

Head Movement in Golog Tibetan^{*}

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Abstract. This study focuses on head movement in Golog Tibetan. Head movement constitutes a fundamental concept in generative theoretical syntax, and its intricacies are particularly challenging in head-final languages, where it becomes string-vacuous and hence difficult to detect. Despite its significance, research exploring head movement in Tibetic languages remains limited. To address this gap, the present study investigates head movement in Golog Tibetan, an understudied Tibeto-Burman language spoken in Qinghai, China. Drawing upon empirical evidence from the examination of word order in polar questions featuring the overt interrogative marker *i*, this study uncovers that Golog exhibits a successive V-to-T-to-C movement. This study further delves into the underlying motivation behind this successive movement. Remarkably, it is observed that sentences displaying the V-to-T-to-C movement consistently exhibit egophoricity, a grammatical encoding of embodied experience, personal knowledge, etc. (San Roque et al. [2]). We thus posit that the Agree operation involving uninterpretable features carried by the egophoric (EGO) and non-egophoric (NON-EGO) markers may potentially serve as one of the underlying motivations triggering the successive V-to-T-to-C movement in Golog Tibetan.

Keywords: head movement · Golog · egophoricity.

1 Introduction

This study investigates head movement in Golog Tibetan. Head movement is a key concept within generative theoretical syntax, which investigates the displacement of heads within the syntactic structure of a sentence. It plays a crucial role in shaping the word order and hierarchical organization of constituents in natural languages. The investigation of head movement becomes particularly intricate in head-final languages, where the movement of the head becomes string-vacuous and poses challenges for detection and analysis. Despite its significance, research on head movement in Tibetic languages, a group of typical head-final languages, remains limited, leaving notable gaps in our understanding of these linguistic systems. The present study aims to address this research gap by focusing on the investigation of head movement in Golog Tibetan, an understudied Tibeto-Burman language spoken in the Qinghai province of China.

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This study proposes that Golog Tibetan demonstrates a pattern of successive head movement involving the verb (V) first to the tense (T) position and subsequently to the complementizer (C) position. This proposal is grounded in two lines of empirical evidence. First, in Golog polar questions with the overt interrogative marker *i*, *i*, which locates inside the CP domain, precedes the ‘T + V’ complex, supporting the movement of ‘T + V’ to C. Second, in cases where Golog polar questions have modals or other auxiliaries occupying their T-head position, the verb V remains in situ without undergoing movement. This finding lends further support to the V-to-T movement in Golog Tibetan. In these instances, only the modals and auxiliaries, which originate at the T position, undergo movement to the C position, providing further evidence for the T-to-C movement.

This study further delves into the underlying motivations driving this V-to-T-to-C movement in Golog. We observe an noteworthy co-occurrence of the V-to-T-to-C movement and the presence of egophoricity, a grammatical phenomenon that encodes embodied experience, personal knowledge, etc. (San Roque et al. [2]). This remarkable correlation between the observed head movement and egophoricity prompts us to posit that head movement in Golog may be somehow related to egophoric marking. Specifically, we posit that the Agree operation involving uninterpretable features carried by the egophoric (EGO) and non-egophoric (NON-EGO) markers may potentially serve as one of the underlying motivations triggering the successive V-to-T-to-C movement in Golog Tibetan. This hypothesis aligns with previous research highlighting the significance of agreement operations in syntactic processes and their role in triggering movement phenomena.

The structure of this paper is organized as follows: Section 2 presents an examination of empirical evidence supporting the V-to-T-to-C movement in Golog. In Section 3, we delve into the investigation of egophoric marking in Golog, providing a minimalist analysis of the volition-sensitive feature associated with egophoric marking. This analysis, in turn, serves as an underlying motivation for the V-to-T-to-C movement discussed in Section 2. Finally, Section 4 concludes the paper, summarizing the key findings and their implications.

2 Head Movement in Golog: empirical evidence

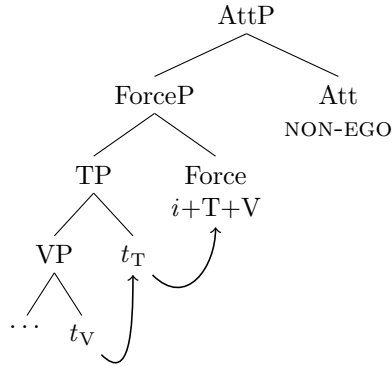
This section investigates head movement in Golog by examining empirical evidence from polar questions with the overt interrogative marker *i*.

The cartographic approach (Rizzi [4], [5]), which has gained popularity within minimalist linguistics, has proven effective in identifying the position of discourse particles and mapping the left periphery of various languages. In accordance with this theoretical perspective, the present study posits that the interrogative marker *i* in Golog also reside within the CP domain, taking the Force-P head.

Golog polar questions with the overt interrogative marker *i* typically show the word order of ‘... + interrogative marker *i* + T + V + ...’, as exemplified in (1). Given that the interrogative marker *i* is situated within the CP

domain, the positioning of *i* before the ‘T + V’ complex offers evidence for the ‘T + V’ movement to the CP domain. Furthermore, the word order of the ‘T + V’ complex, positioned after the interrogative marker *i* at the Force-head but preceding EGO/NON-EGO markers at the head position of the Attitude Phrase (AttP), provides evidence for the ultimate landing of the ‘T + V’ complex at the Force-head position. This V-to-T-to-C movement pattern is demonstrated in the tree structure (2).

- (1) khir.sge sgor.mo i yod ku
 he money INTERR have NON-EGO
 ‘Does he have money?’
- (2)



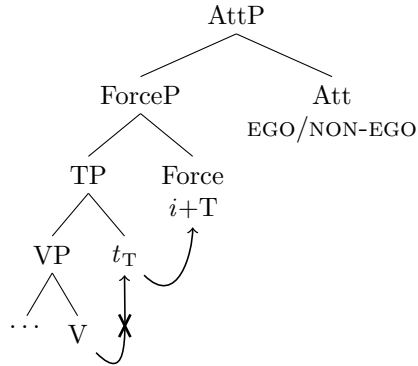
In Golog polar questions featuring the overt interrogative marker *i*, whenever the T head position is occupied, for instance, by modals (3) or other auxiliaries(4), V no longer undergoes movement to T or to C, but instead remains in its base position. Only the auxiliaries or modals undergo upward movement and appear in the CP domain, positioned after the interrogative marker *i* but precedes EGO/NON-EGO markers. The resultant word order is ‘... + V + interrogative marker *i* + modal/auxiliary + EGO/NON-EGO markers’.

- (3) nga slob.grwar vgyo i tub ba
 I campus go INTERR can EGO
 ‘Can I go to the campus?’
- (4) khir.sge vgyo.rgyu i red
 he go INTERR COP.NON-EGO
 ‘Will he go?’

This blocking effect resulting from the presence of copular auxiliaries and modals further corroborates the hypotheses on the V-to-T-to-C movement. In the V-to-T-to-C movement chain in Golog, the T-head serves as an intermediate landing site for the verb (V). Whenever the T-head position is occupied, there is no further vacancy for V to land as a intermediate landing site. The movement of V *vgyo* in (3) and V *vgyo* in (4) to T is thus blocked. Therefore, V *vgyo* in (3)

and V *vgyo* in (4) do not move but remains in situ. Only the modal *tub* and the copular auxiliary *red* that originates at the T-head position moves up into the CP-domain, as illustrated in (5).

(5)



Notably, the empirical observations in this study unveil a compelling pattern. It is observed that polar questions demonstrating the V-to-T-to-C movement, as exemplified in (1), (3), and (4) simultaneously exhibit the presence of egophoricity. In fact, there have been no observed occurrences in Golog sentences characterized by V-to-T-to-C movement that demonstrate the absence of egophoric marking. This consistent correlation between the V-to-T-to-C movement and the manifestation of egophoric marking leads us to postulate a potential relationship between head movement and egophoric marking in Golog. The forthcoming section will delve into a detailed discussion of this intriguing issue.

3 Egophoric marking in Golog

Egophoricity with binary indexation contrast is pervasive in Tibetic languages, including the understudied Golog Tibetan (Tibeto-Burman, Qinghai, China). EGO forms are typically used in first person declarative and second person interrogative sentences, expressing ‘immediate knowledge’ (Garrett [3]), ‘personal intention’ (Tournadre [6]), etc.; NON-EGO forms are used elsewhere. This typical distribution of egophoric marking is demonstrated in Table 1.

Like other Tibetic languages featuring egophoricity, in root clauses, Golog utilizes EGO predominantly in first-person declarative (6) and second-person interrogative sentences (7). NON-EGO, conversely, appears elsewhere, such as (8) and (9).

- (6) nga slob.ma yin
I student COP.EGO
‘I am a student.’
- (7) kyod slob.ma zig i yin
you student one INTERR COP.EGO

Table 1: Typical distribution of egophoric and non-egophoric markers with respect to person and sentence type (cf. San Roque et al. [2])

Person	Sentence Type	
	Declarative	Interrogative
1st person	EGO	NON-EGO
2nd person	NON-EGO	EGO
3rd person	NON-EGO	NON-EGO

‘Are you a student?’

- (8) khyod/kir.sge/mir.sge-ni dge.rgan red
 you/he/she teacher COP.NON-EGO
 ‘You are/he is/she is a teacher.’
- (9) nga/kir.sge/mir.sge slob.ma zig i red
 I/he/she student one INTERR COP.NON-EGO
 ‘Am I/Is he/Is she a student?’

Interestingly, a closer examination of the distribution pattern of egophoricity in Golog reveals an additional crucial factor: volition. In other words, in addition to the traditional determinants of ‘speech act role’ and ‘sentence type’, egophoricity in Golog is also sensitive to ‘volition’. Specifically, only volitional sentences are eligible to be marked with COP.EGO markers, as exemplified in (10). Conversely, non-volitional sentences are consistently associated with NON-EGO markers, as demonstrated from (11) to (14). This pattern remains consistent across various factors such as person, clause type, and verb transitivity, as demonstrated in Table 2.

Table 2: Egophoric marking and volition in Golog

Transitivity of the verb	Case of the subject	Case of the object	Volition	Egophoric Marking
Transitive	ERG	ABS	volitional	EGO/NON-EGO
			non-volitional	*EGO
Intransitive	ABS	OBL	volitional	EGO/NON-EGO
			non-volitional	*EGO

- (10) ngas dpe.cha klog rgyu yin
 I.ERG book read NOM COP.EGO
 ‘I will read the book.’
- (11) *ngas dbi.cha mtong rgyu yin
 I.ERG book see NOM COP.EGO
 ‘I will see the book.’

- (12) ngas dbi.cha mtong rgayu red
 I.ERG book see NOM COP.EGO
 ‘I will see the book.’
- (13) *nga log ga
 I.ABS fall PAST.EGO
 ‘I fell down.’
- (14) nga log thal
 I.ABS fall PAST.SENSORY.EVI
 ‘I fell down.’

3.1 Egophoricity in Golog: a minimalist analysis

The interesting phenomenon observed in examples (11) and (13), where even first-person declarative sentences fail to license egophoric markers when the verb is non-volitional, poses a perplexing puzzle that demands further exploration: why do egophoric markers exclusively associate with volitional predicates and exhibit an inability to occur with non-volitional ones?

Egophoric and non-egophoric markers in Golog exhibit wide scope over the entire proposition, colouring the entire clause with structural information that reflects the speaker’s privileged epistemic authority or lack thereof towards the proposition *p*. Consequently, the challenge arises of elucidating the volition-sensitive feature of Golog egophoricity within a semantic framework, as there exists no logical justification that adequately accounts for the distribution of markers that encode extra-sentential information is sensitive to the volition feature of the main verb of the sentence. For example, it is not logically implausible for a speaker to assert their epistemic authority over propositions such as the sentence ‘I fell down’, but using egophoric markers in sentences like (13) is ungrammatical. Since a semantic approach fails to offer a satisfactory explanation, this study posits that syntactic factors may contribute to the phenomenon. Accordingly, this section undertakes a minimalist analysis of Golog egophoricity.

This study postulates that the expression of egophoricity in Golog is manifested at the clause level through interpretable features present on EGO/NON-EGO markers, which are denoted as *i*[EGO]/*i*[NON-EGO]. Drawing from the classic verb classification approach found in traditional Tibetan grammar, this study categorizes verbs in Golog as either volitional or non-volitional. Accordingly, the study proposes that volitional verbs, such as ‘read’ or ‘walk’, bear an interpretable [volitional] value (*i*[volitional]), while non-volitional verbs, such as ‘fall’ or ‘see’, bear an interpretable [non-volitional] value (*i*[non-volitional]).

Given that EGO markers in sentences with main verbs indirectly indicate the volitional nature of the verbs, they are suggested to carry an uninterpretable [volitional] value (*un*[volitional]). On the other hand, NON-EGO markers in sentences with main verbs serve to mark either volitional or non-volitional actions, thereby bearing either an uninterpretable [volitional] value (*un*[volitional]) or an [non-volitional] value (*un*[non-volitional]). Following the minimalist framework

(Chomsky [1]), during the sentence derivation process, all uninterpretable features must be valued and subsequently eliminated prior to Transfer.

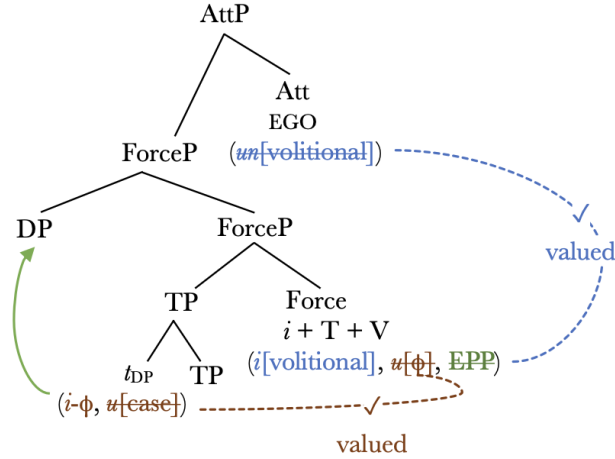
For egophoric markers, when the Att-head EGO is Merged to ForceP, the uninterpretable [volitional] feature on EGO markers makes EGO a Probe. The interpretable [volitional] feature on the ‘interrogative marker $i + T +$ volitional verbs’ complex at the Force-head makes the Force-head a Goal; the uninterpretable φ -features on the ‘interrogative marker $i + T +$ volitional verbs’ complex at the Force-head makes the Force-head an active Goal. In the Agree operation, the value of interpretable features on Goal is copied to the Probe. Consequently, the interpretable [volitional] feature on the ‘interrogative marker $i + T +$ volitional verbs’ complex at the Force-head serves to value the uninterpretable [volitional] feature on EGO. If egophoric sentences take non-volitional main verbs, the uninterpretable [volitional] feature on EGO cannot be valued, which severely violates the principles in Minimalist Program that all uninterpretable features must be valued and deleted prior to Transfer.

One problem in this derivation process is how to analyze the valuation of the uninterpretable φ -features on the ‘interrogative marker $i + T +$ volitional verbs’ complex at the Force-head. This study posits that Force-head Agree with the subject DP at the [SPEC, TP]. The uninterpretable φ -features on the ‘interrogative marker $i + T +$ volitional verbs’ complex make the ‘interrogative marker $i + T +$ volitional verbs’ complex a Probe; the interpretable φ -features on the subject DP make the subject DP a Goal; the uninterpretable [Case] feature that is attached to the subject DP makes the subject DP an active Goal. In the Agree operation, the value of interpretable features on Goal is copied to the Probe. The interpretable complete φ -features on the subject DP value the uninterpretable φ -features on the ‘interrogative marker $i + T +$ volitional verbs’ complex. Under this φ Agree, the uninterpretable [Case] feature that is attached to the subject DP is valued as Ergative. The uninterpretable [Case] feature gets its Ergative case as a secondary effect of the valuation of the φ -features in this process. Later on, the subject is moved to the specifier position of the ForceP to satisfy the EPP of the ‘interrogative marker $i + T +$ volitional verbs’ complex.

If we assume that the φ Agree operation between the ‘interrogative marker $i + T +$ volitional verbs’ complex and the subject DP occurs prior to the valuation of the uninterpretable [volitional] feature on EGO, it results in the unavailability of valuing the uninterpretable [volitional] feature. This arises due to the fact that the uninterpretable φ -features on Goal (i.e., the subject DP) have already been valued, rendering the Goal inactive. Consequently, the Agree operation between the Force-head and Att-head cannot take place, thereby preventing the uninterpretable [volitional] feature from being valued. Such a scenario significantly violates the principles of the Minimalist Program. This study thus posits that Agree between the ‘interrogative marker $i + T +$ volitional verbs’ complex and the subject DP at the [SPEC, TP] as well as Agree between EGO and the ‘interrogative marker $i + T +$ volitional verbs’ complex should happen simultaneously. In this case, the uninterpretable φ -features on Goal (the subject DP) has yet been valued when Agree between the Force-head and Att-head hap-

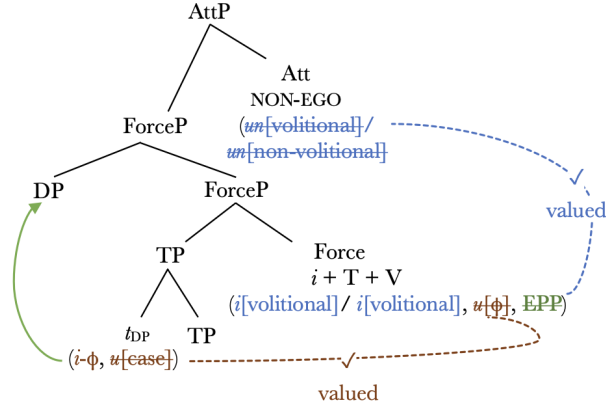
pens, and thus ensures that both the uninterpretable φ -features on Force-head and the uninterpretable [volitional] feature on Att-head can be valued. This is demonstrated in (15).

(15)



The derivation process of non-egophoric sentences resembles that of egophoric sentences. The only distinction lies in the markers used. While egophoric markers exclusively possess an uninterpretable [volitional] feature, non-egophoric markers can carry either an uninterpretable [volitional] feature or an uninterpretable [non-volitional] feature. The Agree operation between non-egophoric markers and volitional verbs will make non-egophoric markers have their uninterpretable [volitional] feature valued by the interpretable [volitional] feature on volitional verbs. Likewise, the Agree operation between non-egophoric markers and non-volitional verbs will make non-egophoric markers have its uninterpretable [non-volitional] feature valued by the interpretable [non-volitional] feature on non-volitional verbs. Given that the entire derivation process of the two Agree operations align with the one discussed for egophoric markers, this section will not redundantly reiterate the details of the process. The Agree operation is exemplified in (16).

(16)



The minimalist analysis above further corroborates the V-to-T-to-C movement in Golog. According to the Phase Impenetrability Condition version 2 (PIC2) (Chomsky [1]), as in (17), the accessibility of a phasal domain to syntax persists until the Merge of the subsequent phase head. In more straightforward terms, the merging of a phase head initiates the Spell-out process for the domain located below the preceding phase head. A phase, which first hypothesized by Chomsky (1998), is a syntactic domain where derivational processes and feature-checking takes place. Chomsky (2001) proposes that all CPs, transitive and unergative vPs are phases.

(17) Revised Phase Impenetrability Condition (PIC2, Chomsky 2001:12-14)

Given phases ZP and HP, the domain of H is inaccessible to operations at ZP, only H and its edge are.

Following PIC2, the Merge of EGO/NON-EGO markers sends the complement of the lower phase ForceP, which is TP, to be Transferred to the semantic component to be interpreted and to the phonological component to be pronounced. In this case, when the Probe (EGO/NON-EGO markers) searches inside its search domain, TP have already been transferred and becomes inaccessible. If not assuming a V-to-T-to-C movement in Golog, then the uninterpretable [volitional]/[non-volitional] features on EGO/NON-EGO markers cannot be valued since the interpretable [volitional]/[non-volitional] value carrier volitional/non-volitional verbs have already been Transferred by the time they are Merged, which severely violates the principles in Minimalist Program.

4 Conclusion

This research investigates head movement in the understudied Tibetic language Golog. By analyzing the word order in polar questions featuring explicit interrogative markers, the study reveals that Golog exhibits a successive V-to-T-to-C movement. Furthermore, it uncovers an intriguing pattern wherein all polar questions display overt head movement, coinciding with the licensing of egophoricity. To provide an explanation for this intriguing correlation, a minimalist analysis of egophoric marking in Golog is conducted. The analysis suggests that the Agree operation involving uninterpretable volition-related values on egophoric and non-egophoric markers may potentially trigger the V-to-T-to-C movement in Golog. This research constitutes the first examination of head movement in Golog, shedding light not only on Golog itself but also on broader studies concerning head movement and egophoricity in Tibetic languages and other head-final languages.

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