Inverse Construction as a Solution to the Mismatch Between Perception and Cognition

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1 Introduction

This research paper aims to: (i) analyze a cognitive-functional definition of inverse voice based on topicality from the perspective of Cognitive Linguistics; (ii) compare and contrast the use of inverse voice in Korean and Japanese with motion verbs (e.g., come) and benefactive verbs (e.g., give); and (iii) elucidate the Japanese benefactive *-te morau* construction and adversative passive using this cognitive-functional definition of inverse voice.

The paper addresses two main research questions: (i) how a cognitive-functional definition of inverse voice provides a comprehensive explanation for various phenomena related to inverse voice, and (ii) what the similarities and differences between the use of inverse voice in are Korean and Japanese.

Section 2 discusses a topicality-oriented functional definition of inverse voice and proposes a cognitive-functional definition based on the discrepancy between perceptual and cognitive prominence. Section 3 offers a brief overview of previous studies on inverse voice in Korean and Japanese, providing a unified explanation for its usage in both languages. In Section 4, the cognitive-functional definition of inverse voice is further applied to the Japanese benefactive *-te morau* construction and adversative passive. Finally, Section

5 concludes the paper with a brief summary and a discussion on its theoretical implications.

2 Cognitive-Functional Characterization of Inverse Voice

2.1 Background

Dixon (2012: 218) argues that some grammars include an 'inverse system' where core arguments are cross-referenced on the verb in different fashion depending on whether the referent of the A argument is higher than that of the O on the nominal hierarchy (direct) or lower (inverse).[1] In a conventional two-participant event structure, the active/direct voice designates the participant with greater topicality as the agent, as exemplified in (1a). Conversely, the inverse voice is employed in specific language families, such as Algonquian languages as below:

(1) Plains Cree
    a.   [1→3] Direct alignment with a direct morpheme
                ni-se:kih-a-wak. (direct)
                1.SG-frighten-DIRECT-3.PL
                'I frighten them.'
    b.   [3→1] Inverse alignment with an inverse morpheme
                *ni-se:kih-**ik**-wak.* (inverse)
                1.SG-frighten-**INV**-3.PL
                'They frighten me.'   (Dahlstrom 1991: 69, 70)

This contrasts with the active/direct construction that emphasizes the topicality of the agent, and it also differs from the passive construction, where the agent is radically suppressed (Givón [ed.] 1994). The prominence of the agent and patient can be illustrated as in Figure 1 below:
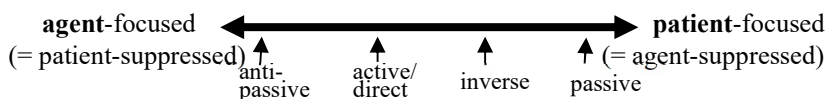

Fig. 1 Prominence of the agent and patient in anti-passive, active/direct, inverse, and passive voices

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[1] All languages distinguish between intransitive and transitive clauses: an intransitive clause has a single core argument, in S (intransitive subject); a transitive clause has two core arguments, in A (transitive subject), and O (transitive object).

The subsequent section will delve into the examination of the functional definition of inverse voice, which centers around the relative topicality of the agent and non-agent. This analysis will be conducted within the framework of Cognitive Linguistics.

2.2 Cognitive-Functional Analysis of Inverse Voice

DeLancey (1981) introduces two cognitive concepts, namely attention flow and viewpoint, to provide a comprehensive explanation for both person-based and aspect-based split-ergative systems. The arrangement of NP constituents in a clause reflects attention flow, representing the sequence in which the speaker anticipates the addressee's focus. Conversely, events can be described from various alternative viewpoints. However, the default viewpoint aligns with that of the speech act participants. When attention flow and viewpoint align, an unmarked active/direct voice is employed. However, in cases where they diverge, a marked passive or inverse voice is utilized. Example (2) can be elucidated in terms of attention flow and viewpoint.

(2) Nocte (Payne 1997: 210)
    a.   *nga-ma ate   hetho-ang.*
          1-ERG   3   teach-1.SG
          'I will teach him.'
    b.   *ate-ma nga-nang   hetho-**h**-ang.*
          3-ERG   1-ACC   teach-**INV**-1.SG
          'He will teach me.'

In example (2a), the NP ordering from first person singular "*nga*" ('I') to third person singular "*ate*" ('he') aligns with the natural viewpoint from Speech Act Participant (SAP) to non-SAP, reflected in the unmarked verb. In contrast, example (2b) has NP constituents ordered from third person singular "*ate*" to first person singular "*nga*," conflicting with the natural viewpoint. This conflict is resolved through the use of a marked verb with an inverse marker -*h*.

Kim (2009) adopts a Cognitive Linguistics approach to examine the interplay between perception, cognition, and linguistic encoding. Language can be traced back to its conceptual origins in perception and cognitive construal. The construal process is contingent upon the distribution of attention.

Moreover, any disparity between perceptual and cognitive prominence requires overt marking. For instance, the English passive construction overtly marks "be/get + past participle," directing the addressee's primary focus of attention to the perceptually secondary but cognitively primary patient, encoded as the subject. Simultaneously, this overt marking suppresses the perceptually

primary but cognitively secondary agent, demoting it to an oblique position or omitting it.

This paper proposes that the inverse voice construction serves as a communicative device to resolve mismatches between perceptual prominence (e.g., figure/ground segregation) and cognitive prominence. The inverse voice manifests the disparity between a perceptually secondary but cognitively primary non-agent and a perceptually primary but cognitively secondary agent within an event structure. Example (2), hereafter denoted as (3), is analyzed using this cognitive-functional definition of the inverse voice.

(3) Nocte (Payne 1997: 210)
    a.   *nga-ma ate   hetho-ang.*
         1-ERG   3   teach-1.SG
         'I will teach him.'
    b.   *ate-ma nga-nang   hetho-**h**-ang.*
         3-ERG   1-ACC   teach-**INV**-1.SG
         'He will teach me.'

In (3a), the agent "*nga*" ('I') is more perceptually and cognitively prominent than the patient "*ate*" ('he') because the agent controls the event, and the speaker (first person) holds the highest position in the empathy hierarchy. Conversely, in (3b), the agent "*ate*" ('he') is more perceptually prominent than the patient "*nga*" ('I') as the agent controls the event structure. However, cognitively, the patient "*nga*" ('I') holds higher prominence than the agent "*ate*" ('he') since the first person ranks highest in the empathy hierarchy. This mismatch between perceptual and cognitive prominence results in morphological markedness, represented by the inverse morpheme *-h*.

The primary function of the inverse voice is to capture the addressee's attention by signaling a discrepancy between the perceptually secondary yet cognitively primary non-agent and the perceptually primary yet cognitively secondary agent.

3 Inverse Voice in Korean and Japanese

3.1 Previous Studies on Inverse Voice in Korean

The phenomenon of object-fronting in Korean has received considerable attention in linguistic studies, primarily focusing on its discourse functions related to topic and focus (Lee 2002, Sohn 2001, Storbeck et al. 2004, among others). Notably, Kwak (1994) stands as one of the pioneering works to examine OSV clauses featuring an accusative-marked object, conceptualizing it as an instance of inverse voice construction in Korean:

(4) ***ku so-lul***   *ni*   *halapeci-ka*   *chac-ass-nunci-aninci-nun*
    the cow-ACC   your grandfather-NOM   search-PST.if-NEG.if-TOP
    molukeyss-taman
    don't.know-but
    '(We) don't know if your grandfather looked for the cow or not, but ...'

    The clause-initial position in Korean usually reserved for the main topical NP typically corresponds to the subject/agent in active clauses, resulting in the common SOV word order. However, there are instances, like example (4), where an object is fronted and marked with an accusative case. According to the person/animacy hierarchy, human entities take precedence over animate beings. Thus, the fronted object in (4) - the 'cow' - indicates that the cow has higher relative topicality compared to the referent 'your grandfather'.

    Kwak (1994) proposes that the fronted OSV clause with an object marker can be analyzed as an inverse voice construction. However, this analysis has two limitations: it only covers OSV clauses with an accusative-marked object, ignoring other constructions, and it primarily relies on quantitative data analysis from a novel, offering limited explanatory depth.

    In addition to OSV clauses with an accusative-marked object, this paper extends its analysis to include beneficiary-fronted and possessor-fronted OSV clauses, exemplified in (5) and (6) respectively:[2]

(5) ***na***,   *nachsen*   *salam-i*   *ike*   *sa-**cwu**-ess-ta.*
    1.SG   strange   person-NOM this   buy-give[**INV**]-PST-DECL
    'A stranger bought this for me.'
(6) ***cay$_i$***,   *caknyeyn-ey emma$_i$-ka*   *tolaka-si-ess-tay.*
    that.person   last.year-LOC mom-NOM   pass.away-HON-PST-QT
    'They say that his mom passed away last year.'
    (lit. As for him, his mom passed away last year.)

In example (5), the agent is represented by the third person singular "*nachsen salam*" 'a stranger', while the non-agent first person singular "*na*" 'I' is fronted. Similarly, in example (6), the experiencer, signified by "*emma*" 'mom', has passed away, yet the non-experiencer "*cay*" 'that person' is fronted. This fronting of non-agent participants, both in (5) and (6), indicates that both "*na*" and "*cay*" (proximate participants) hold a higher relative topicality compared

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[2] The commas in (5), (6), and (7) indicate that some pause usually follows after *na* and *cay*.

to the agent "*nachsen salam*" and the experiencer "*emma*" (obviative partici-pants). Despite being perceptually secondary, "*na*" and "*cay*" possess cogni-tive prominence, resulting in their higher ranking.

Furthermore, it is noteworthy to observe in example (7) that the benefactive verb "*cwuta*" 'give' is obligatory in this context, as illustrated below:

(7) *na,   *nachsen* *salam-i*   *ike*   *sa-ss-ta.*
   1.SG   strange   person-NOM this   buy-PST-DECL
   'A stranger bought this for me.'

The auxiliary verb "*cwuta*" in the beneficiary-fronted inverse construction allows for the fronted beneficiary dative object. This falls under the gram-matical inverse construction category, as it shows syntactic features associ-ated with inverse voice. Moreover, like the possessor-fronted OSV inverse construction, the beneficiary OSV inverse construction can also be classified as a functional pragmatic inverse due to its pragmatic functions in discourse beyond its grammatical structure.

3.2 Inverse Voice in Korean and Japanese

This section explores the Korean inverse voice phenomenon by comparing it with two Japanese inverse voice constructions proposed by Koga (2010): the neutral/malefactive inverse with the directional verb "*kuru*" 'come' and the benefactive inverse using the verb "*kureru*" 'give to the speaker'. Addition-ally, I argue that the Japanese -*te morau* construction, traditionally viewed as a benefactive offering/receiving construction (Morita 1981, Masuoka 2001, among others), also functions as an inverse voice construction.

While Nariyama (2000) initially asserts that the Japanese directional verb "*kuru*" 'come' and the benefactive verb "*kureru*" 'give' belong to an inverse verb construction, this paper presents examples of the neutral/malefactive in-verse with the directional verb "*kuru*" and the benefactive inverse with the verb "*kureru*" from Koga (2010: 115), which offers a comprehensive analysis of inverse voice in Japanese. The corresponding Korean translations for these examples are provided by me.

(8J)[3] *Ken-wa* *boku-ni* *booru-o* *nage-te*   {**ki**-ta/**kure**-ta.}
    Ken-TOP 1.SG-to   ball-ACC throw-AND come-PST/give-PST

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[3] 'J' and 'K' indicates Japanese and Korean examples, respectively.

(8K) *Kheyn-un na-eykey kong-ul tenci-e* {**wa-ss/cwu-ess-ta.*}
　　　Ken-TOP 1.SG-to ball-ACC throw-AND come-PST/give-PST-DECL
　　　'Ken threw me the ball.'

Koga (2010: 116) argues that the Japanese verb "*kuru*" does not depict the physical motion of the subject Ken. Instead, it indicates that the event expressed by the main verb "*nageru*" is directed towards the speaker. This directional aspect is usually unexpected from the speaker's perspective and often carries a negative impact, though not always.

　　In example (8J), the inclusion of "*kuru*" is mandatory due to the hierarchical ranking of the goal/recipient argument (1st person non-agent) above the agent (3rd person). However, in the corresponding Korean example (8K), "*ota*" ('come') cannot be used after the verb "*tencita*" 'throw'. Normally, example (8K) in Korean is described without the inclusion of "*ota*," as shown below:

(9) *Kheyn-un　　na-eykey　　kong-ul　　tenci-ess-ta.*
　　　Ken-TOP　　1.SG-to　　ball-ACC　　throw-PST-DECL
　　　'Ken threw me the ball.'

　　In contrast, the inverse construction with the verb "*kureru*" in Japanese consistently benefits the speaker, retaining its positive impact (Koga, 2010: 116). Similarly, the Korean benefactive verb "*cwuta*" in the previous example (9) also follows this pattern. However, it's worth noting that Korean has a single benefactive verb "*cwuta*," similar to the English verb "*give*," while Japanese uses "*kureru*" when the giver is not the first person and "*ageru*" when the receiver is not the first person, as shown below:

(10) a. [1→2] Direct alignment with a direct verb
　　　　J. *watashi-wa anata-ni　omiyage-o　　age-ta.*
　　　　　1.SG-TOP　　2.SG-DAT　present-ACC　　give-PST
　　　　K. *na-nun　　ne-eykey　　senmul-ul　　cwu-ess-ta.*
　　　　　1.SG-TOP　　2.SG-DAT　　present-ACC　　give-PST-DECL
　　　　'I gave you the present.'
　　　b. [2→1] Inverse alignment with a direct verb
　　　 *J. *anata-ga　watashi-ni　omiyage-o　　age-ta.*
　　　　　2.SG-NOM　1.SG-DAT　　present-ACC　　give-PST
　　　　K. *ni-ka　　na-eykey　　senmul-ul　　cwu-ess-ta.*
　　　　　2.SG-NOM　1.SG-DAT　　present-ACC　give- PST-DECL
　　　　'You gave me the present.'

c. [2→1] Inverse alignment with an inverse verb
　J. *anata-ga*　*watashi-ni*　*omiyage-o*　**kure**-*ta.*
　　2.SG-NOM　1.SG-DAT　present-ACC　give[**INV**]-PST
　　'You gave me the present.'

In Japanese, the verb "*kureru*" functions as an inverse voice construction, unlike the Korean verb "*cwuta*," which does not serve as a main verb in the inverse voice context. However, "*cwuta*" does exhibit an inverse function when used as an auxiliary verb within a beneficiary-fronted OSV construction, as seen in example (5).

It is important to emphasize that while "*kureru*" serves as a primary verb expressing inverse voice in Japanese, "*cwuta*" functions as an auxiliary verb in the beneficiary-fronted OSV construction in Korean. This distinction highlights the different linguistic mechanisms employed by the two languages to convey the concept of inverse voice.

4 Application to the Other Related Voice Constructions

4.1 Japanese *-te morau* Construction as an Inverse Voice

The Japanese construction *-te morau* has traditionally been recognized as a benefactive offering/receiving construction (Morita 1981; Masuoka 2001, among others). Previous studies on inverse voice in Japanese have primarily focused on the verbs "*kureru*" and "*kuru*" (Shibatani 2003; Koga 2010, among others). However, to the best of my knowledge, this study is the first to propose that the *-te morau* construction can be classified as both an inverse construction and a benefactive and causative construction.

In the context of inverse voice, the Japanese *-te morau* construction exhibits a hierarchical relationship in which the non-agent participant outranks the agent participant. The inverse voice function becomes apparent when comparing example (11a) with (11b), as illustrated below:

(11) a. (watashi-wa)　*okaasan-ni*　*hon-o*　　　*yon-[de-morat]-ta.*
　　　1.SG-TOP　　mother-by　book-ACC　　read-[and-receive]-PST
　　　'I had my mom read a book (for me).'
　　　(lit. I received a favor of my mom's reading a book.)
　　b. (watashi-wa)　*okaasan-ni*　*hon-o*　　　*yon-[de-age]-ta.*
　　　1.SG-TOP　　mother-DAT　book-ACC　　read-[and-give]-PST
　　　'I read a book for my mother.'
　　　(lit. I gave my mother a favor of reading a book.)

In sentence (11b), the agent "*watashi*" (first person singular pronoun) takes precedence over the non-agent "*okaasan*" (third person singular noun),

resulting in a natural sentence structure with aligned perceptual and cognitive prominence. However, in sentence (11a), the roles are reversed, with the non-agent "*watashi*" outranking the agent "*okaasan*." To reconcile this mismatch, the non-agent becomes the subject, and the agent is demoted to a dative role using the *-te morau* inverse construction in (11a). This prioritizes cognitive prominence at the expense of perceptual prominence.

This functional inverse voice construction also applies to the Japanese adversative passive, where the speaker is adversely affected by an event described by a verb without being its obligatory participant. It indicates that the non-obligatory participant, who is perceptually secondary but cognitively primary (e.g., "*I*" in sentence 12), takes precedence over perceptually primary but cognitively secondary participants (e.g., "*ame*" 'rain' and "*kodomo*" 'child').

(12) a. (watashi-wa)   *ame-ni*   *hura-re-ta.*
         1.SG-TOP   rain-by   fall-PAS-PST
         'I got rained on me.'
    d. (watashi-wa)   *kodomo-ni*   *naka-re-ta/shina-re-ta.*
         1.SG-TOP   child-by   cry-PAS-PST/die-PAS-PST
         'I had a child cry/die.'

In this section, we offer evidence supporting the classification of Japanese *-te morau* construction and adversative constructions as instances of inverse voice. These constructions establish a hierarchy where the non-agent participant, who is perceptually secondary but cognitively primary, holds a higher rank than the agent participant, who is perceptually primary but cognitively secondary.

5 Conclusion

This paper demonstrates that the cognitive-functional definition of an inverse voice construction comprehensively explains diverse linguistic phenomena involving a disparity in relative topicality between agent and non-agent participants. The primary role of the inverse voice is to signal to the addressee a mismatch between a participant that is perceptually secondary but cognitively primary and a participant that is perceptually primary but cognitively secondary within an event structure. Korean predominantly uses word order to express inverse voice, while Japanese employs morpho-syntactic constructions using "*kuru*," "*kureru*," and *-te morau*. Comparing inverse voice construction in Korean and Japanese enhances our understand-

ing of how these similar languages address perceptual and cognitive prominence differently. This cognitive-functional approach to inverse voice also has typological implications for the relationship between perception, cognition, and linguistic representation.

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