Razi University

Research in Western Iranian Languages and Dialects

ISSN Print: 2345-2579 ISSN Online: 2676-573X

Linguistics Society of Iran

Linking Particle Semantic Roles in Hawrami Deverbal Noun Phrases

Jabar Mirani[1], **Hiwa Weisi**[2]✉, **Farogh Mirani**[3], and **Rafiq Shwani**[4]

1. PhD in General Linguistics, Educational Office of Javanroud. E-mail: jabarm40@gmail.com
2. Corresponding Author, Associate Professor in Applied Linguistics, Department of English Language and Linguistics, Faculty of Literature and Humanities, Razi University, Kermashan, Iran. E-mail: hiwaweisi@gmail.com
3. MA in Psycholinguistics, Educational Office of Salas Babajani. E-mail: f.mirani1397@gmail.com
4. Professor in Linguistics and Kurdish Language, Salahaddin University, Erbil, Kurdistan Region, Iraq. E-mail: rafiq.shwany@gmail.com

Article Info

Article type:
Research Article

Article history:
Received: 25 Jul. 2024
Received in revised form: 13 Oct. 2024
Accepted: 16 Oct 2024
Published online: 21 Dec 2024

Keywords:
deverbal noun phrases,
distributed morphology,
semantic functions,
linking particle,
Kurdish language.

ABSTRACT

Previous studies have focused mostly on the syntactic features of the linking particle (Ezafe) in simple noun phrases with little attention paid to its semantic representations and functions specifically within the context of deverbal noun phrases. The present study aims to analyze semantic functions of the linking particle as it appears between a deverbal noun and its various modifiers, and compare them with their corresponding elements in sentences in a Distributed Morphology framework (DM) in Hawrami. This study shows this ancient linker's trace in most Kurdish dialects exhibits agentive semantic functions in addition to expressing possession and modification. Furthermore, the subject of unaccusative verbs at the sentential level is realized as the patient/possessor or as the theme/possessor of their corresponding deverbal noun phrases. However, the subject of unergative verbs assumes the agentive/possessor role in their corresponding noun phrases. Moreover, the object of transitive and ditransitive verbs is represented as a patient or theme, and also as a possessed entity before the subject is realized as the possessor in the corresponding deverbal noun phrases. Results indicate that the representation of both sentences and their corresponding deverbal noun phrases within DM framework provides stronger support for a syntactic movement account of deverbal noun phrases, their semantic functions, and properties in Hawrami.

Cite this article: Mirani, J., Weisi, H., Mirani, F., & Shwani, R. (2024). Linking Particle Semantic Roles in Hawrami Deverbal Noun Phrases. *Research in Western Iranian Languages and Dialects*, 12 (4), 53-66. http//doi.org/10.22126/ jlw.2024.10907.1780 (in Persian).

DOI: https://doi.org/10.22126/jlw.2024.10907.1780

Publisher: Razi University

1. Introduction

Some aspects of deverbal noun phrases have been studied in different Kurdish dialects (Karimi-Doostan & Bagheri, 2011). Most of the previous studies have focused on the syntactic features of the linking particle (Ezafe)[1] in noun phrases and little attention has been given to its semantic functions especially in the field of deverbal noun phrases. Morphological and syntactic representations and the behaviors of linking particle and therefore its semantic functions somehow vary in different types of deverbal noun phrases. Traditional Persian grammar books showed that this linker is utilized to express various meanings (Anvari & Ahmadi Givi, 2000). However, modern generative approaches have focused more on the syntactic function of linking particle in the area of simple noun phrases relying more on Persian data. Some have accounted for it as a case marker (Larson & Yamakido, 2006; Samiian, 1994), while others have considered it as a vowel or linking particle inserted at Phonetic Form (PF) to identify constituenthood (Ghaniabadi, 2010; Ghomeshi, 1997). A diachronic account followed by a synchronic account of this particle traces its origin and development back to a genitive case morpheme existing in Middle Iranian languages and still existent in most New Kurdish dialects as stated in footnote 1. Moreover, some researchers have taken it as a(n) (phrasal) affix to mark the presence of a syntactic dependent (Samvelian, 2007, 2008). Some others have also described the structure of DP in Kurdish dialects with a focus on the Ezafe construction (Holemberg & Odden, 2005; Karimi, 2007). Karimi-Doostan & Bagheri (2011) have argued that this linker has two semantic functions of expressing possession and modification, especially in simple noun phrases (P. 24). The first function is shown to indicate the semantic function of possession or specification, as exemplified in (1).

1. æsp-**u** aɬmað-i
   Horse-L Pposs Ahmad-Obl
   "Ahmad's horse"

The second semantic function is shown as exemplified in (2), which expresses modification or description.

2. æsp-**i** sya: w
   horse-LP black
   "black horse"

1. Illuminating the behavior of its remnant in Hawrami, we will trace the origin and development of this particle back to its historical roots. Kurdish varieties share certain phonological and morpho-syntactic characteristics, one of which is the use of Ezafe or linking particle in deverbal NPs. Some researchers assume that it may have been developed from an Old linker construction due to contact with Aramaic language, which was the official language of Mesopotamia in ancient times (Gutman, 2015). Karimi (2007), above all others, argues that the particle originated from Old Persian relative pronoun that is "hya". The influence of ancient Persian and Aramaic Ezafe on the form and function of Kurdish linking particle cannot be denied. Nonetheless, the morphological form of relative pronoun in contemporary Kurdish dialects appears to be "ke", "ku", "chi" and "wa:" The forms of these relative pronouns do not seem to have any phonological and morphological resemblances to the old form of this particle "hya" in Iranian languages. Therefore, in contradiction with previous results (Karimi, 2007), it seems that this particle, in most Kurdish dialects, has been developed from a middle Iranian genitive case marker of ***a***-stems whose singular and plural forms are "*ahya*" and " *a⌈na⌈m*", respectively (Huyse, 2005). This genitive case marker on nominal phrases is still seen in most Kurdish dialect phonologically and morpho-syntactically similar to the older morpheme in the forms of: "*(h)i*(u)" or "*(h)ini*(u)" which means "belonging to".

However, the different forms of this genitive case marker have been developed and generalized as a linker between the noun and its modifiers in simple and deverbal noun phrases to express functions other than possession including modification and specification. In the current study, we do not call this particle Ezafe since it has little relation to the Arabic Ezafe. Thus, as it has been expanded from a genitive case marker to express other semantic functions in Kurdish noun phrases especially in Hawrami in two forms of (i) and (u) as elaborated on in other sources like Karimi-Doostan & Bagheri (2011), we call it the linking particle.

Nonetheless, the current study does not survey how the linking particle or Ezafe construction conveys simple noun phrases. Instead, it will be concerned with the semantic functions of the linking particle on deverbal noun phrases corresponding to various types of verbs in sentences, focusing primarily on sentences involving ditransitive verbs. Regarding this, Karimi-Doostan & Bagheri (2011) reviewed the related literature on linking particle construction in Iranian languages and concluded there exist two structures for the linking particle in most Iranian languages e.g., possessive/genitive and descriptive ones (p. 24). They added a third kind for further research and they referred to it as predicative linking particle or Ezafe occurring in the area of deverbal noun phrases; this type of construction forms the main focus of the current study. Deverbal noun phrases are a type of nominal phrases derived from verb phrases, which function grammatically as noun phrases and are related to their corresponding verbs in the following ways. First, the subject of unaccusative verbs, i.e. the internal argument of sentences with such verbs in (3a), can only appear after the linking particle, which carries theme/patient and genitive/possessive semantic functions as in (3b).

3. a) **ahmað** gin-a: b) ginay-u **ahmað-i**
Ahmad-fell-PTM falling- LP Ahmad-Obl
Ahmad fell down Ahmad's falling down of Ahmad

Second, the subject of unergative verbs, i.e., the external argument of sentences with such verbs, appears after the linking particle in relation to the deverbal noun and cannot be incorporated into the deverbal noun. Thus, the external argument of the unergative verb, as in (4a), is realized after the linking particle in the semantic roles of agentive and genitive/possessive in their corresponding deverbal NPs, as show in (4b).

4. a) **ħæsæn** ram-a b) ram-a-**u** **ħæsæn-i**
Hassan-ran-PTM running-LP Hassan-Obl
Hassan ran Hassan's running

Moreover, there are two forms for transitive deverbal nouns. First, the internal argument appears after the linking particle, while the external argument functions as the complement of a preposition in a prepositional phrase (PP), as shown in (5b). Here, the object of transitive verbs is represented as a theme or possessed entity, and the subject functions as an agent, genitive, or possessor. Second, the external argument appears after the linking particle, performing an agentive role, as shown in (5b), and the internal argument is integrated into the deverbal noun, as in (5c).

5. a) ħasan gaw-aka-s<- wra-t b) wrat-a-u gaw-i (hassan) (ja law hasana-i-awa)
Hasan cow-DefA-DOM- sell-PTM selling-DN- LP-cow-Obl
Hassan sold the cow selling the cow by Hasan

c) gaw-wrat-a-u-**u** ħasan-i
(cow) selling-LP Hassan –Obl (byHasan-PoPr MM)
Hassan's selling the cow

Finally, (6a) involves a sentence with a ditransitive verb that has two unmarked corresponding deverbal noun phrases called the Possessive Linking Particle Phrase (PLPP) in (6b) and the Agentive Linking Particle Phrase (ALPP) in (5c) within this study. It can be observed that all three arguments may appear with the deverbal noun phrase in the order "deverbal noun + L(inking) P(article) + possessed thing/patient + another LP + possessor + P(reposition) + target/aim" as shown in (6b). Otherwise, the internal argument is incorporated into the deverbal noun, and the other elements may be present as in the example in (6c).

6. **Statement with ditransitive verb** **Corresponding Nominals**

a) (min) pul-aka-im? ma-d-u be ahmad-i
I money-accu PTM give-1 to ahmad-Obl
I give money to Ahmad

b) dai-**u** pul-**u**-m(in) be ahmad-i (ja la⌈w ali-awa)
giving EZ money EZ_{pos} to ahmad-ob l (by ali-obl)
Giving my money to Ahmad

c) puld**ay-u** min be ahmad-i (*ja la⌈w ali-awa)
moneygiving EZ I to ahmad-obl (by ali-obl)
Giving my money to Ahma

This study aims to show that the aforementioned distinctive meaning interpretations especially those on deverbal noun phrases can be properly represented in a syntactically-based approach like Distributed Morphology (DM). Thus, the present study provides further support for a syntactic movement account of linking particle construction, in line with Kahnemuyipour (2014, 2016) and its categorization, phonological, and semantic function processes in a unified way as applied to deverbal noun phrases in Kurdish. This study seeks to answer two questions: 1. What are the semantic functions of the subjects and objects of sentences represented in their corresponding deverbal noun phrases in a construction involving a linking particle? 2. How can the different semantic functions of such a particle be accounted for in the Kurdish language under a syntactic approach like DM, in a unified manner?

2. Theoretical Approach

Halle and Marantz (1993) introduced the theoretical apparatus of Distributed Morphology (DM) under the general model of generative theory. They claimed that there is only one generative engine for the formation of both words and sentences. Therefore, no distinction is made between the lexicon and syntax, and the whole apparatus is syntax in DM. In previous Lexicalist approaches, the lexicon played an important role in word formation before entering syntax. However, in the DM framework, the lexicon is entirely removed, and its functions are distributed between syntactic operations—such as merge, move, or agree—as in the Minimalist Program, and post-syntactic components.

DM takes into account three components or lists for the generation of an utterance, including words, phrases, and sentences: 1. The formative list, which includes only semantic (un)interpretable like -/+ animate and some syntactic (un)interpretable features like -/+ count and categoryless roots like, √ROOT which enter the syntactic computation and they are categorized via functional elements as complements or modifiers within the syntax. 2. The list of syntactic operations, which handles merging, moving, or agreement-making between such abstract features in syntax. 3. The exponent list, which provides phonological content to underspecified semantic or syntactic features in post-syntactic morphological part with a list of words existing there and completing this task at one branch of the spell-out (Late Insertion), which occurs at Phonetic Form (PF)**.** At another branch, .i.e, at Logical Form (LF), the Encyclopedia interprets the semantic functions of the terminal nodes. There are two types of meaning in DM: 1. The meaning derived from the bundles of features of the terminal nodes and their syntactic relations with each other. 2. The idiosyncratic meaning, which is listed in the Encyclopedia.

Therefore, under DM, roots and (morphosyntactic) features of both statements and deverbal noun phrases alike enter syntax as exemplified for the ditransitive verbs and their corresponding deverbal NPs in Hawrami in the following ways: First, √Root of the predicate merges with the features of the direct object, i.e. the internal argument. Then, the features of the category √P(hrase) or root Phrase is constructed and then merges with the features of the indirect object ($ApplP_{low}$) both in sentences and their corresponding deverbal noun phrases. In the same line, the vp merges with $ApplP_{low}$ in statements. The head of the vP which involves

event structure attracts the root √DA. The head of the second vP makes the direct object move to that position to assign it accusative case. Later on, the head of AspP checks the aspect and event structure of the statement. Furthermore, unpredictable functional features of the statement are fulfilled in F(unctional) P(hrase). Next, VioceP introduces the agentive features of the structure. Finally, TP checks time feature and also EPP of the agent.

Among the studies carried out with regard to Linking Particle is Kahnemuyipour's (2016) one which takes a new look at the distribution of linking particle vowel, with a special emphasis on its position correlating with the order of the head noun and other elements following it in the noun phrase except the last element. After the close connection between word order and the absence/presence of linking particle is established, this study considers alternative ways in which this relation can be captured and argues for a roll-up movement account of this construction, which takes the base order of the noun phrase in Persian to be head final, with the surface order derived via phrasal movement to specifiers of intermediate functional projections in a roll-up fashion. He develops his approach based on Cinque (2010) views in which the head occurs in the final position of a noun phrase and any variation of the order of NPs is the result of phrasal movement in a roll-up fashion.

Therefore, he proposes that the linking particle, which shows morphological agreement in Hawrami and northern Kurdish, provides further evidence in favor of the agreement status of these intermediate projections. Moreover, this marker can be seen as the surface realization of the inversion process, and the height of the movement corresponds to the realization of such a marker. Thus, in the following sections, the data in this study provide the needed support for Kahnemuyipour (2016)'s approach, e.g., syntactic movement account of linking particle constructions and its categorization, phonological and semantic processes in a unified way under the DM approach in all Kurdish dialects. Moreover, the results arrived at by Samvelian (2008) can be accounted for and find their own explanations in a special DM approach adapted here to explicate Kurdish facts about this linker in deverbal noun phrases in the coming sections.

3. Data Description and Analysis

Deverbal noun phrases are those kinds of noun phrases that are related to their corresponding verbs in the following ways. First, there are some one-argumental verbs which are called unaccusative verbs. The only argument of these sorts of verbs is the internal argument (subject) and conveys the semantic function of patient or theme in the statements. These verbs have two unmarked corresponding deverbal noun phrases: In one of them, as the data in (7b), taken from Hawrami Kurdish[1] shows, the subject of the sentence can be present both after the deverbal noun and linking particle, having the basic semantic role of genitive/possessive in addition to carrying theme/patient semantic role. Adding the prepositional phrase of /*jala⌈w ahmadaiwa/ meaning "by Ahamd" to such a deverbal noun is not acceptable but adding /ja la⌈i hasana-wa/ meaning "by Hasan" is quite acceptable,

1. **Zazaki:** b) aħmað gun-a(kewt) Ahmad-PTM-fall-3 Ahmad falls
b') gunaiš-o aħmað-i (*la⌈i (ahmad) hasana-wa) falling-EZ Ahmad-Obl (by(Ahmad)Hasan-PoPr MM Ahmad's falls
Centeral: a) aħmað kew-t: Ahmad-PTM-fall-3 Ahmad falls
b) kewtin-i aħmað (*lala⌈i (ahmad) hasano-w) falling-EZ Ahmad-Obl (by(Ahmad)Hasan-PoPr MM Ahmad's falls
Southern: c) ahmad kef-t Ahmad-PTM-fall-3 Ahmad falls
c') keftin-ê aħmad (*wa das (*ahmad) hasana-w) falling-EZ Ahmad-Obl (by(Ahmad)Hasan-PoPr MM Ahmad's falls
Northern: d) ahmad ke-t Ahmad-PTM-fall-3 Ahmad falls
d') ketin-a: aħmad (*ji al⌈ie (*ahmad) hasana-ra) falling-EZ Ahmad-Obl (by(Ahmad)Hasan-PoPr MM Ahmad's falls

working as a test to the accuracy of the semantic function of Ahmad being the theme. Furthermore, we can test the correctness of the semantic role of possessor by adding the "***hiyi***" meaning "***belonging to***" instead of linking particle, which is quite acceptable in the noun phrase.

7. a) **aħmað** gin-a: b) ginay-u **aħmað-i** (* jala⌈w (*ahmad-i) hasan-i-awa)
Ahmad-PTM-fall-PTM falling- LP Ahmad-Obl
Ahmad fell down Ahmad's falling down of Ahmad

The second kind of verbs is named as unergative verbs. They take only one argument, which is the external argument and plays the role of agent in the sentences. Thus, the subject of unergative verbs, that is, the external argument of the sentences involving unergative verb can only be instantiated after linking particle is added to their corresponding deverbal noun. However, this argument cannot be incorporated into their corresponding deverbal noun. Thus, the subject of the unergative verb, as in the sentence (8a) taken from Hawrami[1] Kurdish is realized in the agentive or the genitive/possessive function of their corresponding predicative nominal phrase as in (8b).

8. a) **ħæsæn** ram-a b) ram-a-**u** **ħæsæn-i**
Hassan-PTM-ran-PTM running-LP Hassan-Obl
Hassan ran Hassan's running

Again, the grammatical test of adding the propositional phrase of /ja la⌈w hasaniawa/ meaning "by Hasan" to such a deverbal noun is completely acceptable, qualifying the agentive semantic function of agentive as the only argument of such verbs and their corresponding deverbal noun phrases. Furthermore, we can test the correctness of the semantic role of possessor by adding the "hiyi" meaning "belonging to," instead of linking particle in the deverbal noun phrase.

Moreover, we have a third kind of verbs called transitive verbs which take both one external argument plus one internal argument in the statements. There are two forms regarding the corresponding deverbal noun phrases of such verbs. First, the internal argument can be instantiated after linking particle, and the external argument can be present as the complement of P in the prepositional phrase (PP) as in (9b) as in Hawrami[2]. Here, the object

---

1. **Centeral Kurdish:**
c) ħæsæn ra: i-kird c') ra: -kirdin-i ħæsæn (* la lai (*ahmad) hasano-w)
Hassan -PTM-run- PAS runnig-Ez Hassan -Obl (by(Ahmad)Hasan-PoPr MM
Hassan runs Hassan 's running

Southern Kurdish:
d. ħæsæn ra: -kird d'. ra: -kirdin- ê ħæsæn (*wa das (*ahmad) hasana-w)
Hassan -PTM-know- PAS running- EZ Hassan -Obl (by(Ahmad)Hasan-PoPr MM
Hassan runs Hassan 's runnig

Northern Kurdish:
e) ħæsæn rew-i e'. rew-in-a: ħæsæn (* ji al⌈ie (*ahmad) hasana-ra)
Hassan -PTM-run-PAS runing-EZ Hassan -Obl (by(Ahmad)Hasan-PoPr MM
Hassan runs Hassan 's running

2. **Zazaki:**
a) hasan ga:w-i ro-t b) (gaw) rot-is<-u (ħasan-i)(* la⌈i hasana-wa)
hasan-cow- accu -sell-3 cow-selling-EZ (hassan) (by hasan-ob
Hasan sold the cow selling of the (Hasan's) cow (by hasan)
c) (min) pul-i ma-d-u be ahmad-i d) dais<-u pul-u-m(in) be ahmad-i (la⌈i ali-ow)
I money-accu PTM give-1 to ahmad-Obl giving EZ money EZ_{pos} to ahmad-obl (by ali-obl)
I give money to Ahmad Giving my money to Ahmad

Centeral Kurdish:
a) hasan ga:-i fro-t b) (gaw) frot-in-i (ħasan-i)(*la la⌈i hasano-w)

of transitive verbs is represented in the role of theme or the possessed thing, and the subject of such sentences functions in the agentive/genitive/possessive role of their corresponding deverbal noun phrases. Second, the external argument is instantiated after linking particle playing the agentive semantic function is added to the deverbal noun phrase and the internal argument is incorporated into it as in (9c) in Hawrami Kurdish.

9. a) ħasan gaw-i wora-t b) worat-a-u gaw-i (hassan) (ja lai hasana-wa)
Hassan cow-obl sol selling-DN- LP-cow-Obl
Hassan sold the cow selling the cow by Hasan

c) gaw-worat-a-u-**u** ħasan-i
cow-selling-LP Hassan –Obl (byHasan-PoPr MM)
cow-selling by Hasan

Finally, there are ditransitive verbs with two unmarked corresponding deverbal noun phrases e.g., Possessive Linking Particle Phrase (PLPP) in (10b) and Agentive Linking Particle Phrase (ALPP) in (10c). It can be observed that all three arguments could potentially appear with the deverbal noun in the order of deverbal noun + L(inking) P(article) + possessed thing/patient + another LP + possessor + P(reposition) + target/aim in (10b). Otherwise, the internal argument is incorporated into the deverbal noun and the other elements could be present as shown in (10c), similar to (10b).

10. **Statement with ditransitive verb** **Corresponding Nominals**

a) (min) pul-i ma-d-u be ahmad-i **b**) dai-**u** pul-**u**-m(in) be ahmad-i (ja la⌈w ali-awa)
I money-accu PTM give-1 to ahmad-Obl giving EZ money EZ_{pos} to ahmad-ob l (by ali-obl)
I give money to Ahmad Giving my money to Ahmad

c) puld**ay-u** min be ahmad-i (*ja la⌈w ali-awa)
moneygiving EZ I to ahmad-obl (by ali-obl)
Giving my money to Ahma

Therefore, according to the data written in the footnotes, linking particle is also manifested in various forms in other Kurdish dialects.

Thus, we analyze the Hawrami sentence in (10a) involving a sample ditransitive verb and its two unmarked corresponding nominals, e.g., PLPP in (10b) and ALPP in (10c). The unmarked deverbal noun phrases corresponding to a sample sentence with a ditransitive verb

---

hasan-cow- accu -sell-3 cow-selling-EZ (hassan) (by hasan-ob
Hasan sold the cow selling of the (Hasan's) cow (by hasan)

c) (min) pul-i ma-d-u be ahmad-i d) dai-n-i pul-i-m(in) be ahmad-i (la la⌈i ali-ow)
I money-accu PTM give-1 to ahmad-Obl giving EZ money EZ_{pos} to ahmad-obl (by ali-obl)
I give money to Ahmad Giving my money to Ahmad

Southern Kurdish:

a) hasan ga: w fru-t b) (ga: w) frut-in-e ħasan-i (*wa das hasana-w)
hasan-cow- accu -sell-3 cow-selling-EZ (hassan) (by hasan-ob
Hasan sold the cow selling of the (Hasan's) cow (by hasan)

c) (min) pul-i ma-d-u be ahmad-i d.dan-e pul-e-m(in) be ahmad-i (wa das ali-aw)
I money-accu PTM give-1 to ahmad-Obl giving EZ money EZ_{pos} to ahmad-obl (by ali-obl)
I give money to Ahmad Giving my money to Ahmad

Northern Kurdish:

a) hasan **ga:** firi-t b) (**ga:**) firitin-a (ħasan-a)(* ji al⌈i-e hasana-w)
hasan-cow- accu -sell-3 cow-selling-EZ (hassan) (by hasan-ob
Hasan sold the cow selling of the (Hasan's) cow (by hasan)

have been chosen for the analysis and discussion in this section since it is comprehensive and it includes all the elements or arguments occurring in three other kinds of verbs, that is, unergative, unaccusative, and transitive verbs, too. Therefore, the results of the analysis of these exemplary data can be generalized to other kinds of verbs and their mirrored deverbal noun phrases. Furthermore, the analysis of the Hawrami Kurdish data will account for the other sorts of sentences and their corresponding deverbal noun phrases in other Kurdish dialects. In addition, the results provide further support for the kind of syntactic approach taken in this study.

Based on Mirani and Karimi-Doostan (2017), the default word order of DO›IO in both Kurdish sentences involving ditransitive verbs and their corresponding deverbal noun phrases is derived from the underlying order of IO›DO via syntactic movement of the direct object to higher positions. Under DM, roots and (morphosyntactic) features of both statements and deverbal noun phrases alike enter syntax in the following ways: First, the √Root of the predicate merges with the abstract features of the direct object, i.e., the internal argument. Then, the categorical features of √P(hrase) are formed, and then it merges with the features of the indirect object ($ApplP_{low}$) both in sentences and their corresponding deverbal noun phrases. As the tree diagram in Figure (1) exemplifies, the features of vp merges with the abstract features of $ApplP_{low}$ in statements. The head feature of the vP, which involves event structure as interpreted later in the Encyclopedia at Logical Form attracts the features of the root √DA. The head features of the second vP make abstract direct object features fulfill the syntactic operation of moving to go to that position; thus, it assigns accusative case to those features there. Later on, the head feature of AspP checks the aspect and event structure of the statement. Furthermore, unpredictable functional features of the statement are fulfilled in Function Phrase head. Next, VoiceP introduces the agentive features of the structure as interpreted in LF. Finally, TP checks the time feature and also the EPP of the agent to prepare and finalize the syntactic operation to transit to spell-out and post-syntactic operations in two branches of PF and LF. These syntactic operations are shown in Figure (1).

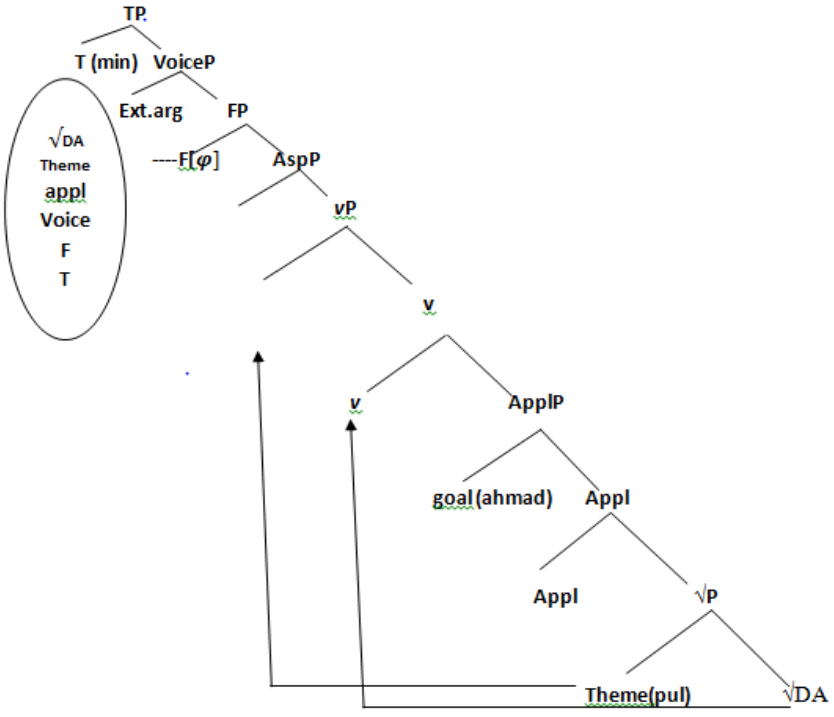

Figure (1). Tree diagram of statements of ditransitive verbs

Each ditransitive sentence has two kinds of corresponding deverbal noun phrases:

possessive/agentive deverbal noun phrases and possessive/theme or patient deverbal noun phrases. The subject or the external argument of the corresponding sentence involving a ditransitive verb is represented in the semantic role of the possessor/theme or patient or possessive/agentive of each kind of deverbal noun phrases, respectively, when they are interpreted at LF. Therefore, a possessive/agentive phrase merges with the previously formed constituents in possessive/agentive deverbal noun phrases. The subject of the corresponding sentence is introduced in the semantic role of the possessor/patient of this category; as a result, an uninterpretable possessor feature of this category makes the object, the internal argument, of the rootP, move to its second head in syntax. Then, the features of an nP in possessive/patient nominal enter the structure to distinguish the syntactic structure of sentences from nominals. The head feature of the nP (-ay) has the uninterpretable feature of the root in possessive/patient role and forces it to move to its second head features. AspP and FP abstract features present event structure and φ-featuresof every configuration, respectively. However, PLPP and then DP features are added to the corresponding nominals to complete the nominalization process. The head feature of PLPP checks the uninterpretable feature of possessive/patient linking particle morpheme in deverbal nouns; thus, it agrees with the form of possessive/patient and with masculine and feminine morphological forms of the linking particle in Kurdish. The tree diagram in Figure (2) illustrates these syntactic processes in the Hawrami Kurdish PLPP.

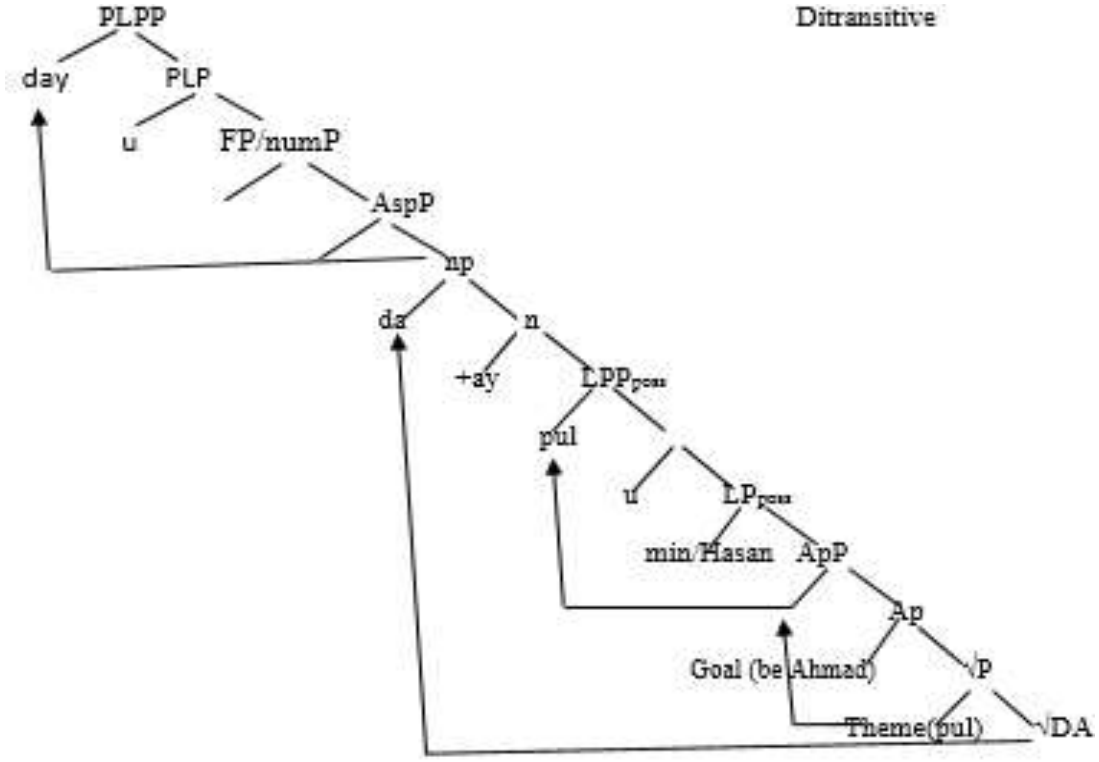

Figure (2). Tree diagram of PLPP

However, in Agentive Linking Particle Phrase (ALPP), after common processes up to the introduction of ApplP, it is the features of a Voice Phrase (VoiceP) that enters the syntactic structure to introduce the agent argument. Later, the head of the nP (-ay) has the uninterpretable feature of the entire RootP in agentive nominals and makes it move to that place. The head feature of the nP makes the rootP in the role of the possessed object incorporated and adjoined with it without the need to be case-marked (Baker, 1988). It is this category that differentiates deverbal noun phrases from other phrases such as vPs. The abstract features of AspP and F(unctional) P(hrase) check aspectual event structure and φ-

features of every configuration, respectively at LF postsyntactically. However, ALPP is added to the corresponding deverbal noun phrases to complete the nominalization process and to satisfy other special featural agreement requirements in each Kurdish dialect. These operations are done in syntax and completed postsyntactically at spell-out in the Agentive Linking Particle Phrase as depicted in the following tree diagram (Figure 3).

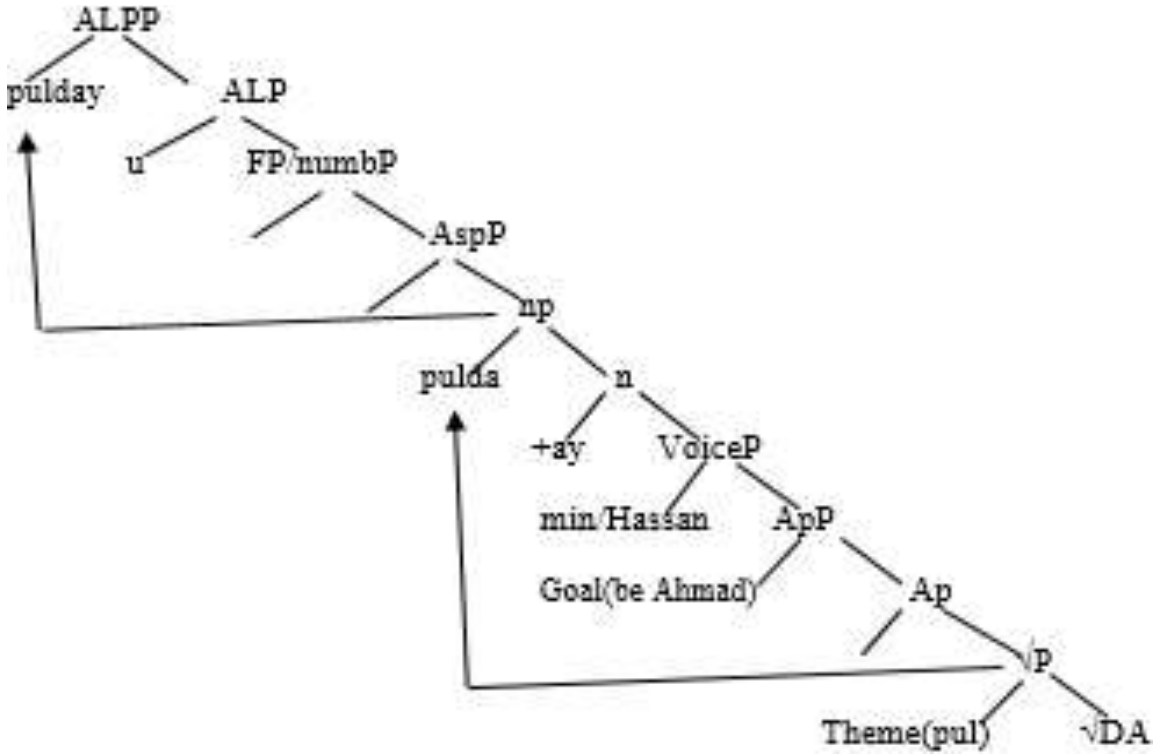

Figure (3). Tree diagram of Agentive Deverbal Noun Phrase

After the compilation of the syntactic structure, syntax at spell-out interfaces with Logical Form (LF) on the one hand and with the Phonetic Form (PF) on the other. The syntactic configuration of each structure has different forms and features, and these will influence their semantic and phonetic interpretation. In general, at LF, event structure expressing possession transfer is inferred from the statement and its corresponding deverbal noun phrases. However, the distinctive details in Neo-Davidsonian logical form derived from each syntactic alignment or position cause those structures to be semantically different in some details. The Neo-Davidsonian logical representation of the syntactic structure of the sentence in (11a) leads to the event structure shown in (11b). We can derive a semantic representation from the event structure of the sentence in this way: it is an obvious agent that acts upon the root of giving; as a result, it causes the theme (money) to go to the possession of the target receiver during the utterance time. Therefore, we arrive at an active resultant aspectual situation of achievement as in (11).

11. a) TP=At (utterance time), (ιi) λi[∃e[v(e,) Agent, Theme, Possessor] DURING (e, i)]
    b) [[x ACT <ROOT>] CAUSE [y GO<POSS−TYPE> z [during utterance time]]]

However, the Neo-Davidsonian logical form of the corresponding possessive deverbal noun phrases under discussion in (12a) results in the following semantic realization based on its event structure in (12b): an unknown or hidden agent causes the theme to become possessed by the target receiver in no specific time. As a result, a passive resultant eventuality is achieved.

12. a) PEP= ∃e [λe [PN_{+bound} (e) & ~~Agent (e, A)~~ & Asp (e, achievement) & Theme (e, T) &

Benefactive Possessor (e, BP or RL)]
b) (150) [? CAUSED [BECOME [y HAVE<POSS−TYPE> z]]]

Furthermore, the results of the event structure of the corresponding agentive deverbal noun phrases in (13b) as derived from the Neo-Davidsonian logical realization in (13a) display that an observable agent acts on the target receiver or beneficiary possessor to have or own the theme continually, but without any specified time. Therefore, the incorporation of the theme into the nominal root changes the sub-event structure of achievement into an event structure of the activity type.

13. a) PEP=∃e [λe [TPN_{+bound} (e) & Agent (e, A) & Asp (e, achievement) & Benefactive Possessor (e, BP or RL)
b) [x ACT z<HAVEy>]

Phonetic representation is carried out based on the final nodes of the syntactic structure through some rules and principles of syntax that also apply in post-syntactic processes. Roots and other features undergo post-syntactic steps of morphosyntactic processes, specific to the interface of syntax and PF, including movement, reordering, marking the case, and agreement. Finally, we arrive at the complete phonetic form of each proposition, leads to phonetic variations across linguistic chunks and categories.

Based on the categorization of the corresponding deverbal noun phrases of the sample statement in the syntactic, semantic and phonetic domains, the following observations can be made:

1. After merging the root and the features of patient or theme argument in possessive deverbal noun phrases or possessive nominals, the root moves up to the head of the nP and the patient or theme features move to the second head of the PossP. The complete possessive phrase involving the object and subject features of the corresponding statement changes into the possessed entity for the deverbal nominals.
2. Due to the incorporation of theme features into those of the verb, the theme becomes part of the verb, eliminating the need for accusative case-marking, agreement or movement to the second head of the vP. Therefore, the entire RootP first moves to the second head of the nP and then to the head of the PossP to perform additional syntactic operations. However, ApplP features merge with VoiceP abstract features to introduce LF-interpretable semantic agent role in syntax.
3. Unlike possessive nominals, agentive nouns involve more nominal features. Agentive nominals adopt markers of plural, definite article, countable adjectives, and possessive markers, and are ill-formed with manner adverbs. These features turn the event structure of the root, e.g., unrestricted (unbounded) achievement or accomplishment to the restricted (bounded) activity event structure marking AspP with a +bounded feature. Nevertheless, agentive nouns have more verbal features and do not take these nominal markers at LF.
4. Because of nominal markers, the features of FP are active in syntax and control nominal markers in agentive nominals.
5. Unlike possessive deverbal noun phrases, the phonetic form of agentive deverbal noun phrases does not require theme-deverbal noun agreement or oblique case marking of theme features.
6. It seems that semantic representation of agentive deverbal noun phrases results from syntactic configuration and involves the incorporation of the theme features into the deverbal noun, which removes the subevent of 'become' and "resultative situation" and transforms them from bounded to unbounded, resulting in the activity event structure. Also, agentive interpretation is derived from arguments introduced in the head features of VoiceP.

Results of the analysis of deverbal n`oun phrases and their corresponding sentences show

some similarities between the corresponding nominals of different types of verbs as discussed above. Therefore, deverbal noun phrases are nominals that are related to their corresponding verbs in the following ways. First, the subject of the psychological state verbs (14a) and unaccusitive verbs (14c), which have the stative event structure, show a similar pattern: they appear in the role of patient or theme of their corresponding deverbal noun phrases and occur only in the position after the deverbal noun form. Distributional tests support the patient or theme role of the subject of the sentence in corresponding deverbal noun phrases, as they become well-formed when a typical agentive phrase is added to the corresponding nominal as in (14b) and (14d).

14. a) ahmad maza:no
Ahmad-PTM-know-3
Ahmad knows

b) za⌈nay-u ahmah-i (* jala⌈i (*ahmad) *hasana-wa)
Ahmad-Obl (by(Ahmad)Hasan-PoPr MM-Ez-know
Ahmad's knowledge

c) a. aɦmað gin-a:
Ahmad-PTM-fall-3
Ahmad falls

d) gina-u aɦmað-i (ja la⌈i (*ahmad) hasana-wa)
falling-EZ Ahmad-Obl (by(Ahmad)Hasan-PoPr MM
Ahmad's fall

Second, the subjects (agent) of the ergative (15a) and transitive verbs (15b) or ditransitive verbs (15e) pattern semantically together, and they are all realized in the role of the agent when the subject of ergative and transitive verbs occur immediately in the syntactic position after their corresponding deverbal noun phrases as in (15b), (15d), and (15f). The subject of ergative verbs is their sole argument, which occurs only after their corresponding nominal. Nevertheless, transitive verbs require two essential arguments of subject and object. These two types of verbs show activity event structure, exactly like their corresponding nominals in the sample data. Whenever the object is incorporated before the nominal root and when the subject comes immediately after it, the subject of sentences with the transitive or ditransitive verbs plays the role of the agent of the corresponding nominal as in (15d) and (15f). The agentive role of these sorts of arguments is confirmed as the deverbal noun phrase is ill-formed if a usual agentive phrase follows it.

15. a) ɦæsæn rem-a:
Hassan -run-PTM
Hassan runs

b) rem-a-u ɦæsæn-i (* jalai (*ahmad) hasana-wa)
runing-EZ Hassan-Obl (by(Ahmad)Hasan-PoPr MM)
Hassan's running

c) hasan ga:w-i wora-t
hasan-cow- accu -sell-3
Hasan sold the cow

d) (gaw) worat-a- **u** (ɦasan-i)(*ja la⌈i hasana-wa)
cow-selling-) EZ(hassan) (by hasan-ob)
cow selling of the (Hasan) (by hasan)

e) (min) pul-i ma-d-u be ahmad-i
I money-accu PTM give-1 to ahmad-Obl
I give money to Ahmad

f) puld**ay-u** min be ahmad-i (*ja la⌈i ali-awa)
moneygiving EZ I to ahmad-obl (by ali-obl)
Giving my money to Ahmad

Moreover, the object of transitive (16a) and ditransitive verbs (16c) is represented in the role of possessed thing only if it occurs after the subject placed after their corresponding nominal forms in syntactic configuration (16b) and (16d), respectively. As a result, the object of the statement turns into the possessor in the corresponding nominals; thus, they pattern together in this way. Both the statements and their corresponding nominals share the same achievement or accomplishment event structure in the examples under study (16).

16. a) hasan ga:w-i wora-t
hasan-cow- accu -sell-
Hasan sold the cow

b) (worat-a- **u** gaw- u ɦasan-i (ja la⌈i hasana-wa)
selling-) EZ cow-Ez (hassan) (by hasan-ob)
selling of the (Hasan's) cow (by hasan)

c) (min) pul-i ma-d-u be ahmad-i

d) dai-u pul-u-m(in) be ahmad-i (ja la⌈i ali-awa)

I money-accu PTM give-1 to ahmad-Obl giving EZ money EZ_{pos} to ahmad-obl (by ali-obl)
I give money to Ahmad Giving my money to Ahmad

More than this, the present study indicates that the aforementioned distinctive meaning interpretations, especially in the area of deverbal noun phrases as properly represented in a syntactic-based approach like DM, provide further support for Kahnemuyipour (2014, 2016)'s syntactic movement account of linking particle constructions along with its categorization of phonological and semantic processes in a unified way across all Kurdish dialects. Therefore, based on the questions asked, the analysis of the data resulted in the following findings:

1. The syntactic DM approach of the present study allows us to remove the features and modifying elements of each kind of deverbal noun phrase. In other words, it is the existence or non-existence of some functional phases in syntactic structure which differentiates an eventive structure deverbal noun phrase from the stative ones, on one hand, and possessive nominals from agentive ones or both of them from statements when they are interpreted at LF, on the other.
2. The agent argument features of deverbal noun phrases can be deleted, exactly like the agent in passive voice sentences, but the theme features (if existing) stay in the structure; however, the removal of the theme without omitting the agent is impossible.
3. We can mark the oblique possessive case feature on the agents (subjects) in both deverbal noun phrases and linking particle oblique case on the possessors (objects) in possessive nominals; nevertheless, the object of the corresponding statements is incorporated before deverbal nouns and becomes caseless.
4. If only one modifying element (argument) is represented in the position preceding a deverbal noun phrase, it will function as the agent of the corresponding sentences that take intransitive verbs. The theme features of the corresponding statements involving transitive verbs will be incorporated accordingly.
5. It is assumed that nP involves the features of the eventive structure in deverbal noun phrases akin to features of the event structure present in vP of their corresponding statements.

4. Conclusion

The linking particle appears between a head noun and its modifiers in Kurdish dialects. This morphological marker is the trace of a historical genitive case marker, which remains observable in various forms in Kurdish dialects. Most prior research has concentrated more on the syntactic properties of the linking particle occurring within noun phrases in general, while relatively little attention has been devoted to its semantic function, particularly in the area of deverbal noun phrases. Thus, the purpose of the present study was to analyze the different semantic functions of the linking particle as it appears between a deverbal noun and its various modifiers, compared with their corresponding elements in sentences within the Kurdish language under the framework of Distributed Morphology (DM) in a unified fashion. This study showed that the trace of this ancient linker in most Kurdish dialects has agentive semantic functions, in addition to the two common functions of expressing possession and modification. Furthermore, the subject of unaccusative verbs in sentences appears as the patient/possessor or theme/possessor of their corresponding deverbal noun phrases. Nevertheless, the subject of unergative verbs is realized in the agentive/possessor role of their corresponding noun phrases. Moreover, the object of transitive and ditransitive verbs is represented in the role of patient or theme, as well as the possessed entity, before the subject is realized as the possessor at LF in the corresponding deverbal noun phrases. The results indicate that the representation of both sentences and their corresponding deverbal noun phrases under the DM approach provides stronger support for a syntactic movement account of deverbal noun phrases in line with Kahnemuyipour (2014, 2016) and highlights their

semantic functions and properties when they are interpreted at LF in a unified way, especially in Kurdish.

Ethical Considerations
Not applicable

Funding
Not applicable

Conflict of interest
The authors declare no conflict of interest.

References

Anvari, H., & Ahmadi Givi, H. (2000). *Dastordastor-e zaban-e Farsi* [Persian Language Grammar]. Tehran: Fatimi Publications. [In Persian]

Baker, M. C. (1988). *Incorporation: A theory of grammatical function changing*. Chicago, IL: University of Chicago Press.

Cinque, G. (2010). *The syntax of adjectives: A comparative study* (Linguistic Inquiry Monographs). MIT Press.

Ghaniabadi, S. (2010). *The empty noun construction in Persian*. Ph.D. Dissertation, University of Manitoba.

Ghomeshi, J. (1997). Non-projecting nouns and the linking particle construction in Persian. *Natural Language and Linguistic Theory*, *15*, 729-788.

Gutman, A. (2015). Can pattern replication be easily established? The case of the Neo-Aramaic Neo-Construct. University of Konstanz. Université Sorbonne Nouvelle – Paris 3 Ecole Doctorale 268 "Langage et langues: description théorisation, transmission" Actes des 18 Rencontres Jeunes Chercheurs, Paris, 11 et 12 juin 2015.

Halle, M., & Marantz, A. (1993). Distributed morphology and the pieces of inflection. In K. Hale & S. J. Keyser, (Eds.), *The View from Building 20* (pp. 111–176). Cambridge: MIT Press.

Holmberg, A., & Odden, D. (2005). The Ezafe and NP structure in Hawrami. *Durham Working Papers in Linguistics*, *10*, 77-94.

Huyse, Ph. (2005). Ein erneuter Deutungsversuch für den Übergang vom Schluß-y der mittelpersischen Inschriften zum Endstrich im Buch pahlavi (6.-7. Jh.). In D. Weber (Ed.), Languages of Iran: Past and Present - www. Kurdish studies.net Transnational Press London Iranian Studies in Memoriam David Neil McKenzie (51-67). Wiesbaden :Harrassowitz.

Kahnemuyipour, A. (2014). Revisiting the Persian Ezafe Construction: A Roll-up Movement Analysis, *Lingua 150*, 1-24.

Kahnemuyipour, A. (2016). The Ezafe Construction: Persian and Beyond. *ConCALL –2*, Indiana University.

Karimi, Y. (2007). Kurdish Ezafe Construction: Implications for DP structure. *Lingua, 117*, 2159-2177.

Karimi-Doostan, Gh., & Bagheri, R. (2011). *Saxt-e Ezafe dær zæban-ha-ye irani* [Ezafe construction in Iranian Languages]. Tehran: Sokhan Publication. [In Persian]

Larson, R., & Yamakido, H. (2006). Zazaki "Double Ezafe" as double case-marking. Paper presented at the *Linguistics Society of America Annual Meeting*, Aluquerque, NM.

Mirani, J., & Karimidoostan, Gh. H. (2017). *Arguement structure of ditransitive verbs and their corresponding nominals in Hawrami.* Ph.D. Dissertation, University of Tehran.

Samiian, V. (1994). The Ezafe construction: Some implications for the theory of X-bar syntax. In M. Marashi (Ed.), *Persian Studies in North America* (pp. 17–41). Bethesda, MD: Iranbooks.

Samvelian, P. (2008). The Ezafe as a head-marking inflectional affix: Evidence from Persian and Kurmanji Kurdish. In S. Karimi, V. Samiian & D. Stilo (Eds.), *Aspects of Iranian Linguistics* (pp. 339-361). Newcastle upon Tyne: Cambridge Scholars Publishing.