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RESEARCH RESULT

Ali Safari

CAUSATIVE ALTERNATION IN PERSIAN COMPLEX PREDICATES: A FRAME-BASED ANALYSIS

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Abstract

In this paper, a frame-based description of verbal polysemy is used to answer some questions concerning syntactic behavior and argument structures associated with complex predicates in Persian. In Persian a number of CPs consisting of a light verb (LV) and a preverb (PV) participate in causative alternation. The causative variant is formed with the LV **ændaxtæn** 'cause to fall' and the anti-causative variant is formed with **oftadæn** 'fall'. In some contexts these verbs do not participate in causative alternatioin. In other words they do not have an anti-causative variant in such contexts. The peculiar behavior of these verbs in different contexts is explained in the framework of Frame Semantics [2]. I will argue that these verbs are associated with two semantic frames and just one of them is compatible with both causative and antiicausative form. The other frame is compatible with causative form but incompatibel with anticausative form hence no anticausative variant. As for the A-structure of CPs, using the notion of Frames [5] it is proposed that the whole construction including the CP determines its A-structure. It is not detrmined just by PV [9] or compositionally by PV and LV [6].

Key words: Persian; Causative Alternation; Argument Structure; Complex Predicate; Frame Semantics

1. Introduction

In Persian a number of change of state verbs participate in causative alternation. For example 'šekastan' (break), 'boridan' (cut) and 'poxtan' (cook) are considered causative alternation verbs in Persian:

(1) a. Ali šiše ra šekast. / šiše šekast.
 Ali window-OM broke / window broke
Ali broke the window. / The window broke.
 b. Maryam tanab ra borid. / tanab borid.
 Maryam rope-OM cut / rope cut
 Maryam cut the rope. /int: the rope cut.

These verbs have both transitive and intransitive usage. They are called causative in transitive use and anticasative in intransitive use. In addition to lexical alternation verbs in (1), Persian has a number of morphological alternating verbs in which causative and anticausative variants are marked with a causative / anticausative morpheme (larz-and/larz-id):

(2) zelzele saxteman ra larz-and. / saxteman larz-id.
 earthquake building-OM shook / building shook
 The earthquake caused the building to shake. / The building shook.

There are also some Complex Predicates (CP) or Light verb Constructions (LVC) which participate in causative alternation. In such LVCs a Preverb (PV) accompanies a Light Verb (LV). The form of the LV is different in two variants. The causative variant is formed with kardan (do), andaxtan (throw) or zadan

(hit) and anticausative variant is formed with šodan (become), oftadan (fall) or gereftan (get):

(3) a. Ali dar ra baz kard / dar baz šod.
 Ali door-OM open did / door open became
 Ali opened the door. / The door opened.
 b. tiqe gol daste Ali ra xun andaxt. / daste Ali xun oftad.
 thorn-EZ flower hand-EZ Ali-OM blood fell/ hand-EZ Ali blood fell
 The thorn of the flower caused Ali's hand to bleed. / Ali's hand began to bleed.

The problem is that in some contexts alternating CPs have different behavours. As seen in (4b) they have a causative form in such contexts but the anticausative form is not acceptable:

(4) a. tiqe gol daste Ali ra xun andaxt. /daste Ali xun oftad.
 Thorn-EZ flower hand-EZ Ali-OM blood fell/ hand-EZ Ali blood fell
 The thorn of the flower caused Ali's hand to bleed. / Ali's hand began to bleed.

 b. baba panjere ra šiše andaxt. / *panjere šiše oftad.
 dad window-OM windowpane fell / window windowpane fell
 Dad put a windowpane in the window. / int:The window put a windowpane.

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In (4a) both causative and anticausative forms are acceptable but in (4b) anticausative form is not acceptable. I will show that the difference between (4a) and (4b) is related to their semantic frame. Using Frame Semantic (Fillmore, 1982) notions it will be shown that anticausative LVs are related to more than one semantic frame and one of semantic frames is incompatible with the anticausative form therefore it is not acceptable in such contexts.

As for the argument structure (AS) of CPs [9] claims that their AS is determined by PV while [6] propose that both PV and LV compositionally contribute to the argument structure of CPs. Using the notion of Frames [5] I will show that the whole construction including CP determines their AS. In this paper I will try to find answers to the following questions:

1. What determines the possibility of participation of CPs in causative alternation?

2. How the AS of CPs is determined?

In Section 2, I will show that previous accounts of causative alternation recognize the verb as the sole element which determines the possibility of participation in causative alternation. In section 3, Frame Semantics is introduced and it is shown that with Frame Semantics as a descriptive tool we can account for different behaviors of CPs in Persian. In section 4 the AS of CPs is discussed and it is shown that their AS is determined by the whole construction including them.

2. Review of Literature

[8], [10], [15] and [16] claim that verbs which do not impose any limitation on their external argument can participate in causative alternation. In other words if the verb only accepts agents as its external argument, it cannot participate in causative alternation. Such verbs have only a causative form. For example 'break' can accept agents, instruments, natural forces and events as its external argument so it can participate in causative alternation but 'murder' is used only with agents so it cannot participate in causative alternation. The problem with such accounts is that they recognize the verb as the only element which determines the possibility of participation of verbs in causative alternation.

[7] and [8] in the framework of Construction Grammar argues that some argument structures can be considered as independent linguistic constructions called Argument Structure constructions. Based on her analysis a verb can occur in a construction if the event encoded by the verb is compatible with the event encoded by the construction. According to Goldberg, argument alternation is the result of the fusion of verb semantics with more than one construction. For example locative alternation verbs such as 'load' can be fused with caused-motion and

causative + with constructions and create two variants of locative alternation:

(5) a. John loaded hay into the truck.
 b. John loaded the truck with hay.

Goldberg shows the semantics of verbs as semantic roles list and profiling of semantic roles determines the participation of the verb in argument alternation. The semantics of 'splash' is shown in (6).

(6) splash < splasher, **liquid, target**> [7, P. 178].

In (6) the agent is not profiled so it can be without any syntactic realization. So the verb can participate in causative alternation. In anticuasative variant the agent has not syntactic realization.

(7) a. Chris splashed water onto the floor
 b. Water splashed onto the floor. [7, P. 178].

But 'slather' cannot participate in causative alternation because the agent is profiled:

(8) a. Sam slathered shaving cream into his face.
 b. *Shaving cream slathered into his face [7, P. 178].

The semantics of 'slather' is shown in (9). As it is shown the agent is profiled so it has to be realized syntactically.

(9) slather <**slatherer, thick mass, target**>

According to Goldberg, the fusion of verbs and constructions is limited by two principles: Semantic Coherence Principle and Correspondence Principle. Based on Semantic Coherence Principle, semantic roles of a verb can fuse with argument roles of a construction if they are semantically compatible. Based on Correspondence Principle, profiled participant roles of a verb fuse with profiled argument roles of a construction. Those semantic roles which are obligatorily realized in syntax are lexically profiled and those which are realized as direct grammatical relations are constructionally profiled. [8] maintains that the Correspondence Principle can be violated by some constructions so it is the Semantic Coherence Principle which is responsible for the fusion of verbs and constructions. In other words if a semantic role can be interpreted as an instance of an argument role, it can fuse with that argument role. For example in 'break', semantic roles 'breaker' and 'broken' can be interpreted as 'cause' and 'patient' respectively, so the verb can fuse with causative construction.

(10) break < breaker, broken>
 causative construction < cause, patient >

[14] shows that alternating verbs like 'break' and 'clear' do not have anticausative variant when used with some patient arguments:

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(11) a. He broke the window / The window broke.
 b. He broke his promise / *His promise broke. [14].

Based on Goldberg, the semantics of 'break' can he shown as (12) in which only 'broken' is profiled.

(12) break <breaker, **broken**>

But showing the semantic of verbs as semantics roles list cannot account for the data in (11). In (11a) 'break' can fuse with both causative and anticausative constructions but in (11b) it can just fuse with the causative construction. Even if we suppose there are two lexical entries for 'break', we cannot solve the problem since both entries have the same semantics as in (12). Goldberg's assumption is that the semantics of the verb is fixed in argument alternations and different meanings of alternating variants is related to different constructions. But [11] shows that a verb like 'trim' can be related to more than one event: 'decorating' event and 'clearing' event. [12] argues that 'brush' is also related to two semantic frames: 'smearing' frame and 'sweeping' frame. Semantic frames are introduced in the next section.

3. Frame Semantics

Based on [1] the process of understanding a text, involves the recognition of semantic frames which is evoked by lexical units. Frame is a system of related concepts. In order to understand one of these concepts one has to understand the whole structure including it. When one of these concepts enters a text, other related concepts can be accessed too. According to this view the meaning of words consists of two parts: denotation and background knowledge. The difference between Frame Semantics and other lexical semantic theories is related to the emphasis on the background knowledge that contributes to the understanding of the word [4]. Speakers can understand the meaning of a word if they understand the background frame which evokes the meaning of the word. As an example the word 'weekend' conveys its meaning because of two reasons. First because a week consists of seven days and second because a great part of the week is dedicated to work days and only 2 days have been dedicated to holidays. If there is only one holiday, there won't be any need for such a word since we can use the name of the holiday. Also if there are three work days and four holidays again there won't be any need for such a word to exist. The word 'vegetarian' is used for the concept of the person who eats only vegetable. Provided that the majority of the society eat meat regularly, this concept is meaningful and interesting.

The word is used to refer to those who not only eat vegetable but also consume vegetable and it is interesting to say that this type of people avoid eating meat for a specific reason. That is why the word "vegetarian" is not used for those who are not able to afford to buy meat. According to the above-mentioned example it is no secret that the context and the background knowledge are of great importance in understanding a concept. In fact the meaning of the word will not be fully understandable without getting to know the aforesaid knowledge. Based on Fillmore's attitude it can be said that in process of using a language the speaker utilizes a frame related to a situation and indicates his aim of using the frame in a specific situation by making use of related words. To illustrate the point the Destroying frame based on FrameNet is shown in (13):

(13) Destroying Frame
Definition: A Destroyer (a conscious entity) or Cause (an event, or an entity involved in
    such an event) affects the Undergoer negatively so that the Undergoer no longer exists.

Frame Elements:

Cause [Cause]	The event or entity which is responsible for the destruction of the Undergoer.
Excludes: Destroyer	The subsequent explosions LEVELED most downtown office buildings.
	Tornados VAPORIZED this town a few decades back.
Destroyer [Agt]	The conscious entity, generally a person, that performs the intentional action that results in the Undergoer's destruction.
Semantic Type: Sentient	Who can UNMAKE the ring?
Undergoer [Und]	The entity which is destroyed by the Destroyer.
	Who can UNMAKE the ring?

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Lexical Units:

annihilate.v, annihilation.n, blow_up.v, demolish.v, demolition.n, destroy.v, destruction.n, destructive.a, devastate.v, devastation.n, dismantle.v, dismantlement.n, lay_waste.v, level.v, obliterate.v, obliteration.n, raze.v, take_out.v, unmake.v, vaporize.v

FrameNet is based on the theory of Frame Semantics, deriving from the work of Charles J. Fillmore and colleagues [1], [2], [5]. The basic idea is straightforward: that the meanings of most words can best be understood on the basis of a semantic frame**:** a description of a type of event, relation, or entity and the participants in it. For example, the concept of destroying typically involves a person doing the destruction (Destroyer), the thing that is destroyed (Undergoer) and something that causes the destruction (Cause). In the FrameNet project, this is represented as a frame called Destroying, and the Destroyer, Undergoer and Cause are called frame elements (FEs). Words that evoke this frame, such as *destroy, demolish, blow-up,* and *dismantle*, are called lexical units (LUs) of the Destroying frame. Other frames are more complex, such as Revenge, which involves more FEs (Offender, Injury, Injured_Party, Avenger, and Punishment) and others are simpler, such as Placing, with only an Agent (or Cause), a thing that is placed (called a Theme) and the location in which it is placed (Goal).

4. Analysis

In what follows I will show that, LV in Persian alternating CPs is related to two semantic frames. When it occurs in one of the frames, it is compatible with both causative and anticausative constrictions but in the other frame it is incompatible with the anticausative construction so theanticausative form is not acceptable.

As it was said some CPs with LV'andaxtan' have anticausative counterpart with LV'oftadan':

(14) a. tiq-e gol daste Ali ra xun andaxt. /daste Ali xun oftad.

Thorn-EZ flower hand-EZ Ali-OM blood fell/ hand-EZ Ali blood fell

The thorn of the flower caused Ali's hand to bleed. / Ali's hand began to bleed.

b. Hasan karxane ra rah andaxt / karxane rah oftad

Hasan factory-OM way fell / factory way fell
Hasan started the factory / The factory started.

c. našer čap-e ketab ra jelo andaxt. / čap-e ketab jelo oftad.

publisher print-EZ book-OM front fell / printing-EZ book front fell

The publisher preceded the printing of the book. / The printing of the book preceded.

But some CP constructions with the same LV, have no anticausative counterpart:

(15) a. baba panjere ra šiše andaxt. / *panjere šiše oftad.

dad window-OM windowpane fell / window windowpane fell

Dad put a windowpane in the window. / int:The window put a windowpane.

b. sarbaz be došman tir andaxt./ *be došman tir oftad.

soldier to enemy bullet threw / to enemy bullet threw

The soldier threw the bullet to enemy./ int:The bullet threw to enemy.

c. madar kif-e kohne ra dur andaxt. / *kif-e kohne dur oftad.

mom bag-EZ old-OM away threw. /bag-EZ old away threw

Mom threw the old bag away. / int:The old bag threw away.

The different between (14) and (15)is related to different semantic frames. Based on experience we know that the event described by 'andextan'/ 'oftadan' involves change of location of physical entity as in (16):

(16) Ali ketab ra ruye zamin andaxt. / ketab ruye zamin oftad.

Ali book-OM on floor drop / book on floor drop
Ali dropped the book on the floor. / The book dropped on the floor.

In (16) 'ketab' (book) has undergone a change of location. In this event, the agent
causes a theme to change its location by imposing force on it. The LV'andaxtan' has been used in this semantic frame in (15). This semantic frame, is called 'change of location' frame in this paper. The LV'andaxtan' / 'oftadan' in (14) is used in another semantic frame. In this frame, a cause brings about a change of state in a patient. It is called 'change of state' frame. These semantic frames are shown in (17) and (18) respectively.

(17) andaxtan- change of location
Definition: Agent causes the theme to change its location.
Frame Elements: agent, theme, location

(18) andaxtan- change of state
Definition; A cause brings about a change of state in a patient.
Frame Elements: cause, patient

The ungrammaticality of (19) provides evidence for the fact that 'andaxtan' is related to two semantic frames.

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(19) a. * tiq-e gol daste Ali ra xun va be došman tir andaxt.

thorn-EZ flower hand-EZ Ali OM blood and to enemy bullet threw

The thorn of the flower caused Ali's hand to bleed and threw a bullet to

enemy

b. *Ali karxane ra rah va kif-e kohne ra dur andaxt.

Ali factory-OM way and bag-EZ old OM away threw

Ali started the factory and threw the old bag away.

When it occurs in 'change of state' frame, the participant roles of the verb can be interpreted as 'cause' and 'patient' and fuse with the argument roles of the causative construction:

(20) andaxtan-cahnge of location < andazande , **andaxte**>

Causative construction < cause , patient >
 subj obj

In this frame, the 'cause' role can be deprofiled. So the semantics of the verb can fuse with anticausative construction as in (21):

(21) andaxtan- change of state < andazande, **andaxte**>

anticausative construction< deprofiled, patient>
 Ø subj

When this LV occurs in 'change of location' frame, its semantics is compatible with caused-motion construction and participant roles of the verb fuse with argument roles of this construction as in (23).The sentence in (22) shows this point:

(22) sarbaz be došman tir andaxt.
 soldier to enemy bullet threw
 The soldier threw a bullet to enemy.

(23) andaxtan - change of location <**andazande, andaxte, location**>

 caused-motion construction < agent , theme , goal >
 subj obj PP

In this frame, the agent cannot deprofiled so the semantic of the verb is not compatible with anticausative construction hence the ungrammaticality of (22) with anticausative CP.

(24) *be došman tir oftad.
 to enemy bullet threw
 int: The bullet threw to enemy.

In this section it was shown that the frame in which the LVoccurs determines its participation in causative alternation.Frame is defined based on frame elements, so we can conclude that the whole construction including the LV determines its argument structure. In other words, in addition to PV and LV, other participant roles in a frame contribute to the argument structure of CPs, contray to Karimi [9] and [6].When the LVoccurs in the 'change of state' frame, the argument structure of the LV involves 'cause' and 'patient', but when it occurs in 'change of location' frame, a-structure involves 'agent', 'theme' and 'goal'. So the frame which consists of frame elements determines the a-structure of CPs.

6. Conclusion

It was shown that in Persian some CPs are related to more than one semantic frame. In the 'change of state' frame they participate in causative alternation but in the 'change of location' frame they have noanticausative variant.As for argument structure of CPs, It is claimed that the argument structure is compositionally determined by all participant roles in a frame so the whole constriction including the CP determines its argument structure.

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