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An investigation of the Goal-over-Source-predominance hypothesis across Non-canonical Spatial Events in Ilami Kurdish

Amir Karimipour
Ferdowsi University of Mashhad
Iran

Shahla Sharifi
Ferdowsi University of Mashhad
Iran

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Amir Karimipour: Ferdowsi University of Mashhad, Iran. | E-mail: amir.karimipour@ferdowsi.um.ac.ir
Shahla Sharifi: Ferdowsi University of Mashhad, Iran. | E-mail: sh-sharifi@um.ac.ir

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Abstract

This paper explores the robustness of Goal Path *vs.* Source Path in several conceptual domains of Ilami Kurdish including Manner of Motion, Change of Possession, Change of State and Attachment/Detachment events. These events have previously been evaluated by Lakusta and Landau (2005) to further determine if the reported Goal bias in English Canonical Motion Events is also attested in other less canonical events. Following Lakusta and Landau (2005), we will examine these events to see if the observed Goal-over-Source preference in Ilami Kurdish 'placement and removal' events (Karimipour and Rezai, 2019), as Canonical Motion Events, is also confirmed in other non-prototypical domains of this variety. To this end, two experiments were performed. In experiment 1, Ilami participants were requested to spontaneously describe a set of video clips after they watched it. In experiment 2, participants were requested to use specific Goal- and Source-oriented verbs (e.g., give *vs.* get) to describe a new set of video clips. Results reveal that Goal *vs.* Source asymmetry is a systematic pattern, even when participants are encouraged to use biased verbs to describe the scenes. It is argued that the Goal bias is the result of several interacting factors as fundamental cognitive salience, non-presupposedness and less predictability of Goal information and particularly the lexicalization pattern of Ilami Kurdish. Interacting with other aforementioned factors, the lexicalization pattern of Ilami Kurdish systematically controls the encoding of the Goal component. It appears that this template originates from Canonical Motion Events.

Keywords: event; Goal Path; Source Path; Ilami Kurdish; lexicalization pattern.

1. Introduction

According to Talmy (2000), a motion event is composed of a framing event and a co-event (i.e., subordinate event). Providing the schematic structure for the motion event, the framing event can be analyzed into four components: (1) a moving figure, (2) a physical ground (i.e., a landmark) with respect to which the figure moves, (3) an activating process, namely motion, and (4) a Path that relates the figural entity to the ground entity. Talmy (2000) states that Path component is the core feature of a motion event. The co-event, on the other hand, provides a support relation to the framing event by elaborating or motivating the framing event. It should be pointed that the encoding of the co-event is optional and may take one of several forms. The two most common forms of the co-event are the manner event, which encodes information concerning the manner with which the motion is carried out (e.g., floating, running), and the causation event, which encodes the event originating the motion (e.g., kicking, throwing) (Özçalıskan, 2004: 74).

Jackendoff (1983) proposes a more fine-grained division of Path, according to its relationship to the reference object or place, as follows: Source Path, in which the figure moves from a Reference object (its Source); Goal Paths, in which the figure moves towards a Reference object (its Goal), and VIA Paths, in which the reference object or place is related to some point in the interior of the Path. In the traversal of a route, nothing is specified about the endpoints of the motion. Each of these Paths requires their own prepositions. The usual prepositions for Source Path and Goal Path are respectively 'from' and 'to'. There are also specific prepositions required for VIA Path such as 'through', 'past', etc. (Jackendoff, 1983: 165-166).

According to Jackendoff's analysis, in Manner of Motion verbs like 'wiggled', as in 'Willy wiggled', only the internal motion of the subject, with no implications with respect to their location, change of location, or configuration with respect to any other object, is expressed suggesting that Paths are completely optional in the argument structure (Jackendoff, 1990: 88). As Lakusta and Landau (2005) exemplify this point, the meaning of 'run' says nothing about the Path over which the running is done: Mary can run or she can run from the gate and/or to the winner's circle, even past the loser. Unlike Manner of Motion verbs, for the verbs like 'buy', 'sell' and 'exchange', in which two actions going on at once, Goal and Source Path are obligatory in the semantics, however the expression of these components are completely optional in the syntax. Therefore, the following sentences are all correct in English:

(1) a) *I bought a house.*
b) *I bought a house <u>from Mr. Johnson</u>.*
Source Path

(2) a) *I sold the car.*
b) *I sold the car <u>to Mr. Smith</u>.*
Goal Path

On the contrary, such verbs as 'put', 'hook' and 'place' require Path in both semantics and syntax which shows that verbs of different categories have their own characteristics (Lakusta and Landau, 2005).

It is important to consider the fact that the use of Path terms ranges beyond the domain of spatial and motion events (Gruber, 1965). Accordingly, Jackendoff (1983) states that spatial terms can encode other domains with parallel semantic and syntactic structures. For example, the domain of Possession permits encoding of transfer of possession in a way that is parallel to kinds of changes in location: "Amy gave the doll TO Beth" is parallel to "Amy went TO the store". In this example, the doll changes possession, just as Amy changes location; Beth is the final possessor (Goal) of the doll just as the store is the final location (Goal) for Amy. This is also the case in the domain of Change of State: "Amy went FROM sad TO happy" is parallel to "Amy went FROM the house TO the store". In this example, Amy changes from one emotional state to another in the Change of State domain, just as she changes from one location to another in the spatial domain (Jackendoff, 1983). What can be inferred from this discussion is that spatial verbs of different semantic categories with their own syntactic features can be considered as templates which support the encoding of change in other fields (Lakusta and Landau, 2005).

This paper aims to investigate the Goal bias hypothesis in less spatial events. Previous study conducted by Karimipour and Rezai (2019) suggests a dissymmetrical correlation between Goal *vs.* Source Paths in placement and removal events in Ilami Kurdish. They ran a set of video clips with a total of 10 Ilami Kurdish speakers who describe the scenes of placement and removal events. Results reveal that there is a cognitive bias in favor of Goal in Ilami Kurdish placement and removal events at both linguistic and non-linguistic levels. It is statistically shown that Goal information is more explicitly expressed in placement events than is Source in removals. Furthermore, participants could match Goal information more accurately in the memory task, implying that the preference of Goal over Source roots in human cognition. The research definitely focuses on placement and removals which are amongst prototypical spatial motion events, that their Source and Goal can topologically be assigned. However, the study has no explicit conclusion concerning less spatial events or those for which Source/Goal information is optional (e.g., Manner of Motion Verbs).

The purpose of this study is to examine the Goal bias hypothesis across a broad range of Ilami Kurdish events which enables us to measure the salience of the Goal component in comparison with the Source Path. Following Lakusta and Landau (2005), we aim to know if the confirmed Goal-over-Source preference in Canonical Motion Events (Karimipour and Rezai, 2019) is also attested in 1) Manner of Motion events which can encode Goal, Source, neither or both, 2) Change of Possession events including Goal- PP and Source- PP verbs (e.g., sell *vs.* buy), 3) Change of State events (e.g., color change and face expression change),

and also 4) Attachment/Detachment events (e.g., hook *vs.* unhook). We also raise the question that how any probable bias can be affected, when participants are given special hints (e.g., Goal-oriented and Source-oriented verbs) to describe a set of videoclips. Here are the main questions investigated in this research:

1) Is there any attentional bias towards the Goal component as far as Ilami Manner of Motion, Change of Possession, Change of State and Attachment/Detachment domains are taken into account?
2) Is this probable attentional preference also confirmed when Ilami participants are biased to Goal and Source Paths through giving special hints?
3) What are the determining factors in the expression of Path components in the aforementioned events?

This paper is structured as follows: In the Kurdish language section 2, a concise introduction to Kurdish and its varieties is provided. In section 3, information concerning experiments including participants, elicitation tool and research procedure is elucidated and Ilami Kurdish data will be analyzed. There will be a discussion of the findings of the study in section 4. Section 5 presents the findings of the study.

The study of Path component has attracted the attention of researchers in the recent decades. Here, we point to some of the most relevant works:

Landau and Zukowski (2003) study the acquisition of spatial language in children with Williams syndrome (Ws), which is a rare genetic disorder that gives rise to severe nonlinguistic spatial deficits. In order to test this relationship, 12 children with Ws, 12 normal children and 12 normal adults depicted 80 video clips. They found that children with Ws can appropriately use such motion event components as semantic and syntactic encoding of figure and Ground objects, Manner of Motion, and Path. However, the expression of Path among children with Ws was fragile, which, as they state, roots from the nonlinguistic spatial deficit affecting their spatial language.

Lakusta and Landau (2005) examine the encoding of Paths in children with Ws, in normal children and in normal adults. They specifically focus on the expression of Source and Goal to figure out if the Goal over Source preference confirmed in the previous study conducted by Landau and Zukowski (2003) is observed in other conceptual domains such as Manner of Motion, Change of Possession, Change of State, and Attachment/Detachment events. They found that participants more often explicitly express Goal information in comparison with Source Path. They report that Goal *vs.* Source asymmetry is a systematic pattern observed in the data, even when participants are supplied with special Goal- and Source-oriented hints. In other words, participants always tend to explicate the Goal information in their descriptions of the scenes, while elide the Source information.

Applying a corpus-based methodology, Georgakopoulos and Sioupi (2015) investigate the hypothesis of the preference of Goals over Sources in the representation of Change of Possession events in German and Modern Greek which are Satellite- and Verb-framed languages, respectively. Using 800 tokens (i.e., 2 verbs × 2 languages × 200 tokens) in both languages, they definitely assess the aforementioned hypothesis in two verbs belonging to Change of Possession event, namely, 'buy' and 'sell'. Results show that the languages under study both conform to the universal tendency in giving prominence to the Goal, which means that Goal component is more explicitly mentioned in 'sell' events than is Source in 'buy' events. This is also concluded that the lexicalization patterns of these languages indirectly affect the tendency of Goal preference over Source component.

Petersen (2012) investigates the linguistic encoding of 'put' and 'take' events in Kalasha, an Indo-Aryan language spoken in Northwest Pakistan. He claims that the findings of the research support the proposal that an dissymmetry exists in the encoding of Goals *vs.* Sources as suggested by Nam (2004) and Ikegami (1987), but it calls into question the statement put forward by Regier and Zheng (2007) that endpoints (i.e., Goals) are more finely differentiated semantically than starting points (i.e., Sources).

Employing Ibarretxe-Antuñano's (2008) criteria of Path Salience, Karimipour and Rezai (2016) evaluate Ilami Kurdish with respect to the encoding of Path in the motion events elicited from The Frog Story (Mayer, 1969) narratives. They typologically compare Ilami Kurdish with other languages and conclude that generally speaking Ilami Kurdish should be considered as a satellite-framed language as it often encodes Path component through satellites (or prepositional phrases) and manner in the verb stem. They also note that Ilami Kurdish tends to use several Goal-oriented Path components in a single clause which is characteristic of high Path-salient languages.

2. Kurdish language

Kurdish as a cover term is used for several closely-related West Iranian dialects spoken across a large contiguous area spanning the intersection of Turkey, Iraq and Iran. There are also Kurdish people residing in Syria, Armenia and Azerbaijan (and also Turkmenistan, and Georgia). It should be also noted that a sizeable exile community now lives in Western Europe (Haig and Matras, 2002). As Asatrian (2009) explains, although there have been numerous attempts mostly by Kurdish authors to classify the Kurdish dialects, it is a difficult task to put them into a system. The commonly accepted classification of the Kurdish dialects (see MacKenzie, 1961) considers three main variants: Northern, Central, and Southern Kurdish (Asatrian, 2009). Nothern Kurdish comprises Kurmanji in the west and dialects spoken from Armenia to Kazakhstan; Central Kurdish is spoken in Northeastern Iraq and adjacent areas in Iran, as well as in Iranian Kurdistan, and Southern Kurdish is spoken in several cities of Iraq and Iran, such as Kermanshah and Ilam (Skjærvø, 2006).

Ilami, as a low-resource dialect, is one of the Kurdish varieties, which has speakers in Ilam, a small mountainous city located in the west of Iran. As far as the encoding of Path is taken into account, Ilami tends to satellite-framed languages. As Karimipour and Rezai (2016) revealed, Path is almost always encoded through satellites outside the verb stem. However, manner may be encoded either inside or outside the verb stem. This means that Ilami Kurdish also has some characteristics of the verb-framed languages, when manner is encoded externally (Karimipour and others, 2019).

3. Data Analysis

As stated previously, in this research two experiments will be carried out to show if the Goal bias reported for Canonical Motion Events (Karimipour and Rezai, 2019) is also observable for Non-canonical Events. The specifics of the experiments and their results are presented in the following sections.

3.1. Experiment 1

In this section, we numerically show which kind of Path tends be explicitly expressed along with different Manner of Motion, Change of Possession, Change of State and Attachment/Detachment verbs. To show the basic features of the aforementioned events and how they are encoded in Ilami Kurdish, sufficient examples and explanations are presented for each type of event in the relevant sections.

3.1.1. Participants

We recruited 12 Ilami Kurdish volunteers aged 30,6-60,6 years of both genders to conduct the research. When selecting the participants, we ensured that they are all native speakers of Ilami, are proficient in Ilami Kurdish and use it regularly in their daily conversations. Although the socioeconomic status of the participants in this research is not considered as a variable, we attempted to select individuals from different dialectal areas of the city of Ilam.

3.1.2. Stimuli and research procedure

Following Lakusta and Landau (2005), the participants, whose mother tongue was Ilami Kurdish, were shown 34 videotaped events, each of which portraying people and objects involved in different actions. Event types included 18 Manner of Motion events and 16 non-Manner of Motion events. The former consisted of 6 Change of Possession events, 4 Change of State events and 6 Attachment/Detachment events (see table 1). It should be pointed that the Manner of Motion events showed a situation in which a figure object moves from a start point to a stop point, so that both Source and Goal of Motion were continuously observable for the participants during the event. As for the Change of Possession clips, they were constructed so that a figure is transferred from one person to another. This transfer is done in two different ways: the

agent gives the figure to another person (Theme-Path-Goal) or the beneficiary gets the figure from the other person (Theme-Path-Source). Moreover, Change of State events depict situations in which a person changes from an initial state to an end state (Theme/Patient-Source-Goal) and, finally, in Attachment/Detachment events a person attaches a figure on another object or surface (Theme-Path-Goal) or detaches it from another object or surface (Theme-Path-Source). Following Lakusta and Landau (2005), we used 4 warm-up clips portraying 2 Manner of Motion and 2 Non-manner of Motion events. None of these clips were used in the real experiment. In this stage, we attempted to acquaint the participants with Source and Goal components and encouraged them to include both Paths when describing an event. However, this clarification was not used in the real experiment to prevent the participants from performing at ceiling. Elicitation procedure took place in Ilam. Data were recorded through a microphone connected to a laptop. Participants were requested to describe the scenes shown on the laptop screen, which normally were 5 seconds long. It was also attempted to manage their descriptions, through asking the Kurdish equivalent of "what the person did?", in case they did not focus on the desired aspect of the event. Afterwards, the data were transcribed using International Phonetic Alphabet (IPA) and evaluated according to Source vs. Goal (dis)symmetry test.

TABLE 1

Types of events used in the video clips

MANNER OF MOTION (*N*= 18)	NON- MANNER OF MOTION (*N*= 16)		
	Change of Possession (*N*= 6)	**Change of State (*N*= 4)**	**Attachment/Detachment (*N*=6)**
dæwəsən 'running' (*N*= 2) ʧöʧʃanən 'scattering' (*N*= 2) bɑɭ gərtən 'flying' (*N*= 2) pəl xwɑrdən 'rolling' (*N*= 2) re kərdən 'walking '(*N*= 2) pærəsən 'jumping' (*N*= 2) kæftən 'falling' (*N*= 2) sərin 'crawling' (*N*= 2) xər xwɑrdən 'spinning' (*N*= 2)	xəsən'throwing'/ gərtən 'catching' (*N*= 2) dɑjən'giving'/ gərtən 'getting' (*N*= 2) fəruʃan'selling'/ sænən 'buying' (*N*= 2)	color change (*N*= 2) face expression change (*N*= 2)	æɭxəsən 'hooking' (*N*= 1) wæ qe nɑjən 'sticking in' (*N*= 1) wæ məl ʧæsbɑnən 'gluing on' (*N*= 1) ɑwkərdən 'unhooking' (*N*= 1) æɭkiʃan 'pulling out' (*N*= 1) æɭtækɑnən 'ripping off' (*N*= 1)

3.1.3. Results

In this section, the results of experiment 1 will be presented. Statistically, it will be shown that how the Goal bias principle reported for Canonical Motion Events (Karimipour and Rezai, 2019) is observed for other conceptual domains including Manner verbs, Change of Possession, Change of State and Attachment/Detachment events.

3.1.3.1. Manner verbs

There are numerous types of Manner of Motion Verbs used in Ilami Kurdish (for a detailed discussion on Ilami Manner expressions, see Karimipour and others (2019), and Karimipour and Izanloo (2015)). Employing Slobin's (2004) framework, Karimipour and Izanloo (2015) propose a semantic classification of motion verbs based on various types of Manner they encode, including 'speedy' motion verbs, 'rolling' motion verbs, 'continual' motion verbs, etc. Considering the semantics of Ilami Kurdish Manner of Motion Verbs, we figure out that there is no implication concerning the location or direction of the verbs as such, but this information may optionally be encoded in the argument structure. Look at the following examples:

(1) *dæwəsən* 'running'

a) *kwər-æ dæ maɭ ta mædræsæ-æ dæwəs.*
boy-DEF from home to school-DEF run.PST.3SG
The boy ran from home to the school.

b) *kwər-æ dæ maɭ-aw dæwəs.*
boy-DEF from home- DEF.EMP run.PST.3SG
The boy ran from home.

c) *kwər-æ ta mædræsæ-æ dæwəs.*
boy-DEF to school-DEF run.PST.3SG
The boy ran to the school.

d) *kwər-æ dæwəs.*
boy-DEF run.PST.3SG
The boy ran.

(2) *waz gərtən* 'soaring'

a) *mælit͡səg-æ dæ i daræ-æ ta u daræ-æ waz gərt.*
sparrow-DEF from this tree-DEF to that tree-DEF open get.PST.3SG
The sparrow soared from this tree to that one.

b) *mælit͡səg-æ dæ i dar-aw waz gərt.*
sparrow-DEF from this tree- DEF.EMP open get.PST.3SG
The sparrow soared from this tree.

c) *mælit͡səg-æ ta u daræ-æ waz gərt.*
sparrow-DEF to that tree-DEF open get.PST.3SG
The sparrow soared to that tree.

d) *mælit͡səg-æ waz gərt.*
sparrow-DEF open get.PST.3SG
The sparrow soared.

(3) *pəl xwardən* 'rolling'

a) *mar-æ dæ i sær ta ula pəl xward.*
snake-DEF from this head to there roll eat.PST.3SG
The snake rolled from this place to the other location.

b) *mar-æ dæ i sær-aw pəl xward.*
snake-DEF from this head DEF.EMP roll eat.PST.3SG
The snake rolled from this place.

c) *mar-æ ta ula pəl xward.*
snake-DEF to there roll eat.PST.3SG
The snake rolled to the other location.

d) *mar-æ pəl xward.*
snake-DEF roll eat.PST.3SG
The snake rolled.

As can be seen above, the three Ilami Kurdish Manner verbs allow explicit encoding of both Source and Goal (as in 1a, 2a and 3a), Source alone (as in 1b, 2b and 3b), Goal alone (as in 1c, 2c and 3c) and neither (as in 1d, 2d and 3d) among which Kurdish speakers can opt. It seems safe to state that in each case a specific perspective of the event is at the center of attention. It is important to note that, when only Source Path is encoded, the specific suffix '-ɑw' is obligatorily attached to the prepositional phrase encoding Source Path, which helps to understand that this is the starting point, but the event will continue in a specific direction. This suffix has been attached to *maɭ* 'home' (1b), *sær* 'head' (2b), and *dar* 'tree' (3b) in the above examples, which are all considered the Source of Motion.

In this section, the frequency of each manner verb used will be indicated. Furthermore, it will be shown that in what frequency Goal and Source components have been used along with each manner verb. Table 2 shows the event types, and the manner verbs used by the participants with their frequency.

Consider the following illustrations from Ilami data collection:

THE BOY RUNS FROM THE ROOM TO OUTSIDE THE ROOM[1].
(4) *kwər-æ ta dær dæwəs.*
boy- DEF to out run.PST.3SG
The boy ran out.

1 Sentences written in capitals refer to the video-clips displayed for participants.

TABLE 2

Most frequent Manner of Motion Verbs used for specific event types

EVENT TYPE	VERB	MEAN PROPORTION
RUN	dæwin 'running'	1.00
SCATTER	ʧöʧʃanən 'scattering' rəʃanən 'pouring'	.85 .15
FLY	bɑɭ gərtən 'flying' pærwɑz kərdən 'flying'	.80 .20
ROLL	pəl xwɑrdən 'rolling'	1.00
WALK	re kərdən 'walking'	1.00
JUMP	pærəsən 'jumping'	1.00
FALL	kæftən 'falling' rəmijɑn 'collapsing'	.95 .05
CRAWL	sərin 'crawling' pərd bijən 'jumping while creeping'	.90 .10
SPIN	xər xwɑrdən 'spinning' ɑɭgærdijɑn 'turning' peʧs xwɑrdən 'twisting'	.90 .05 .05

THE BOY ROLLS FROM THE SOFA TO THE WALL.

(5) *kwar-æ ta le diwar- æ pəl xward.*
boy- DEF to beside wall- DEF roll eat.PST.3SG
The boy rolled to the wall.

THE MAN JUMPS FROM THE STAIR ONTO THE LINE.

(6) *pejag-æ ta le xæt-æ pærəs.*
man- DEF to beside line-DEF jump.PST.3SG
The man jumped onto the line.

THE APPLE FALLS DOWN FROM THE HAND ON THE FLOOR.

(7) *sef-æ kæft-æ məl-ə zæmin.*
apple-DEF fall.PST.3SG-towards on-POSS ground
The apple fell down on the floor.

Examples (4-7), which are examples of RUN, ROLL, JUMP and FALL events, respectively, all show that there is only Goal Path explicitly encoded in the descriptions, regardless of the type of the events.

Although the Source Paths (i.e., room, sofa, stair, hand, respectively) were clearly shown in the relevant videos, Ilami participants only tended to encode the Goal Path as can be seen above. For example, in illustration (4) the boy starts running from the room, which is considered the Source Path. However, there was a low tendency among the participants to syntactically encode this information.

Statistically, it was figured out that the Goal bias is robust in such events implying the importance of Goal over Source across all event types. Nevertheless, we also can observe examples, in which 'Complete Path' is formed, that is, Source and Goal are encoded simultaneously:

(8) THE WOMAN SCATTERED THE RICE FROM THIS LOCATION TO THAT LOCATION.
dæ i sær ta u sær ʧüʃə bərendʒ-æ da.
from this head to that head scatter rice-DEF give.PST.3SG
[the woman] scattered the rice from this point to that point.

In this example, Source Path (*i sær* 'this head') and Goal Path (*u sær* 'that head') are expressed together, which has its own reasons. By forming the Complete Path, the participant effectively implies that 'the rice scattered has covered a wide space (of the room)', the concept for which the sole encoding of either Source or Goal seems to be insufficient. Figure (1) summarizes the percentage of each event type with regard to the encoding of Source and Goal Paths used by Ilami participants.

FIGURE 1

The proportion of Source Path *vs.* Goal Path in Ilami Kurdish Manner expressions

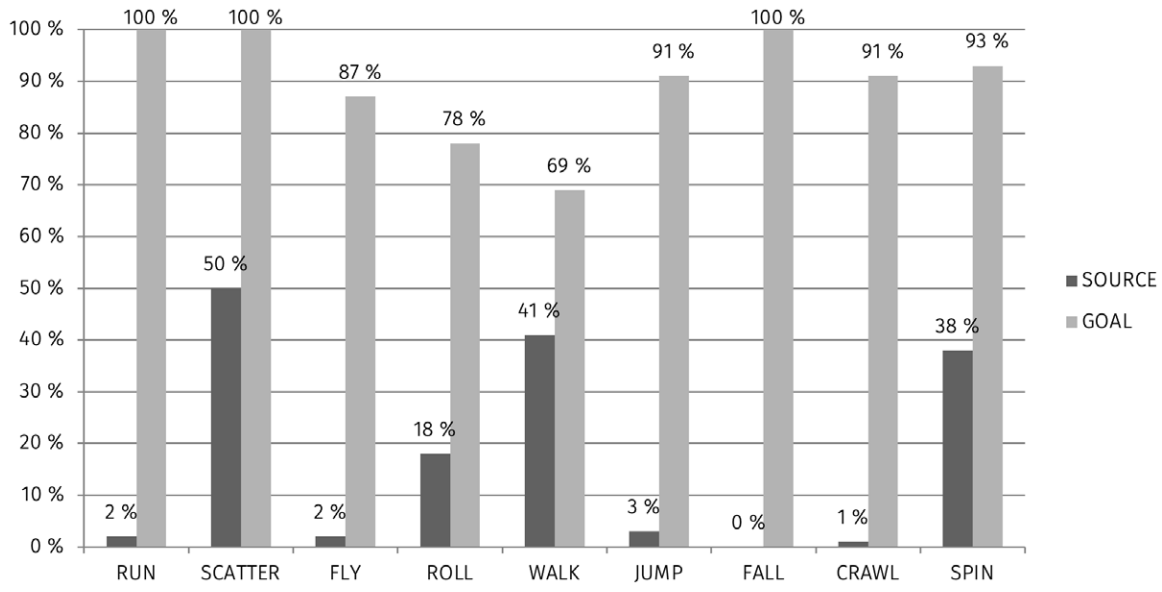


Figure (1) shows that the encoding of the optional elements along with Manner of Motion Verbs in Ilami Kurdish is significantly in favor of the Goal component.

3.1.3.2. Change of Possession Verbs

As Lakusta and Landau (2005: 9-10) state:

> the transfer in Change of Possession events can be encoded with verbs such as 'give', 'throw', and 'sell', which often take Goal Paths (but not Source Paths) to indicate the TO Path part of the event (e.g., "He gave the flowers to the woman", but not "He gave the flowers *from the woman"). These same events can also be encoded with verbs such as 'receive', 'catch', and 'buy', which often take Source Paths (but not Goal Paths) to indicate the FROM Path part of the event (e.g., "He received the flowers from the man", but not "He received the flowers *to the man").

Accordingly, there are special verbs used to encode Change of Possession events in Ilami Kurdish such as *xəsən* 'throwing'/*gərtən* 'catching' and *dajən* 'giving'/*gərtən* 'getting'. It should be emphasized that, although semantically the encoding of Goal and Source is obligatory for these events, the syntactic expression of these information is totally optional in Ilami Kurdish. Following Lakusta and Landau (2005), we call the first verb of each pair as 'Goal Path verb', which encodes the TO Path part of the event. The following examples taken from Ilami Kurdish consultants are illustrative:

(9) THE GIRL THROWS THE BALL AT THE MAN.
dijæt-æ *tup-æ* *xəs* *ære* *pejag-æ.*
girl-DEF ball-DEF throw.PST.3SG for man-DEF
The girl threw the ball towards the man.

(10) THE BOY GIVES THE MONEY TO THE WOMAN.
kwər-æ *pöl-æ* *da* *ʒən-æ.*
boy-DEF money-DEF give.PST.3SG woman-DEF
The boy gave the money to the woman.

As can be seen, both examples illustrate a kind of Change of Possession event. The agent *dijæt* 'girl' in example (9) throws the figure *tup* 'ball' through a specific direction and the beneficiary is considered the Goal of the event, which is optionally expressed by the prepositional phrase *ære pejagæ* 'for the man'. Example (10) also represents another Change of Possession event type. This event similarly focuses on the first phase of the event which is "giving money to someone", along with the explicit mentioning of the Goal, namely, *ʒən* 'woman'. The encoding of Source component in such events will necessarily result in nonsense ungrammatical sentences:

(11) *[2]*dijæt-æ tup-æ dæ pejag-æ xəs.*
girl-DEF ball-DEF from man-DEF throw.PST.3SG
The girl threw the ball from the man.

(12) **kwər-æ pöl-æ dæ ʒən-æ da.* .
boy-DEF money-DEF from woman-DEF give.PST.3SG
The boy gave the money from the woman.

Alternatively, the same events can be encoded from a different angle resulting in using different Source Path verbs like *gərtən* 'catching' and *sænən/gərtən* 'getting' which can take Source Paths (but not Goal Paths) to indicate the FROM Path part of the event:

(13) *pejag-æ tup-æ dæ dijæt-æ gərt.*
man-DEF ball-DEF from girl-DEF catch.PST.3SG
The man caught the ball from the girl.

(14) *ʒən-æ pöl-æ dæ kwər-æ sæn.*
woman-DEF money-DEF from boy-DEF get.PST.3SG
The woman got the money from the boy.

Technically speaking, this is the beneficiary of the event which is in focus of attention, when the Source Path verbs are used. Similarly, the use of Goal Path in sentences like (15) and (16) will lead to ungrammatical sentences:

(15) ** pejag-æ tup-æ dijæt-æ wæ gərt.*
man-DEF ball-DEF girl-DEF to catch.PST.3SG
The man caught the ball to the girl.

(16) ** ʒən-æ pöl-æ kwər-æ wæ sæn.*
woman-DEF money-DEF boy-DEF to get.PST.3SG
The woman got the money to the boy.

In the following section, we attempt to measure the tendency of Ilami Kurdish participants in using either of the verb types, which consequently shed some light on the fact that how the Goal bias hypothesis is observed in these events. The list of the verbs used by the participants along with their mean proportion is given below:

2 Asterisk is used to indicate anomalous and/or ungrammatical sentences.

TABLE 3

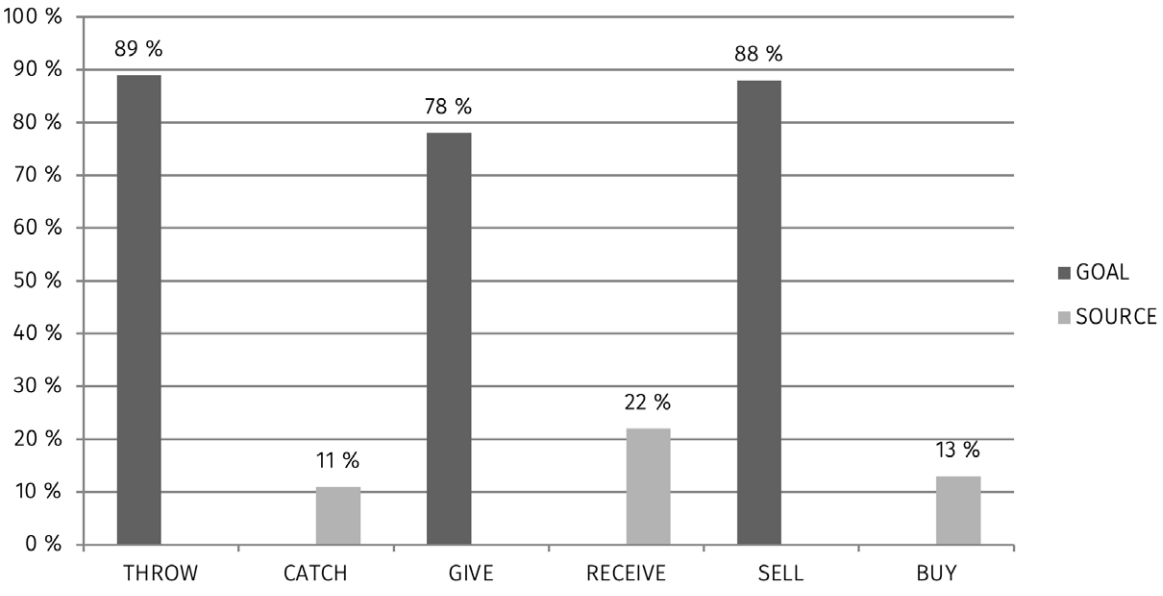
Most frequent Change of Possession verbs used by Ilami Kurdish participants

EVENT TYPE	VERB	MEAN PROPORTION
THROW	xəsən 'throwing' pərd dɑjən 'flipping'	.60 .40
CATCH	gərtən 'catching' æ|qæpnən 'grabbing'	.85 .15
GIVE	dɑjən 'giving'	1.00
RECEIVE	gərtən 'receiving'	1.00
SELL	fəruʃɑn 'selling'	1.00
BUY	sænən 'buying' gərtən 'purchasing'	.80 .20

Below are the results of the robustness of Goal and Source Path in the descriptions of Ilami Kurdish consultants:

FIGURE 2

The percentage of Goal Path *vs.* Source Path in Ilami Kurdish Goal Path verbs and Source Path verbs



As already stated, Change of Possession events could be viewed from two perspectives: an agent transferring an object to another person (Theme-Path-Goal) and a beneficiary accepting an object from an agent (Theme-Path-Source). The results summarized in figure 2 are evident

of the fact that Ilami Kurdish speakers tend to view the events more often from the former perspective resulting in the high frequency of Goal Path verbs and, subsequently, the robustness of the Goal component. For example, in the throwing/catching events portrayed for Ilami participants, 89 % of the descriptions contain the 'Theme-Path-Goal' perspective and, in only 11 %, 'Theme-Path-Source' perspective is used, which shows the robustness of Goal over Source in such events. Other binary events also conform to this pattern. The give/receive pair shows a similar asymmetry with 78 % use of 'Theme- Path- Goal' and 22 % of 'Theme-Path-Source' perspectives. Finally, the Sell/Buy pair also shows a 75 % difference (SELL: 88 %; BUY: 13 %).

3.1.3.3. Change of State events

Change of State events are potentially good candidates for testing the Goal *vs.* Source preference hypothesis, as they can be logically equal to canonical spatial events which topologically require Source/Goal specification. The following examples are illustrative:

(17) *ræng-e* *asəman-æ* *dæ* *ʁaw* *bi-jæ* *xön.*
color-POSS sky-DEF from blue become.PST.3SG-to blood
Sky turned from blue to red.

(18) *kwər-æ* *dæ* *bən-e* *kijæ* *kæft-æ* *zæmin.*
boy-DEF from above-POSS mountain fall.PST.3SG-to land
The boy fell from the mountain to the ground.

Examples (17) and (18) are examples of Change of State and Falling events, respectively. They are parallel in the sense that they both can similarly encode the Source and the Goal Paths along with the verb. The color of the sky has initial and final states (blue *vs.* red color), just as the boy has start and stop points (mountain vs. ground).

As already stated, 4 clips of the video set used in experiment 1 portray Change of State events. In this part, we definitely give examples of color change (N=2) and face expression change (N=2), as the representatives of Change of State events to determine the robustness of Goal in such events. Below is the list of event types, the verbs used by participants and the mean proportion of each verb:

TABLE 4

Most frequent Change of State verbs used by Ilami Kurdish participants

EVENT TYPE	VERB	MEAN PROPORTION
FACE EXPRESSION CHANGE	bijən 'becoming'	1.00
COLOR CHANGE	bijən 'becoming'	.90
	æɭgærdijɑn 'turning'	.10

As can be seen above, *bijən* 'becoming' is the most frequent predicate used for both event types. Here are two examples of face expression change and color change events in Ilami Kurdish used by the participants:

(19) *bijæ* *buq-e.*
become.PST.3SG turkey-INDEF
[he] got angry.

(20) *ræng-e* *zærdaw* *bi.*
color-POSS yellow become.PST.3SG
[His face]'s color changed to yellow.

Metaphorically used, example (19), which is a change of face expression event, has an initial point and a final status. In fact, a person changes from 'being a human' status to 'being a non-human' status. What is obvious is that the participants take the initial status (being a human) for granted and only encode the final status of the event as the Goal. The same is true concerning example (20) indicating a color change event. The initial color (i.e., Source) is not encoded in the sentence, implying that this information is presupposed, however the final color of the face is explicitly expressed, which highlights the importance of Goal in this example. This pattern is systematically used by Ilami Kurdish consultants as shown below:

FIGURE 3

The percentage of Goal Path *vs.* Source Path in Ilami Kurdish Change of State verbs

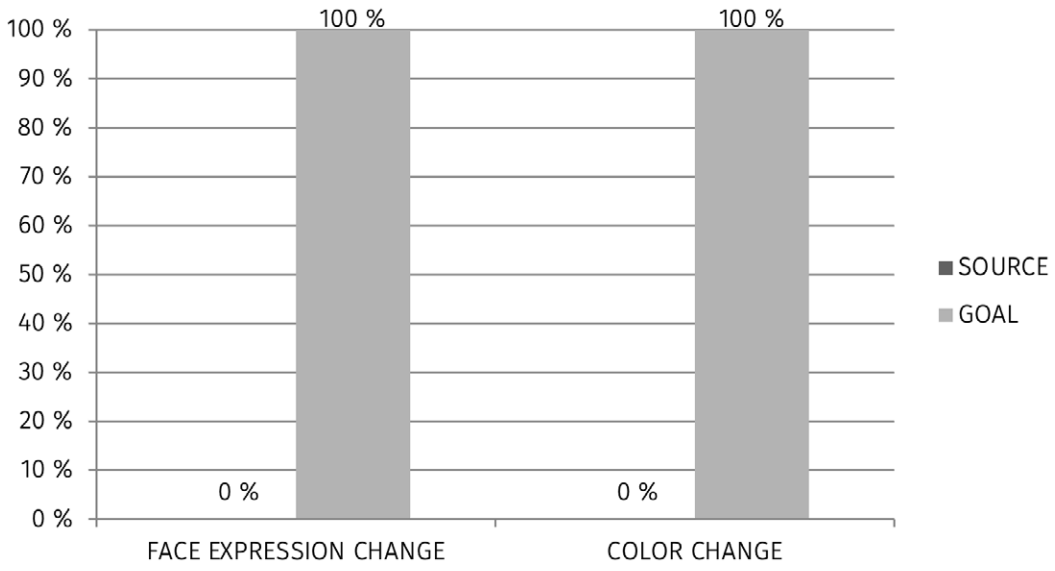


Figure 3 shows a surprising fact about the expression of Goal *vs.* Source in Ilami Kurdish Change of State events. The participants have explicitly used only the Goal information in

Change of State events with no explicit mentioning of the Source Path at all, which obviously supports the robustness of Goal Path in this conceptual domain.

3.1.3.4. Attachment/Detachment events

In this part, we show which verbs have been used by participants to describe Attachment/Detachment events and, furthermore, discuss if the Goal bias principle confirmed for the previous events is also observed in these events. We explained that Attachment/Detachment events involve an action in which a person attaches an entity on another object or surface or detaches it from another object or surface. The following examples show how these events are encoded in Ilami Kurdish.

(21) *pəjag-æ kwət-æ na qe-jə ʧuləbasi-jæ.*
man-DEF coat-DEF put.PST.3SG on-POSS wardrobe-DEF
The man put the coat on the wardrobe.

(22) *pəjag-æ kwət-æ dər-awərd.*
man-DEF coat-DEF out-take.PST.3SG
The man unhooked the coat.

(23) *bæʧ-el-æ næqaʃi-jel-ejan ʧæsbanən-æ məl-ə bərd-æ.*
child-PL-DEF painting-PL-POSS stick.PST.3PL-to on-DEF board-DEF
The children stuck their paintings on the board.

(24) *bæʧ-el-æ næqaʃi-jel-ejan dər-awərdən.*
child-PL-DEF painting-PL-POSS out-take.PST.3PL
The children removed their paintings.

In examples (21) and (23), depicting Attachment events, an agent attach an object to a ground. In both examples, it is clarified that exactly where the figure object is placed at the end of motion (i.e., cloth hanger and board, respectively). On the contrary, in examples (22) and (24), which depict Detachment events, the figure object is detached from some ground, which has been omitted in these examples. It was shown in table 1 that 6 video clips used in experiment 1 portray Attachment (N=3) and Detachment (N=3) events. The following table shows the verbs used by Ilami participants to describe different event types with their mean proportion specified.

TABLE 5
Most frequent Attachment and Detachment verbs used by Ilami participants

EVENT TYPE	VERB	MEAN PROPORTION
HOOK	nɑjən 'putting'	.50
	(æ[)xəsən 'hanging'	.20

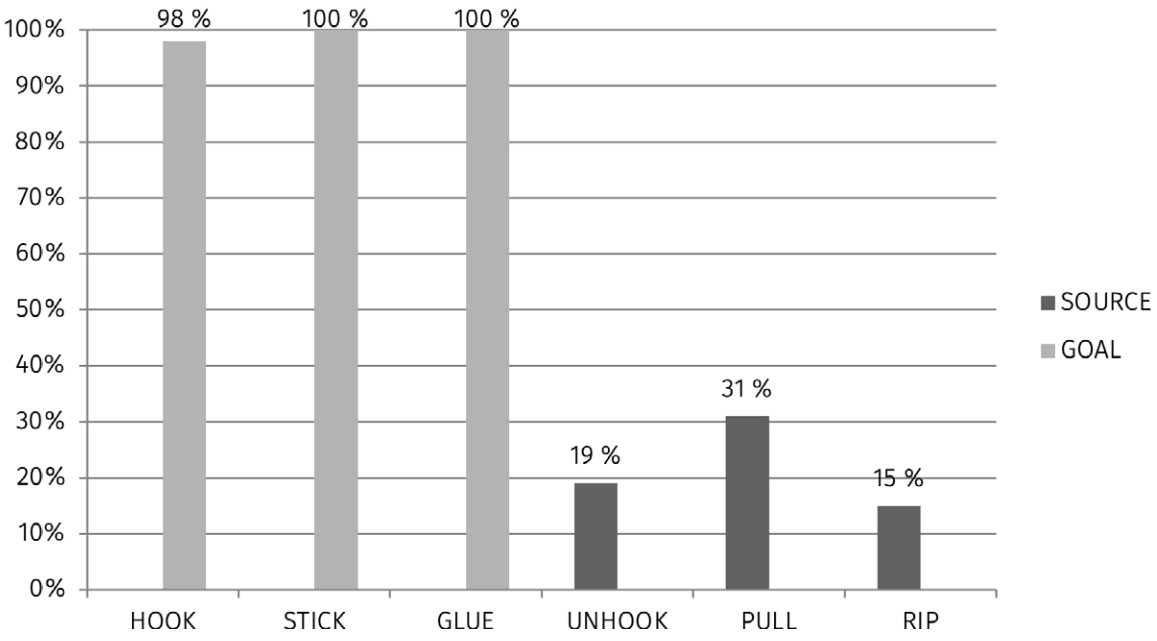
	qwəlɑw kərdən 'inverting'	.15
	bæsin 'fastening'	.15
STICK	nɑjən 'putting'	.90
	kwətɑn 'knocking'	.10
GLUE	ʧæsbɑnən 'gluing'	.65
	nɑjən 'putting'	.20
	kwətɑn 'knocking'	.15
UNHOOK	dərɑwərdən 'taking out/detaching'	.60
	ɑw kərdən 'unfastening'	.20
	wɑz kərdən 'opening'	.20
PULL	dərɑwərdən 'taking out/detaching'	.80
	æɭkiʃɑn 'pulling'	.10
	ʤəgɑ kərdən 'detaching'	.10
RIP	æɭtækɑnən 'avulsing'	.50
	dərɑwərdən 'taking out/detaching'	.50

As can be observed, various verbs have been used to depict different Attachment/ Detachment events. It should be pointed that, along with other verbs, *nɑjən* 'putting' and *dərɑwərdən* 'taking out/detaching' have been used to depict all Attachment and Detachment events, respectively. This points to the fact that these verbs are the basic member of Attachment and Detachment verbal classes, which have been frequently used by Ilami participants. Another frequent verb used to depict Attachment class is *kwətɑn* 'knocking', which has been used for both STICK and GLUE event types. Analyzing our Kurdish data, we figured out that, for all the Attachment events, Goal Path has been explicated more frequently compared to the Source Path in the Detachment events. The frequency of the Goal and Source Paths explicated in each of the event types is represented in figure 4.

Similar to other conceptual domains discussed in experiment 1, when describing an Attachment event, participants tend to explicate the Goal to which the figure is attached. This applied to HOOK, STICK and GLUE events. Accordingly, on the contrary, the Source from which the figure is detached is often elided, without distorting the basic meaning of the sentence. This pattern of use is observed in UNHOOK, PULL and RIP events which can be seen above. Ilami Kurdish examples presented below are illustrative:

FIGURE 4

The frequency of Goal Path *vs.* Source Path used along with Attachment/Detachment verbs



(25) *kwər-æ* *ʧængal-æ na* *qe-jə* *ʤaqaʃəqi-jæ.*
boy-DEF fork-DEF put.PST.3SG on-POSS utensil_holder-DEF
The boy put the fork on the utensil holder.

(26) *kwər-æ* *ʧængal-æ* *dər-awərd.*
boy-DEF fork-DEF out-take.PST.3SG
The boy took out the fork.

(27) *ʒən-æ* *gir-æ* *bæsijæ* *qe-jə* *ləbas-æ.*
woman-DEF clamp-DEF close.PST.3SG on-POSS cloth-DEF
The woman fastened (put) the clothespin on the clothes.

(28) *ʒən-æ* *gir-æ* *waz-aw* *kərd.*
woman-DEF clamp-DEF open-EMP do.PST.3SG
The woman opened (removed) the clothespin.

Examples (25) and (27), which depict two Attachment events (i.e., HOOK events), both include the Goal of Motion, namely, *qejə ʤaqaʃəqijæ* 'on the utensil holder' and *qejə ləbasəlæ* 'on the clothes'. In contrast, in examples (26) and (28), depicting Detachment events (i.e., UNHOOK events), the Source from which *ʧængal* 'fork' and *giræ* 'clamp' are detached have been omitted, and it seems that Ilami speakers are reluctant to encode this information, when describing such Source-oriented events.

3.2. Experiment 2

In this experiment, which has been replicated based on Lakusta and Landau's research (2005), we will determine whether the presentation of specific "hints" to participants, when describing different events, has an impact on the attentional bias towards the Source or Goal. The details of this experiment are presented below.

3.2.1. Participants

Participants in this experiment are the same as those who took part in the experiment 1.

3.2.2. Stimuli and the research procedure

Participants watched 24 new video clips, each taking 5 seconds. This video set is composed of various events. It should be noted that, following Lakusta and Landau (2005), in this collection of motion events, Manner of Motion and Change of State events will not be used, since the verbs used to describe these events inherently do not show bias to the Source or Goal of Motion. Having said that, in this experiment, 12 Change of Possession and 12 Attachment/Detachment events (6 Attachment; 6 Detachment) are used. Accordingly, 12 Goal-oriented verbs and 12 Source-oriented verbs will be presented for each participant. As already stated in experiment 1, in Change of Possession events a figure is transferred from one person to another. This transfer can be shown in two different ways, that is, the agent gives the figure to another person (Theme-Path-Goal) or the beneficiary gets the figure from the other person (Theme-Path-Source). As for Attachment/Detachment events, a person attaches a figure on another object or surface (Theme-Path-Goal) or detaches it from another object or surface (Theme-Path-Source). This experiment is similar to experiment 1, except that here participants are presented with a 'hint', which is biased to Source or Goal Path. For example, after watching a scene portraying 'a person gluing a picture on a table', the participants will be given the verb *ʧæsban* 'glued', which is a Goal-oriented verb, to describe that event.

3.2.3. Results

In this section, the results concerning the Goal bias in Change of Possession and Attachment/Detachment events, when participants are supplied with given hints, will be presented.

3.2.3.1. Change of Possession events

As the results show, participants have explicated the Goal Path along with the Goal-oriented verbs more often than the Source Path with the Source-oriented verbs. The following examples illustrate this point.

(29)a) *ʒən-æ kətaw-æ da wæ kwər-æ*. (HINT: dɑ 'gave')
woman-DEF book- DEF give.PST.3SG to boy.DEF
They woman gave the book to the boy.

b) *kwər-æ kətaw-æ gərt*. (HINT: *gərt* 'received')
boy-DEF book-DEF get.PST.3SG
The boy received the book.

(30)a) *kwər-æ tup-æ pərd da ære pejag-æ*. (HINT: *pərd da* 'threw')
boy-DEF ball-DEF throw give.PST.3SG to man-DEF
The boy threw the ball to the man.

b) *pejag-æ tup-æ ælqæpan*. (HINT: *ælqæpan* 'grabbed')
man-DEF ball-DEF catch.PST.3SG
The man caught the ball.

(31) a) *pejag-æ kif-æ fəruʃa wæ ʒən-æ*. (HINT: *fəruʃa* 'sold')
man-DEF bag-DEF sell.PST.3SG to woman-DEF
The man sold the bag to the woman.

b) *ʒən-æ kif-æ sæn*. (HINT: *sæn* 'bought')
woman-DEF bag-DEF buy.PST.3SG
The woman bought the bag.

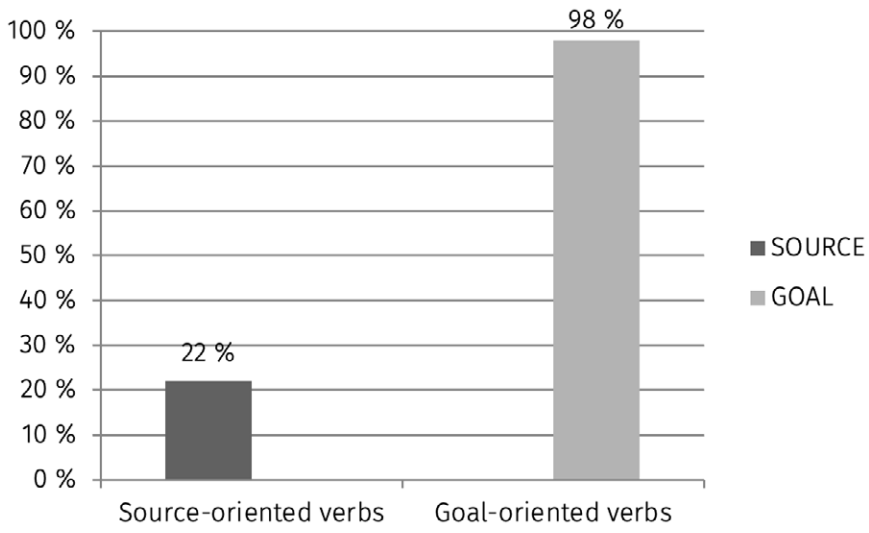
The examples mentioned above indicate that, when participants have been supplied with Goal-oriented verbs (i.e., dɑ 'gave', *pərd da* 'threw' and *fəruʃa* 'sold') to describe a Change of Possession event, they have regularly explicated the Goal Path along these verbs. The use of *wæ kwəræ* 'to the boy', *ære pejagæ* 'to the man' and *wæ ʒənæ* 'to the woman' in examples (29a), (30a) and (31a) all support this fact. On the contrary, when supplied with Source-oriented verbs (i.e., *gərt* 'received', *ælqæpan* 'grabbed' and *sæn* 'bought'), participants have elided the Source Path, and used the bare verb without any information concerning the start points of the events. Figure 4 shows the frequency of Source and Goal Paths used by the participants. Statistically, in 98 % of the cases, participants have pointed to the Goal of Motion, when they have been supplied with Goal-oriented verbs, while in only 22 % of the cases they have explicated the Source along with the given biased verb.

3.2.3.2. Attachment/Detachment events

Similar to the Change of Possession descriptions, in this test, participants were supplied with Goal-oriented and Source-oriented verbs to describe Attachment/Detachment events. Results reveal that the participants have mentioned the Goal component in Attachment events more frequently than the Source Path in Detachment events. The following examples illustrate this point.

FIGURE 5

The frequency of Source Path used with Source-oriented verbs as well as Goal Path used with Goal-oriented verbs



(32) a) *ʒən-æ* *ləbas-æ* *xəs-* *æ* *məl-ə* *tænaf-æ*. (HINT: *xəs* 'hung')
woman-DEF cloth- DEF hung.PST.3SG to on-POSS rope-DEF
The woman hung the cloth on the rope.

b) *ʒən-æ* *ləbas-æ* *dər-awərd*. (HINT: *dərawərd* 'took out')
woman-DEF cloth-DEF out-take.PST.3SG
The woman unhung the cloth.

(33) a) *kwər-æ* *æks-æ* *kwəta* *qej-ə* *diwar-æ*. (HINT: *kwəta* 'knocked')
boy- DEF picture-DEF knock. PST.3SG on-POSS wall-DEF
The boy knocked the picture to the wall.

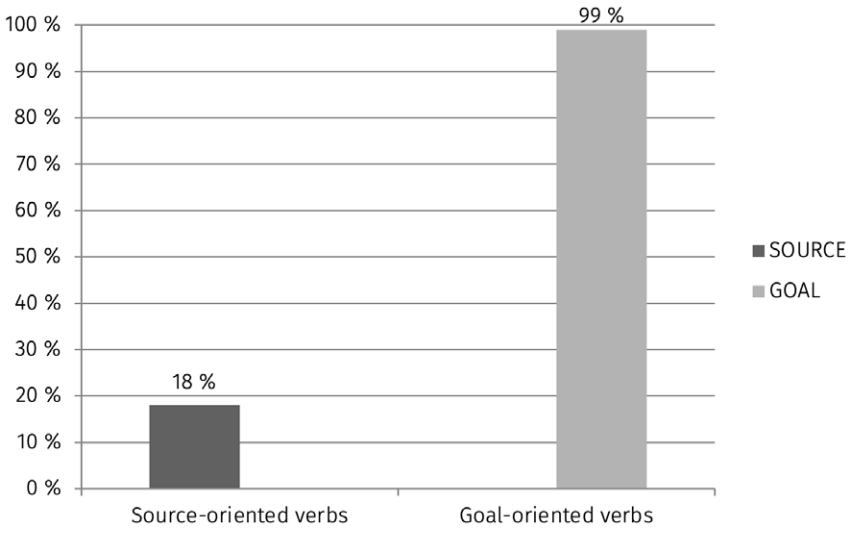
b) *kwər-æ* *æks-æ* *kəni*. (HINT: *kəni* 'detached')
boy-DEF picture-DEF detach.PST.3SG
The boy removed the picture.

As can be observed above, participants have successfully used the biased verbs for both Attachment and Detachment events. The hints used for Attachment events in (32a) and (33a) are *xəs* 'hung' and *kwəta* 'knocked', respectively. The hints used for the Detachment events in (32b) and (33b) are *dərawərd* 'took out' and *kəni* 'detached', respectively. It is important to note that participants have pointed to the Goal Path in details (i.e., on the rope in (32a) and on the wall in (33a)), but have elided the information concerning the Source of Motion in the Detachment events. This entails that, when Goal-oriented verbs are supplied to the participants, the described event will be more granular, since it provides richer information with regard to the end point of motion. On the contrary, participants are reluctant to

describe the Source of Detachment events, resulting in a less granular event. Accordingly, it was figured out that, in 99 % of the described Attachment events, Goal Path has been explicated, while, in only 18 % of the Detachment events, the Source of Motion has been explicitly mentioned, which highlights the robustness of the Goal component, even when participants are given biased verbs. This difference between the explicit encoding of Goal and Source Paths is shown in figure 6.

FIGURE 6

The frequency of Source Path used along with Source-oriented verbs as well as Goal Path used along with Goal-oriented verbs



4. Discussion

Previous study on the Ilami Kurdish Canonical Motion Events (Karimipour and Rezai, 2019) has revealed that Ilami Kurdish conforms to the Goal bias hypothesis, which is claimed to be a universal tendency (for example, Ikegami, 1982, 1987; Ungerer and Schmid, 1996; Verspoor and others, 1998; Lakusta and Landau, 2005; Lakusta and others, 2006). Evaluating placement and removal events as prototypical examples of Canonical Motion Events, Karimipour and Rezai (2019) perform two linguistic and memory tasks to see to what extent the Goal bias principle is confirmed in Ilami Kurdish. In the descriptive task, participants watched and described a set of video clips of placement and removal events with different Source and Goal Paths. As far as the linguistic task is considered, they report that participants have explicated the Goal Path in 94.97 % of the placement events, whereas they have explicitly mentioned the Source component in only 40.8 % of the removal events, which obviously shows an attentional bias in favor of the Goal of Motion. In the memory task, participants have been shown the scenes of placement and removal events as well as matched events

and then requested to judge whether Source or Goal components can be matched. The memory task also supports the attentional bias. In fact, in 90.57 % of the placement events, Goal has been accurately processed, while in only 26.42 % of the removal events Source Path has been accurately matched. Considering the results of the present study, it seems safe to conclude that the template reported for Canonical Motion Events is also attested in Non-canonical Spatial Events, since the preference of Goal over Source is observed across all studied conceptual domains, even when participants are supplied with biased Source- or Goal-oriented verbs. Interacting with other factors, including cognitive salience and non-presupposedness of Goal information, the lexicalization pattern of Ilami Kurdish systematically constrains the explicit encoding of Source, while reinforces the explicit expression of Goal in different conceptual domains:

As far as Manner of Motion Verbs are taken into consideration, there are four possibilities with regard to Source/Goal encoding: (1) neither is encoded, (2) both Goal and Source are encoded, (3) only Source is encoded, (4) only Goal is encoded.

As far as encoding of Path is considered, Ilami Kurdish is to a large extent a satellite-framed variety, as it usually encodes the Path externally through satellites. It was observed that the first option mentioned above can by no means be a frequent strategy in Ilami Kurdish, since it does not conform to the general tendency of the Ilami Kurdish in expressing Paths through satellites.

On the other hand, Ilami Kurdish does not tend to form Complete Path (i.e., expressing Source and Goal at the same time) either, which is a characteristic feature of prototypical satellite-framed languages (Karimipour and Rezai, 2016). Naturally, the second strategy would not be productive in Ilami Kurdish, as well.

Hypothetically, the third option is also not preferred by Ilami speakers. Indeed, as Source Path is cognitively less salient and much more predictable, it is taken for granted by Ilami Kurdish speakers, which results in the omission of this component. The only remaining option, which is cognitively preferred and also well satisfies the general lexicalization pattern of Ilami Kurdish, is the “Goal Path only” option, which is pervasive across all Ilami Manner expressions.

Change of Possession events also support this fact that Ilami Kurdish speakers do not tend to encode Source in Source Path verbs, since they consider this information as redundant and presupposed. So, looking at the Change of Possession events from this perspective is not consistent with the general tendency of Ilami Kurdish, which is the explicit expression of the Path through a satellite. Alternatively, Kurdish speakers tend to use Goal Path verbs as they contain new and unpredictable information concerning Goal, which is always encoded through a satellite (prepositional phrase). The latter option is completely in accordance with the lexicalization pattern of Ilami Kurdish.

In Ilami Kurdish Change of State events, the initial state needs not to be explicitly included in the utterance, since it lacks any new information. This is the final state of the event which contains new information with regard to, for example, change of color and face expression change. In parallel with the cognitive salience and discourse-pragmatic needs, the encoding of Goal Path also complies with the general lexicalization pattern of Ilami Kurdish.

Similarly, in Attachment events, which are Goal-oriented, speakers need to know where the figure object is placed. This guarantees the explicit expression of the Goal, which is encoded through Goal-oriented prepositional phrases. As stated previously, the encoding of the Goal component through satellites totally complies with the lexicalization pattern of Ilami Kurdish. On the contrary, the Source of Detachment events is taken for granted by speakers, since they already know where the figure object is placed. The encoding of a pre-supposed item is not in accordance with the economic principle in language, so speakers prefer to imply this component in the conversation flow.

5. Conclusion

In this paper, we probed the Goal-over-Source-predominance hypothesis in Non-canonical Spatial Events including Manner of Motion, Change of Possession, Change of State and Attachment/Detachment events. It was statistically shown that, in all of these domains, Goal is significantly more robust than Source Path, which is the result of several parallel factors. It was also shown that, when participants are supplied with Goal- and Source-oriented verbs to describe Change of Possession and Attachment/Detachment events, they are still biased to the event endpoints, as they explicate the Goal Path more frequently. These findings support the fact that Goal Paths are privileged over Source Paths in a various domains of Ilami Kurdish. It was discussed that the cognitive salience, non-presupposedness and less predictability of Goal Path that reinforce the explicit expression of this element in Canonical Motion Verbs, is a template for non- Canonical spatial events as well. Finally, it was concluded that the lexicalization pattern of Ilami Kurdish, interacting with other factors, has an influential effect on the explicit expression of the Goal component.

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