan-am pārs-ai*
 Uvadaicaya name.SG.N-ACC town.SG.N-ACC Persia.SG.M-LOC
 ‘[A] town by name Uvadaicaya, in Persia’ (Schmitt 2009: 69) (DB, 352).

As it is clear, *aīva* as a prehead dependent occurs with human and inanimate NPs (all other occurrences of *aīva* in the corpus are provided in the appendix).

Based on the above observations, we can conclude that *aīva* as an indefinite marker has a restrictive use before NPs. This is in contrast to other types of NPs.

4. The articlehood of OP indefinite marker

Some linguistic means encoding indefiniteness/definiteness in the languages of Europe are word order, articles, sentence stress, case oppositions, verbal agreement suffixes, or adjectival suffixes (Heine & Kuteva 2006: 66). In this section, we are illustrating which type of marker the indefinite one is in OP. First, we begin with the introduction of articlehood criteria (4.1), and then we illustrate how these criteria apply to OP data (4.2).

4.1. *The criteria of articlehood*

The most frequently cited criteria to define articlehood in the available literature¹ (Van de Velde 2010; Denison 2006; Huddleston & Pullum 2002; Heine 1997; Moravcsik 1969) are listed below:

a) Relative position: articles usually occur before modifiers. It means that they are the left most nodes; as in the position of the indefinite or definite articles in Modern English:

(10) *Have you seen a/the bicycle?* (Quirk *et al.* 1985: 253)

b) Lack of co-occurrence: articles cannot occur with other articles and determiners; this is also true for Modern English:

(11) **A some boy; *a the boy.* (Quirk *et al.* 1985: 254)

c) Obligatoriness: articles are obligatory to show referentiality. In Modern English, count nouns cannot be used without articles, as follows:

(12) **Handsome man is standing over there.*

d) Length: articles are generally short; that is, they never have more than two syllables. The Modern English indefinite and definite articles reflect this criterion, as follows:

(13) *The furniture / a book.* (Quirk *et al.* 1985: 253)

e) Position: indefinite articles are likely to employ the same position in the clause as the numeral 'one'. The indefinite article in Modern English is a paradigm example:

(14) *a pound or two / one (pound) or two pounds* (Quirk *et al.* 1985: 254)

f) Determining singular count nouns: indefinite articles tend to be confined to determine the singular of count nouns.² In Modern English, the indefinite article does not determine the nonsingular referents, as follows:

(15) **a books / *a boys*

In the following section, we use these criteria against the data in OP to identify indefinite articles.

4.2. The application of articlehood criteria to OP data

Based on the six criteria presented above, the article *aīva* can be identified. The following sentence can exemplify our procedure:

- (16) *1 martiya Fravartiš nām-a Māda haṃ*
 one man.NOM.SG.M Phraortes name.SG.N-ACC Median.NOM.SG.M 3SG
udapata-tā Mād-aṃ
 rise.PST-3SG Media.SG.M-LOC
 ‘One man, by name Phraortes, a Median – he rose up in Media’ (Schmitt 2009: 52) (DB, 214-215).

In all indefinite NPs *aīva* ‘one’ occurs to the left of the NP such as the sentence above. It means, *aīva* is the left-most node in the NP. In other words, it does not violate the first criterion (Relative position).

In (16) *aīva* (1) ‘one’ is used only once and in fact there is no sentence in the corpus where this article or the like are iterated in a single NP. This is in line with the second criterion (Lack of co-occurrence).

If *aīva* is omitted from the sentence above, it becomes ungrammatical; namely, it is an obligatory grammaticalized linguistic element which introduces a participant into discourse. This characteristic is compatible with the third criterion (Obligatoriness).

As it is obvious, *aīva* is short and possesses two syllables. This characteristic is consistent with the fourth criterion (Length).³

Aīva as an indefinite article or numeral ‘one’ occurs in the same position in the clause; this is exemplified in sentence (16) and the NP (1 *raīca* ‘one day’) in sentence (3) mentioned above. It conforms to the fifth criterion (Position). However, It is worth noting that Middle Persian develops the indefinite marker = *ē(w)* in the post-nominal position, but the numeral ‘one’ in various forms as *ēk*, *ē*, *ēw*, *yak* is located in the stressed and pre-nominal position in this era of Persian (see also Durkin-Meisterernst 2014); further research is needed on this topic.

In the whole corpus as in the sentence (16), *aīva* determines only singular count nouns. This characteristic is in line with the sixth criterion (Determining singular count nouns).

After investigating the whole corpus in the same vein, we are now in a position to conclude that *aīva* is an ‘indefinite article’ with the focus meaning of ‘one’.

5. The context of indefinite article emergence in OP

The most important factor in the emergence of a linguistic construction in grammar is the context of change. By context of change, we mean a

special construction within which a linguistic element with a special function has been employed; in Evans & Wilkins (1998: 5) terms, it is called “bridging context”, alternatively Diewald (2002) uses the term “critical context” for the same phenomenon. As far as context is concerned, Heine (2002: 86) considers grammaticalization as a four-stage scenario. We will use these against our data from OP; these stages are as follows:

1. There is an expression with a normal or source meaning occurring in any contexts.
2. There is a bridging context suggesting that rather than source meaning, there is another meaning, target meaning, offering a plausible interpretation of the expression concerned.
3. The switch context no longer allows for an interpretation of the source meaning. Switch context rules out the source meaning.
4. No longer being associated with the source meaning, the target meaning is freed from contextual constraints that gave rise to it. It may now be used in new contexts.

In OP *aīva* has two functions; it is used as a ‘numeral’ or an ‘indefinite article’. The first function is exemplified in the following sentence:

- (17) *adam ... 1 cašm-a ā-vaj-am*
 1SG ... one eye.SG.N-ACC IPFV-gouge_out.PST-1SG
 ‘I ... gouged out one eye’ (Schmitt 2009: 62) (DB, 289).

In the sentence above, *aīva* as the numeral ‘one’ precedes the inanimate NP of *cašm-a*. This is true for all the similar constructions in the corpus. This construction can be presented as the following schema:

- (18) [*aīva*[X]_{NPi}]_j ↔ [one ‘X’]_j, X = inanimate

The following sentence illustrates the second function of *aīva* as an ‘indefinite article’:

- (19) *9ā-ti Dārayava-uš xšāya9iya 1 martiya*
 say.PRS-3SG Dāryuš.SG.M-NOM king.NOM.SG.M one man.NOM.SG.M
Martiya nām-a Cincaxr-aīš puça
 Martiya name.SG.N-ACC Cincikhri.SG.M-GEN son.NOM.SG.M
Kuganakā nām-a vṛdan-am Pārs-aj avadā
 Kuganakā name.SG.N-ACC town.SG.N-ACC Persia.SG.M-LOC there
a-dāraya
 IPFV-abide.PST.3SG
 ‘Says Darius the king: one [=a] man, by name Martiya, son of Cincikhri – a town by name Kuganaka, in Persia – there he abode.’ (Schmitt 2009: 51-52) (DB, 208-209)

In the sentence above, *aīva* precedes the human NP *martiya*. This is the construction within which *aīva* as the indefinite article introduces a participant into the discourse. The schema of latter use is as follows:

(20) [*aīva*[X]_{NP_ij}] ↔ [introducing a participant into discourse]_p, X=human

Based on sentence (19), *aīva* belongs to the second stage in Heine's terms mentioned above. In other words, besides the source meaning of 'one', it has acquired the target meaning of an 'indefinite article'. In this bridging context *aīva* precedes human NPs (*1 martiya*, 'a man'). Therefore, the context of change for the 'indefinite article' in OP is the use of *aīva* before the NPs referring to humans in order to introduce a new participant into discourse. In fact, this context can be translated as 'There is only one X; the X is a human being'. This is an instance of ambiguous or bridging context which has been formed based on metonymic relations. The indeterminacy between the two readings, namely 'numeral one' meaning just 'one man' and 'indefinite article' is the cause of this ambiguity.

In a five-stage model, Heine (1997: 72-76) presents how the 'indefinite articles' emerge in languages. These stages can be summarized as follows:

1. The numeral: there is an item for 'one' which functions totally as a numeral;
2. The presentative marker: the article introduces a new participant;
3. The specific marker: the article is used with the singular nouns and shows that the participant is known to the speaker and unknown to the hearer;
4. The nonspecific marker: the referential identity is known neither to the hearer nor to the speaker;
5. The generalized article: the article occurs on all types of nouns; singular, mass and plural nouns.

The above stages can be seen synchronically or diachronically. Diachronically, the first stage is the oldest stage and the fifth is the recent one. Synchronically, each stage consists of the properties of the previous stages.

OP is an instance of the second stage where *aīva* is used to 'introduce a new human participant into discourse'. In other words, *aīva* is in earliest stages of its grammaticalization into an 'indefinite article'. It can be considered as a new grammatical category emerged in OP.

6. Reanalysis and the emergence of the indefinite article

In the related literature, grammaticalization is seen to be the result of reanalysis (Campbell 2000; Hopper & Traugott 1993). It is the metonymic relations which pave the way for the reanalysis by the hearer. Bergs & Diewald (2008: 9) consider constructional reanalysis as ‘the very concrete dissolution and creation of new constructions in the inventory’. The construction that the hearer comprehends is different from what the speaker has produced and meant. This can be a silent change in language which sometimes causes constructional change in the grammar. Langacker (1977: 64) distinguishes two types of reanalysis; ‘resegmentation’ and ‘syntactic/semantic reformulation’. The former deals with shift, creation, and loss of constructional boundary, but the latter works at more abstract than boundaries, namely it concerns the function/semantic level. The semantic reformulation, semantic shift, of a lexical unit may result in the semantic restructuring of a clause or sentence as a whole (Langacker 1977: 82). This is much more frequent than ‘resegmentation’ and it is the process which concerns us here. The copula construction in Chinese is a good example for ‘reformulation reanalysis’.

Modern Chinese grammar contains a copula *shì* which can be illustrated by the following example:

- (21) *hūa shì hóng*
 flower be.PRS.3SG red
 ‘The flower is red’ (Li & Thompson 1977).

The *shì* existed in Archaic Chinese until the third century BC. *Shì* is attested but as a ‘proximal demonstrative’, and not a ‘copula’. The following sentence exemplifies this use:

- (22) *qian lǐ ér jiàn wáng shì wǒ suǒ yù*
 thousand mile then see king this I NOM desire
yě
 DECL
 ‘(To travel) a thousand miles to see the king, this is what I desire’ (Li & Thompson 1977).

The frequent use of *shì* in contexts like those of example (22) paved the way for the reanalysis of *shì* as a copula. In this path of change, the original [X] *shì* [Y] ‘X, this [is] Y’, reanalyzed into ‘X is Y’. Here, we argue that the same mechanism, namely, the ‘semantic/syntactic reformulation’ is true for the rise of *aiya* as an ‘indefinite article’.

In this change, the original construction (23) is reanalyzed as (24):

(23) [aṭva[X]_{NPi,j}] ↔ [one 'X'], X = inanimate

(24) [aṭva[X]_{NPi,j}] ↔ [introducing a participant into discourse/'a X'], X = human

In fact, the frequent use of *aṭva* 'one' before human NPs in OP triggered its reanalysis as 'indefinite article'. It is also worth noting that Schmitt (2014: 128) recognized the development of the numeral 'one' *aṭva* as an 'existential quantifier' in OP, which could be considered as the intermediate step in its evolution from numeral 'one' to 'indefinite article'. The following example as (25) (repeated for the convenience) illustrates the indefinite use of *aṭva*, although its original reading as 'numeral one' is also traceable in it:

- | | | | | | |
|------|--------------------|--------------------|--------------------|-----------------|----------------|
| (25) | <i>ṅā-ti</i> | <i>Dārayava-uš</i> | <i>xšāyaθiya</i> | <i>1</i> | <i>martiya</i> |
| | say.PRS-3SG | Dāryuš.SG.M-NOM | king.NOM.SG.M | one | man.NOM.SG.M |
| | <i>Martiya</i> | <i>nām-a</i> | <i>Cincaxr-ajš</i> | <i>puça</i> | |
| | Martiya | name.SG.N-ACC | Cincikhri.SG.M-GEN | son.NOM.SG.M | |
| | <i>Kuganakā</i> | <i>nām-a</i> | <i>vṛdan-am</i> | <i>Pārs-aṭ</i> | <i>avadā</i> |
| | Kuganakā | name.SG.N-ACC | town.SG.N-ACC | Persia.SG.M-LOC | there |
| | <i>a-dāraya</i> | | | | |
| | IPFV-abide.PST.3SG | | | | |
- 'Says Darius the king: one [a] man, by name Martiya, son of Cincikhri – a town by name Kuganaka, in Persia – there he abode' (Schmitt 2009: 51-52) (DB, 208-209).

As mentioned earlier, *aṭva* is reformulated as 'indefinite article' due to preceding human NPs; implying 'one out of the type X'. This is an indication of OP sensitivity to animacy in this construction which is in line with Croft's animacy hierarchy (Croft 2003: 130):

(26) Human < Animate < Inanimate

'Semantic reformulation' as explained above triggers the 'conceptual metaphoric extension'. In metaphoric extension, the abstract conceptual spaces are conceptualized in terms of more concrete conceptual ones. In other words, there is a conceptual shift from concrete to abstract spaces. The metaphoric extension provides the linking between these two spaces (cf. Lakoff & Johnson 1980). Metaphoric extension is true for the development of the indefinite article as explained above. Here, one can observe a linkage between 'numeral system' (one as a numeral) and 'indefiniteness concept' as a more abstract conceptual space. This can be illustrated as Figure 2:



Figure 2. The conceptual shift from the numeral to indefiniteness

Both conceptual spaces, ‘numeral system’ and ‘indefiniteness’, refer to one entity. In the case of numeral system as ‘one entity in the world’ and in the case of indefiniteness reading as ‘one out of the type’ or ‘one out of many’; as the result of metaphoric extension based on this similarity, the conceptual shift becomes possible between these two conceptual spaces. The shift is from more concrete concept of ‘one’ to less concrete concept of ‘indefiniteness’.

To summarize the path of the change in the network of grammatical constructions in OP, the process starts with metonymic relations in a critical context which in turn leads to reanalysis and the following metaphoric extension. As a consequence, we argue that conceptual metonymy is more fundamental than any other mechanisms in the original context in discourse. Since, it provides the ground for the next change:

(27) Discourse > conceptual metonymy > reanalysis > metaphoric extension > new construction

The mentioned mechanisms are responsible for the emergence of the new grammatical category filling the determination slot; the schema is mentioned again as follows:

(28) [aɪva[X]_{NPI}]_j ↔ [introducing a participant into discourse ‘a X’]_j, X = human

After the formation of the new construction, micro-construction, analogy is responsible for the spread of ‘indefinite reading’ in the similar contexts in language. Fischer (2007) emphasizes on the significant role of analogy in the process of grammaticalization. Analogy is a kind of motivation for change which in terms of Traugott & Trousdale (2010) is called ‘anologization’. Analogization is the process of creating new words or constructions based on some existing patterns or constructions.

As a result of anologization, the frequency of use of the category increases. Complex frequency and analogy effects seem to be responsible for the emergence and entrenchment of the slot in the inventory of constructions (Sommere 2012: 201). As it was mentioned, frequency of use is another important factor in grammaticalization, that is, construc-

tions with high type frequency and common meaning, can give rise to abstract grammatical patterns (Goldberg 2006: 39, 98-101; Bybee 1985; 1995; 2006).

In spite of this usage of *aiva* as ‘indefinite article’, its token frequency is not very high in OP. in our corpus of 8077 words and 4130 NPs, there are 21 NPs containing indefinite articles. This can be illustrated in the following Figure 3:

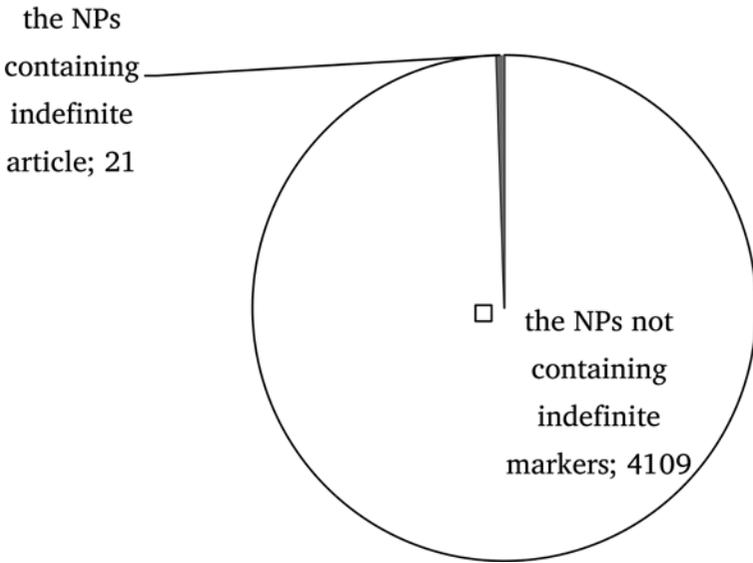


Figure 3. The token frequency of indefinite article in the corpus.

As it is obvious, the frequency of use (0.5%) of the indefinite article is not very high; however, as Denison (2006: 290-291) notes, rare patterns of low frequency should be taken seriously. This meager amount illustrates a change in the network of constructions and the fact that this category emerged in OP grammar; namely this is ‘micro-construction’. This emergence triggers more grammaticalization through time. This is the second evidence representing that indefinite article is a new category in OP.

To sum up, the presence of an ‘indefinite article’ in the grammar entails the existence of a ‘determination slot’. Finding determinatives in a particular position (preceding modifiers) most of the time, speakers tend to regard that location as a place where determinatives occur and by the increase of the frequency, the speakers abstract a prehead pattern

for determinatives (Sommerer 2012: 204-205). Following the establishment of the determinative slot, it turns into a ‘gravitational pole’ which attracts items (Krug 2000). Actually, a syntactic slot is regarded as a position which invites linguistic elements to grammaticalize there. This is also true for the ‘indefinite article’ in OP; the emergence of the ‘determination slot’ triggered the emergence of the ‘indefinite article’. Therefore, we can contend that ‘determination slot’ and ‘indefinite article’ are inseparable notions.

7. Persian as a counter example

As it was mentioned in section 1, according to Moravcsik (1969), the languages of the world tend to grammaticalize the ‘definite marker’ more than the ‘indefinite’ one. The following Table 1 illustrates it as follows:

DEFINITE MARKER	INDEFINITE MARKER	NO. OF LANGUAGES	PERCENTAGE OF TOTAL
Yes	Yes	42	39%
Yes	No	61	56%
No	Yes	5	5%
No	No	0	0%
		108	100%

Table 1. Presence or absence of definite and indefinite markers in 108 languages (Moravcsik 1969).

Based on the above table, only 5% of the world’s languages grammar contains the indefinite marker and lacking the definite one. The insignificant amount demonstrates this type of languages is contrary to the main trend of the world’s languages grammar. Croft’s definiteness hierarchy (2003) confirms it as well, the hierarchy is as follows (this hierarchy is repeated for convenience):

(29) definite < specific (indefinite) < nonspecific

Based on the above hierarchy, if a language codifies ‘indefiniteness’ grammatically, it absolutely codifies ‘definiteness’. That means, the first grammatical linguistic element emerged regarding indefiniteness/definiteness is the definite one.

Accordingly, OP is another counter example, since in this historical stage ‘indefiniteness’ is codified by the indefinite article *aīva*, but codifying ‘definiteness’ grammatically is entirely lacking in OP (Kent 1953: 85). In other words, Persian has grammaticalized the ‘indefinite marker’ earlier than the ‘definite’ one, which is contrary to the typical trend of the world’s languages grammar.

Moreover, as it is obvious OP violates the Croft’s hierarchy above, inasmuch as indefiniteness is marked grammatically in this historical stage of Persian language but definiteness marking is lacking. Consequently, OP is another counter example to the languages of the world and belongs to those 5% languages.

8. Conclusions

In the present paper, we studied the emergence of the indefinite article in OP. We concluded that the first critical context leading to the emergence of indefinite article is the occurrence of numeral *aīva* ‘one’ before human NPs. To put it simply, the context is ‘There is only one X’, here the X represents a human being. In this context, two readings can be ascribed to *aīva*: a. there is one man, not more; b. the indefinite article reading, to introduce one person into discourse. In the latter reading, the hearer reanalyzed *aīva* as an indefinite article based on metonymic relations. The reanalysis paves the way for the metaphoric extension from a ‘numeral’ to a more grammaticalized item, namely an ‘indefinite article’. This conceptual shift/metaphoric extension becomes possible due to the fact that both ‘numeral one’ and ‘indefinite article’ mean ‘one entity’. The difference is that the former means ‘one’ and the latter ‘one out of the type’. The path of this grammaticalization is represented in (30):

(30) Numeral one → numeral one, indefinite article → indefinite article

Furthermore, the emergence of the indefinite article reflects the prior existence of the determination slot in the grammar which absorbs other linguistic elements to be grammaticalized there. Finally, based on low token frequency of indefinite reading of *aīva* (only 0.5% in the corpus) and five stage model of Heine (1997) (belonging to the first stage that an article exists), it is very probable that there was no indefinite article in this language before OP era. The emergence of the indefinite marker, namely indefinite article *aīva* earlier than the definite one in this stage makes Persian another counter example to the languages of the world.

Appendix

a) The occurrence of *aiva* before NPs referring to human (as the indefinite article):

- [1] *1 martiya Āçina nām-a Upad(a)rama-hyā*
 one man.NOM.SG.M Ačina name.SG.N-ACC Upadarma.SG.M-GEN
puça haṃ udapata-tā Ūj-aī
 son.NOM.SG.M 3SG rise.PST-3SG Elam.SG.M-LOC
 ‘One man, by name Ačina, son of Upadarma – he rose up in Elam’ (Schmitt 2009: 47) (DB, 174).
- [2] *1 martiya Bābiruviya Nadintabajra nām-a*
 one man.NOM.SG.M Babylonian.NOM.SG.M Nidintu-Bel name.SG.N-ACC
Ainaira-hyā puça haṃ udapata-tā
 Ainaira.SG.M-GEN son.NOM.SG.M 3SG rise.PST-3SG
Bābir-aṃ
 Babylon.SG.M-LOC
 ‘One man, a Babylonian, by name Nidintu-Bel, son of Ainaira – he rose up in Babylon’ (Schmitt 2009: 47) (DB, 177-178).
- [3] *1 martiya Çiçantaxma nām-a Asagartiya*
 one man.NOM.SG.M Çiçantakhma name.SG.N-ACC Sagartian.NOM.SG.M
haṃ = maj hamiçiya a-bava
 3SG = PRO.1SG rebellious.NOM.SG.M IPFV-become.PST.3SG
 ‘One man by name Çiçantakhma, a Sagartian – he became rebellious to me’ (Schmitt 2009: 61) (DB, 279-280).
- [4] *1 martiya Frāda nām-a Mārgava ava-m*
 one man.NOM.SG.M Frada name.SG.N-ACC Margian.NOM.SG.M that.SG.M-ACC
mašiš-t-am a-kunava-ntā
 crown prince.SG.M-ACC IPFV-make.PST-3PL
 ‘One man by name Frada, a Margian – him they made chief.’ (Schmitt 2009: 65) (DB, 312)
- [5] *1 martiya Vahyazdāta nām-a ... avadā*
 one man.NOM.SG.M Vahyazdata name.SG.N-ACC ... there
a-dāraya
 IPFV-abide.PST.3SG
 ‘One man by name Vahyazdata ... there he abode’ (Schmitt 2009: 66) (DB, 322-323).
- [6] *utā-šām 1 martiya-m mašiš-t-am a-kuna-ṃš*
 and-PRO.3PL one man.SG.M-ACC crown prince.SG.M-ACC IPFV-make.PST-3SG
 ‘And he had made one man their chief’ (Schmitt 2009: 70) (DB, 357).
- [7] *1 martiya Araxa nām-a Arminiya*
 one man.NOM.SG.M Arkha name.SG.N-ACC Armenian.NOM.SG.M
Haldita-hya puça haṃ udapata-tā
 Haldita.SG.M-GEN son.NOM.SG.M 3SG rise.PST-3SG
Bābir-aṃ
 Babylon.SG.M-LOC
 ‘One man by name Arkha, an Armenian, son of Haldita – he rose up in Babylon’ (Schmitt 2009: 73) (DB, 378-379).
- [8] *1 Gaumāta nām-a maguš āha haṃ*
 one Gaumata name.SG.N-ACC Magian.NOM.SG.M be.PST.3SG 3SG
a-durujiya

IPFV-lie.PST.3SG

‘One was Gaumata by name, a Magian; he lied.’ (Schmitt 2009: 75) (DB, 407-408)

- [9] *1* *Āçina* *nām-a* *Ūjiya* *haṃ* *a-durujiya*
 one *Açina* *name.SG.N-ACC* *Elamite.NOM.SG.M* *3SG* *IPFV-lie.PST.3SG*
 ‘One, Açina by name, an Elamite; he lied’ (Schmitt 2009: 75-76) (DB, 410-411).
- [10] *1* *Martiya* *nām-a* *Pārsa* *haṃ* *a-durujiya*
 one *Martiya* *name.SG.N-ACC* *Persian.NOM.SG.M* *3SG* *IPFV-lie.PST.3SG*
 ‘One, Martiya by name, a Persian; he lied’ (Schmitt 2009: 76) (DB, 415-416).
- [11] *1* *Fravartiš* *nām-a* *Māda* *haṃ* *a-durujiya*
 one *Phraortes* *name.SG.N-ACC* *Mede.NOM.SG.M* *3SG* *IPFV-lie.PST.3SG*
 ‘One, Phraortes by name, a Mede; he lied’ (Schmitt 2009: 76) (DB, 418).
- [12] *1* *Çiçantaxma* *nām-a* *Asagartiya* *haṃ* *a-durujiya*
 one *Çiçantakhma* *name.SG.N-ACC* *Sagartian.NOM.SG.M* *3SG* *IPFV-lie.PST.3SG*
 ‘One Çiçantakhma by name, a Sagartian; he lied’ (Schmitt 2009: 77) (DB, 420-421).
- [13] *1* *Frāda* *nām-a* *Mārgava* *haṃ* *a-durujiya*
 one *Frada* *name.SG.N-ACC* *Margian.NOM.SG.M* *3SG* *IPFV-lie.PST.3SG*
 ‘One, Frada by name, a Margian; he lied’ (Schmitt 2009: 77) (DB, 423-424).
- [14] *1* *Vahyazdāta* *nām-a* *Pārsa* *haṃ* *a-durujiya*
 one *Vahyazdata* *name.SG.N-ACC* *Persian.NOM.SG.M* *3SG* *IPFV-lie.PST.3SG*
 ‘One, Vahyazdata by name, a Persian; he lied’ (Schmitt 2009: 77) (DB, 426-427).
- [15] *1* *Araxa* *nām-a* *Arminiya* *haṃ* *a-durujiya*
 one *Arkha* *name.SG.N-ACC* *Armenian.NOM.SG.M* *3SG* *IPFV-lie.PST.3SG*
 ‘One, Arkha by name, an Armenian; he lied’ (Schmitt 2009: 78) (DB, 428-429).
- [16] *1* *martiya* *Aṣamaṣta* *nām-a* *Ūjiya*
 one *man.NOM.SG.M* *Atamaita* *name.SG.N-ACC* *Elamite.NOM.SG.M*
ava-m *maṣišt-am* *a-kunava-ntā*
that.SG.M-ACC *crown_prince.SG.M-ACC* *IPFV-make.PST-3PL*
 ‘One man by name Atamaita, an Elamite – him they made chief’ (Schmitt 2009: 88) (DB, 505-506).
- [17] *1* *martiya* *Gaṣb(a)ruva* *nām-a* *Pārsa*
 one *man.NOM.SG.M* *Gobryas* *name.SG.N-ACC* *Persian.NOM.SG.M*
manā *bandaka* *ava-m-šām*
POSS.1SG.M *subject.NOM.SG.M* *that.SG.M-ACC-PRO.3PL*
maṣišt-am *a-kunav-am*
crown_prince.SG.M-ACC *IPFV-make.PST-1SG*
 ‘One man by name Gobryas, a Persian, my subject – him I made chief of them’ (Schmitt 2009: 88) (DB, 507-509).

b) The fixed construction used repeatedly in the corpus (for example Schmitt 2009: 123 (DSe, 6-7), 97 (DEa, 9-11), etc.):

- [18] *aṣva-m* *parū-nām* *xšāyaṣiya-m* *aṣva-m* *parū-nām*
 one-ACC *many-GEN* *king.SG.M-ACC* *one-ACC* *many-GEN*
framā-tār-am
lord.SG.M-A-ACC
 ‘One king of many, one lord of many’.

Abbreviations

A = agent; ABL = ablative; ACC = accusative; CG = Construction Grammar; DAT = dative; DECL = declarative; F = feminine; GEN = genitive; IPFV = imperfective; LOC = locative; M = masculine; N = neuter; NEG = negation; NOM = nominative; OP = Old Persian; POSS = possessive; PRO = pronoun; SG = singular; PL = plural; PRS = present; PST = past; PTCP = participle.

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Notes

- ¹ The last two criteria are specifically used to recognize ‘indefinite articles’.
- ² There may be exceptions where the article has been extended to nonsingular referents.
- ³ An anonymous reviewer observed that this criterion was too generic for the case under attention, since it could be verified by a great number of Old Persian particles, pronouns, etc. However, it is worth nothing that this is just one criterion to identify articles in the related literature and also not the only one presented in the paper. The indefinite article *ajva* is identified using all the criteria provided in the paper, and not a single criterion. Therefore, all the criteria taken together help to identify the ‘indefinite article’ in this era of Persian language.

Bibliographical References

- Andersen, Henning 2001. Actualization and the (uni)directionality. In Andersen, Henning (ed.), *Actualization: Linguistic Change in Progress*. Amsterdam / Philadelphia: John Benjamins. 225-248.
- Bergs, Alexander & Diewald, Gabriele 2008. Introduction: Constructions and language change. In Bergs, Alexander & Diewald, Gabriele (eds.), *Constructions and Language Change*. Berlin / New York: Mouton de Gruyter. 1-21.
- Bergs, Alexander & Diewald, Gabriele 2009. Contexts and constructions. In Bergs, Alexander & Diewald, Gabriele (eds.), *Contexts and Constructions*. Amsterdam / Philadelphia: John Benjamins. 1-14.
- Boas, Hans 2008. Resolving form-meaning discrepancies in Construction Grammar. In Leino, Jaakko (ed.), *Constructional Reorganization*. Amsterdam / Philadelphia: John Benjamins. 11-36.
- Bybee, Joan 1985. *Morphology: A Study of the Relation between Meaning and Form*. Amsterdam / Philadelphia: John Benjamins.
- Bybee, Joan 1995. Regular morphology and the lexicon. *Language and Cognitive Processes* 10. 425-455.

- Bybee, Joan 2006. From usage to grammar: The mind's response to repetition. *Language* 82. 711-733.
- Campbell, Lyle 2000. What's wrong with grammaticalization? *Language Sciences* 23. 113-161.
- Croft, William & Cruse, D. Alan 2004. *Cognitive Linguistics*. Cambridge Textbooks in Linguistics. Cambridge, UK: Cambridge University Press.
- Croft, William 2001. *Radical Construction Grammar: Syntactic Theory in Typological Perspective*. Oxford: Oxford University Press.
- Croft, William 2003. *Typology and Universals*. 2nd edition. Cambridge: Cambridge University Press.
- Davari, Shadi & Naghzguy-Kohan, Mehrdad 2017. The grammaticalization of progressive aspect in Persian. In Hengeveld, Kees; Narrog, Heiko & Olbertz, Hella (eds.), *The Grammaticalization of Tense, Aspect, Modality and Evidentiality: A Functional Perspective*. Trends in Linguistics Studies and Monographs 311. Berlin: De Gruyter. 163-190.
- Denison, David 2006. Category change and gradience in the determiner system. In Kemenade, Ans van & Los, Bettelou (eds.), *The Handbook of the History of English*. Blackwell Handbooks in Linguistics. London: Blackwell. 279-304.
- Diewald, Gabriele 2002. A model for relevant types of contexts in grammaticalization. In Wischer, Ilse & Diewald, Gabriele (eds.), *New Reflections on Grammaticalization*. Amsterdam / Philadelphia: John Benjamins. 103-120.
- Durkin-Meisterernst, Desmond 2014. *Grammatik des Westmitteliranischen: Parthisch und Mittelpersisch*. Wien: Verlag der Österreichischen Akademie der Wissenschaften.
- Evans, Nicholas & Wilkins, David A. 1998. *The knowing ear: An Australian test of universal claims about the semantic structure of sensory verbs and their extension into the domain of cognition*. Arbeitspapier 32, NF. Cologne: Institute for Linguistics.
- Fillmore, Charles J. (eds.) 1988. *Proceedings of the 14th annual meeting of the Berkeley Linguistics society* (BLS 1988). Berkeley, 13-15 February 1988.
- Fischer, Olga 2007. *Morphosyntactic Change: Functional and Formal Perspectives*. Oxford Surveys in syntax and Morphology 2. Oxford: Oxford University Press.
- Fried, Mirjam 2009. Representing contextual factors in language change: between frames and constructions. In Bergs, Alexander & Diewald, Gabriele (eds.), *Contexts and Constructions*. Amsterdam / Philadelphia: John Benjamins. 63-94.
- Givón, Talmy 1981. On the development of the numeral 'one' as an indefinite marker. *Folia Linguistica Historica* 15. 35-54.
- Goldberg, Adele E. 2006. *Constructions at Work: The Nature of Generalization in Language*. Oxford: Oxford University Press.
- Heine, Bernd 1993. *Auxiliaries: Cognitive Forces and Grammaticalization*. Oxford: Oxford University Press.
- Heine, Bernd 1997. Indefinite articles. In Heine, Bernd (ed.), *Cognitive Foundations of Grammar*. New York: Oxford University Press. 66-82.
- Heine, Bernd 2002. On the role of context in grammaticalization. *Typological Studies in Language* 49. 83-102.
- Heine, Bernd & Kuteva, Tania 2002. *World Lexicon of Grammaticalization*. Cambridge: Cambridge University Press.

- Heine, Bernd & Kuteva, Tania 2006. *The Changing Languages of Europe*. Oxford: Oxford University Press.
- Heine, Bernd; Claudi, Ulrike & Hunnemeyer, Friederike 1991. *Grammaticalization: A Conceptual Framework*. Chicago: University of Chicago Press.
- Hilpert, Martin 2008. *Germanic Future Constructions: A Usage-Based Approach to Language Change*. Amsterdam / Philadelphia: John Benjamins.
- Hoffmann, Thomas & Trousdale, Graeme 2011. Variation, change and constructions in English. *Cognitive Linguistics* 22. 1-23.
- Hollmann, Willem B. 2003. *Synchrony and diachrony of English periphrastic causatives: A cognitive perspective*. PhD dissertation. University of Manchester, Manchester.
- Hollmann, Willem B. & Siewierska, Anna 2007. A construction grammar account of possessive constructions in Lancashire dialect: Some advantages and challenges. *English Language & Linguistics* 11. 407-424.
- Hopper, Paul & Traugott, Elizabeth C. 1993. *Grammaticalization*. Cambridge: Cambridge University Press.
- Hopper, Paul 1988. Emergent grammar and the a priori grammar postulate. In Tannen, Deborah (ed.), *Linguistics in Context: Connecting, Observation, and Understanding*. Norwood: Ablex. 117-134.
- Huddleston, Rodney & Pullum, Geoffrey K. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.
- Israel, Michael 1996. The way constructions grow. In Goldberg, Adele (ed.), *Conceptual structure, discourse and language*. Stanford, CA: CSLI. 217-230.
- Juvonen, Paivi 2006. Articles, Definite and Indefinite. In Brown, Keith (ed.), *Encyclopedia of Language and Linguistics*. 2nd edition. Oxford: Elsevier Science. 484-487.
- Kent, Roland G. 1944. The Old Persian relative and article. *Language* 20. 1-10.
- Kent, Roland G. 1953. *Old Persian: Grammar. Texts. Lexicon*. New Haven: American Oriental Society.
- Krug, Manfred 2000. *Emerging English modals: A Corpus-Based Study of Grammaticalization*. Berlin / New York: Mouton de Gruyter.
- Lackoff, George 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago: University of Chicago Press.
- Lakoff, George & Johnson, Mark 1980. *Metaphors We Live by*. Chicago: University of Chicago Press.
- Langacker, Ronald W. 1977. Syntactic reanalysis. In Li, Charles N. (ed.), *Mechanisms of Syntactic Change*. Austin / London: University of Texas Press. 57-140.
- Langacker, Ronald W. 2005. Construction Grammars: Cognitive, radical, and less so. In Ruiz de Mendoza Ibáñez, Francisco J. & Peña Cervel, M. Sandra (eds.), *Cognitive Linguistics: Internal Dynamics and Interdisciplinary Interaction* 32. 101-159.
- Lehmann, Christian 1992. Word order change by grammaticalization. In Gerritsen, Marinel & Stein, Dieter (eds.), *Internal and External Factors in Syntactic Change*. Berlin / New York: Mouton de Gruyter. 395-416.
- Lehmann, Christian 2015. *Thoughts on Grammaticalization*. 3rd edition. Berlin: Language Science Press.
- Li, Charles N. & Thompson, Sandra A. 1977. A mechanism for the develop-

- ment of copula morphemes. In Li, Charles N. (ed.), *Mechanisms of Syntactic Change*. Austin / London: University of Texas Press. 419-444.
- Lyons, Christopher 1999. *Definiteness*. Cambridge: Cambridge University Press.
- Moravcsik, Edith A. 1969. Determination. *Working Papers on Language Universals* 1. 64-98.
- Paul, Daniel 2008. The individuating function of the Persian “indefinite suffix”. In Karimi, Simin; Samiian, Vida & Stilo, Donald (eds.), *Aspects of Iranian Linguistics*. Newcastle: Cambridge Scholars Publishing. 309-328.
- Quirk, Randolph; Greenbaum, Sidney; Leech, Geoffrey & Svartvik, Jan 1985. *A Comprehensive Grammar of the English Language*. London: Longman.
- Rostila, Jouni 2006. Storage as a way to grammaticalization. *Constructions* 1/2006. <<http://www.constructions-online.de>>.
- Schmitt, Rüdiger 2009. *Die altpersische Inschriften der Achaimeniden: Editio minor mit deutsche Übersetzung*. Wiesbaden: Reichert Verlag Wiesbaden.
- Schmitt, Rüdiger 2014. *Wörterbuch des Altpersischen Königsinschriften*. Wiesbaden: Reichert Verlag Wiesbaden.
- Skjærvø, Prods Oktor 2009. Old Iranian. In Windfuhr, Gernot (ed.), *The Iranian Languages*. London: Routledge. 43-189.
- Sommerer, Lotte 2012. Investigating the emergence of the definite article in Old English: About categorization, gradualness and constructions. *Folia Linguistica Historica* 33. 175-213.
- Tomasello, Michael 2003. *Constructing a Language: A Usage-Based Theory of Language Acquisition*. MA dissertation. Harvard University, Massachusetts.
- Traugott, Elizabeth C. & Trousdale, Graeme 2010. Gradience, gradualness and grammaticalization: How do they intersect. In Traugott, Elizabeth C. & Trousdale, Graeme (eds.), *Gradience, Gradualness and Grammaticalization*. Amsterdam / Philadelphia: John Benjamins. 19-44.
- Traugott, Elizabeth C. 2007. The concepts of constructional mismatch and type-shifting from the perspective of grammaticalization. *Cognitive Linguistics* 18. 523-557.
- Van de Velde, Freek 2010. The emergence of the determiner in the Dutch NP. *Linguistics* 48. 263-299.