

The Case for Thematically Underspecified External Arguments

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Abstract

This paper argues that external arguments are introduced as thematically underspecified and their thematic interpretation is determined at the C-I interface based on their context of occurrence. Specifically, this paper first argues for the underspecified nature of external arguments by showing the facts concerning the distribution of interpretationally variable arguments, and it then argues that the analysis invoking thematic underspecification fares better than those assuming different heads responsible for different interpretations.

1 Introduction

In their influential 1993 paper, “Deriving Causation,” Ritter and Rosen discuss the sentence as in (1), where the subject can be interpreted in two ways, as a causer or an experiencer. In (1), *have* adds a peripheral participant to the event described by its complement.

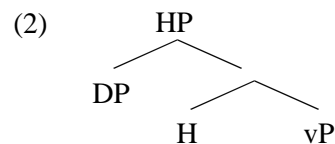
(1) John had his students walk out of class.

At the core of their analysis is the assumption that *have* introduces an argument but does not assign its own theta-role to that argument, whose interpretation is determined at LF (or at the C-I interface under current conceptions) based on *have* and its complement.

This analysis of *have* is in line with the well-known observation that the interpretation of an external argument is dependent on the composition

of its predicate (Chomsky, 1981; Marantz, 1984; Kratzer, 1996). Moreover, the analysis takes one step further in assuming that there is a dedicated head that introduces a thematically underspecified argument.

The aim of this paper is to show that a head like *have* is more pervasive than previously thought. Specifically, I argue that a head introducing an external argument introduces a thematically underspecified argument, which receives interpretation depending on the context of occurrence (cf. Bowers, 1993; Wood and Marantz, 2017). This can be illustrated as in (2), where H is a head introducing a thematically underspecified argument (DP) and vP is a verb phrase:



In the simplest case, vP is sufficient to specify the interpretation of DP. For instance, if vP denotes an activity, DP is interpreted as an agent at the C-I interface. Moreover, if vP does not serve to resolve the thematic underspecification, the interpretive procedure applies as a last resort at the interface, respecting thematic uniqueness (Carlson, 1984).

The paper is organized as follows: in section 2, we will argue for the underspecified nature of external arguments by showing the facts concerning the distribution of interpretationally variable subject arguments. In section 3, we will further show that the analysis invoking underspecification and thematic uniqueness fares

better than those assuming different heads for different interpretations. After briefly introducing the interpretive procedure that serves to resolve thematic underspecification (Takehisa, 2014, 2016) in section 4, section 5 summarizes the paper.

2 Interpretational Variability

2.1 Causative Alternation

External arguments may vary as to how they are interpreted, depending on the predicate with which they appear. For example, the subject of a lexical causative verb as in (3) can be ambiguous in two ways, either as an agent or an affectee.^{1,2}

- (3) Taroo-ga Ø ude-o or-Ø-ta [> ot-ta]
 T₁-NOM [pro₁ arm]₂-ACC √break-CAUS-PST
 ‘Taroo broke his arm.’

It is possible to disambiguate (3) into one of the two interpretations of the subject. Specifically, the sentence in (3) can be continued with either (4) or (5) below. If (3) is followed by (4), which involves *soo suru* (‘do so’) replacement, the subject is unambiguously interpreted as an agent. On the other hand, if (3) is continued with (5), it is unambiguously interpreted as an affectee.

- (4) Ziroo-mo soo si-ta
 Z.-also so do-PST
 ‘Ziroo did so, too.’
- (5) kedo zibun-de-wa Ø or-Ø-anak-ar-ta
 but self-INST-TOP pro₂ √break-C-NEG-PST
 ‘but he didn’t break it himself.’ [-ar-ta > -at-ta]

¹ The following abbreviations are used: ACC = accusative, CAUS, C = causative, COP = copula, DAT = dative, DV = dummy verb, GEN = genitive, INCH, I = inchoative, INST = instrumental, LOC = locative, NEG = negative, PASS = passive, pro = null pronoun, PST = past, TOP = topic, √verb = verbal root.

² As is well known, an external argument of a verb of change of state in English is thematically underspecified and can be an agent, a causer, or an instrument.

- (i) a. John broke the window.
 b. The storm broke the window.
 c. The hammer broke the window.

(Alexiadou and Schäfer 2006:(1))

The situation is different in Japanese, where inanimate arguments do not always make good subjects, and the examples corresponding to (i)b and (i)c are marginal in acceptability. Yet the underspecified nature of the external argument position can be shown by the example in (3).

The ambiguity arises when the two conditions are met (Inoue 1976). One is that a verb is underspecified with respect to external argument selection, and the other is that there must be a close relation, e.g., one of inalienable possession, between the (non-agentive) subject and an object.

Thus, this kind of ambiguity cannot be found in simple transitives like *nagur(-u)* (‘punch’), which obligatorily require an agent. Thus, the conjunction as in (6) results in a contradiction. This shows that the subject in the first conjunct in (6) can be nothing other than an agent. Moreover, when an object fails to be in a close relation with the subject, the ambiguity is not available, as shown in (7).

- (6) *Taroo-ga Ø ude-o nagur-ta [> nagut-]
 T₁-NOM [pro₁ arm]₂-ACC punch-PST
 kedo zibun-de-wa nagur-anak-ar-ta [> -at-ta]
 but self-INST-TOP punch-NEG-DV-PST
 *‘Taroo punched himself, but he didn’t punch it himself.’
- (7) *Taroo-ga Ø tue-o or-Ø-ta [> ot-ta]
 T₁-NOM [pro₁ stick]₂-ACC √break-C-PST
 kedo zibun-de-wa Ø or-Ø-anak-ar-ta
 but self-INST-TOP pro₂ √break-C-NEG-PST
 *‘Taroo broke a stick, but he didn’t break it himself.’ [-ar-ta > -at-ta]

Non-agentive subjects can appear in the case of the transitive alternant of a ditransitive verb like *abi(-ru)* (‘get something poured over oneself’). Consider (8) below. The subject can be an agent, as the sentence can be followed by (9). It can also be a recipient, as (8) can be continued with (10), where the agenthood of the subject is negated.

- (8) Taroo-ga mizu-o abi-ta
 T.-NOM water₁-ACC pour-PST
 ‘Taroo poured water over himself.’ (agent)
 ‘Taroo got water poured over him.’ (recipient)
- (9) Ziroo-mo soo si-ta
 Z.-also so do-PST
 ‘Ziroo did so, too.’
- (10) kedo zibun-de-wa Ø abi-nak-ar-ta
 but self-INST-TOP pro₁ pour-NEG-DV-PST
 ‘but he didn’t pour it over himself.’ [-ar-ta > -at-ta]

Note that, when the verb in (8) is causativized and turned into a ditransitive, the ambiguity disappears and the newly added nominative

argument and the “demoted” dative argument are interpreted as an agent and an (intended) recipient, respectively.³ See (11).

- (11) Hana-ga Taroo-ni mizu-o abi-se-ta
 H.-NOM T.-DAT water-ACC pour-C-PST
 ‘Hana poured water over Taroo.’

As shown in (12) below, (11) can undergo *niyotte*-passivization, which involves suppression of a (proto-)agent argument. On the assumption that *-rare* corresponds to a head responsible for the suppressed argument, it is plausible to postulate that the so-called causative morpheme *-se* corresponds to an applicative head (Appl) responsible for introducing the recipient argument in (11) and (12).^{4,5}

- (12) Taroo-ga (Hana-niyotte) mizu-o
 T.-NOM H.-by water-ACC
 abi-se-rare-ta
 pour-C-PASS-PST

To account for the interpretational variability of the subject argument we have seen so far, two approaches are discernable. One is that different syntactic heads are responsible for introducing different arguments. This approach has been rather dominant in the literature for the last two decades, employing functional heads such as Voice (for agents) and Appl (for recipients, affectees, etc.) (Marantz, 1993; Kratzer, 1996; Pykkänen, 2008; Cuervo, 2003; Schäfer, 2013, a.o.). In contrast, the other approach assumes that one syntactic head is responsible for introducing an underspecified argument, which receives different interpretations depending on the context of occurrence. This

³ In the ditransitive, transfer of an accusative object referent is not necessarily successful, as can be shown in (i) below:

- (i) Hana-ga Taroo-ni mizu-o abi-se-ta kedo
 H.-NOM T.-DAT water₂-ACC pour-CAUS-PST but
 Ø Ø abi-nak-ar-ta [> -at-ta]
 pro₁ pro₂ pour-NEG-DV-PST
 Lit.: ‘Hana poured water over Taroo, but he didn’t get water poured over himself.’
 ‘Hana poured water over Taroo, but he didn’t get splashes of water.’

⁴ I continue to gloss *-se* as CAUS or C.

⁵ As we will see in section 4, I argue that the agent argument in (11) is originally introduced as an underspecified argument and later interpreted as such at the C-I interface. On the other hand, a more specified, (proto-)agent argument is suppressed in *niyotte*- passives.

approach makes it possible to account for interpretational differences without assuming different structures in syntax, like the analysis of *have* mentioned at the outset. We will see in the next section that the latter approach fares better in accounting for the above cases.

2.2 Conventional Interpretation

Another piece of evidence for the underspecified nature of external arguments can be found in cases involving implicit intermediate agents (Sato, 2005; Sawada, 2008), as in (13).⁶

- (13) Taroo-ga Ø kami-o kir-ta [> kit-ta]
 T.₁-NOM [pro₁ hair]-ACC cut-PST
 ‘Taroo cut his (own) hair.’ (agent)
 ‘Taroo got a haircut.’ (non-agent)

In (13), in addition to the agentive reading, the subject can be interpreted as a non-agentive participant whose hair was cut by an unexpressed agent. This non-agentive reading can be made stronger by a locative expression implying the involvement of a prototypical agent like someone with expertise, as in (14), where the agentive reading is possible but requires an awkward situation. Moreover, the non-agentive reading cannot be maintained in the presence of an instrument which requires constant control by an agent, as in (15).

- (14) Taroo-ga tikaku-no sanpatuya-de
 T.₁-NOM near-GEN barber.shop-LOC
 [Ø kami]-o kir-ta [> kit-ta]
 pro₁ hair-ACC cut-PST
 ‘T. got a haircut at the barber shop nearby.’
 ‘T. cut his hair at the barber shop nearby.’

- (15) Taroo-ga hasami-de Ø kami-o
 T.₁-NOM scissors-INST [pro₁ hair]-ACC
 kir-ta [> kit-ta]
 cut-PST
 *‘Taroo got a haircut with a pair of scissors.’
 ‘Taroo cut his hair with a pair of scissors.’

⁶ I treat the following example as distinct from those in the text and assume that the subject in (i) can be accounted for in terms of metonymy.

- (i) Taroo-ga ie-o tat-e-ta
 T.-NOM house-ACC √build-CAUS-PST
 ‘Taroo built a house.’

Note that, even when the subject is not a direct agent of the event, it assumes some control over the event as a whole, as can be evidenced by the *soo suru* ('do so') replacement test, which singles out volitional or willful subjects. Specifically, (16) can be a continuation of (14).

- (16) Ziroo-mo soo si-ta
 Z.-also so do-PST
 'Z. did so, too.'

The examples in (14) and (15) involve the causative alternant of a verb of change of state, but a non-alternating verb which normally requires an agent can have a non-agentive subject as well, as given in (17), where the verbal noun *syuzyutu* ('surgery') is involved. The verbal noun forms a predicate with a light verb in (17)a, while it is the grammatical object of the heavy verb use of *su(-ru)* 'do' in (17)b. Notice that the non-agentive reading is possible without the object, as (17)a shows.

- (17) a. Taroo-ga (me-o) syuzyutu-si-ta
 T.-NOM eye-ACC surgery-do-PST
 b. Taroo-ga (me-no) syuzyutu-o si-ta
 T.-NOM eye-GEN surgery-ACC do-PST
 'Taroo underwent a surgery (on eyes).'
 'Taroo performed a surgery (on eyes).'

It has been pointed out in the previous literature that no manner verbs are allowed in this construction. Moreover, the availability of the non-agentive interpretation depends on the nature of the event involved. Specifically, for a non-agentive argument to appear as the subject, the verb phrase must describe an event that is typically associated with a particular type of agent with expertise (e.g., surgeons, barbers, etc.). Thus, I assume that this conventional association is stored as part of our encyclopedic knowledge, which is invoked when a particular set of lexical items are combined to form a verbal predicate. When a conventional interpretation is available, the presence of a particular type of agent is conceptually presupposed as part of the interpretation, which makes it possible for a non-agent to appear as an external argument of the verbal predicate.

What is crucial is that verbs which normally require an agent can have a non-agentive participant of the event as the subject when an agent can be syntactically absent. This suggests

that external arguments of those verbs are not fixed for agents and are thematically underspecified.

3 No Co-occurrence

As we have seen in the last section, the subject of an external argument of a verb of change of state can be either an agent or an affectee, but not both at the same time. (2) is repeated here as (18).

- (18) Taroo-ga Ø ude-o or-Ø-ta [> ot-ta]
 T.₁-NOM [pro₁ arm]-ACC √break-CAUS-PST
 'Taroo broke his arm.'

Moreover, an agent and an affectee cannot co-occur, as shown in (19).

- (19) *Ziroo-ga Taroo-o/-ni Ø ude-o
 Z.-NOM T.₁-ACC/-DAT [pro₁ arm]-ACC
 or-Ø-ta [> ot-ta]
 √break-CAUS-PST
 Lit.: *'Ziroo broke Taroo his arm.'

These facts strongly suggest that an agent and an affectee are in fact the two sides of the same coin for the following reason: If there were different argument-introducing heads, say, Voice and Appl, involved for agents and affectees, respectively, these arguments would be expected to co-occur, since nothing in principle prevents them from doing so.

Moreover, we have also seen above that the co-occurrence of an agent and a non-agent is possible in the case of ditransitive causatives, but not in the transitive alternant. Consider (8) and (11) again, repeated here as (20) and (21), respectively.

- (20) Taroo-ga mizu-o abi-ta
 T.-NOM water₁-ACC pour-PST
 'Taroo poured water over himself.' (agent)
 'Taroo got water poured over him.' (recipient)
 (21) Hana-ga Taroo-ni mizu-o abi-se-ta
 H.-NOM T.-DAT water-ACC pour-C-PST
 'Hana poured water over Taroo.'

On the assumption made above that *-se* is an exponent of an applicative head that introduces a recipient argument, the subject arguments in (20) and (21) are introduced as underspecified: the one in (20) can be interpreted agentively or non-agentively, but the one in (21) can only be

interpreted agentively in the presence of a recipient argument.

Thus, the possibility of co-occurrence of an agent and a non-agent can be reduced to the availability of the applicative morpheme *-se*. When *-se* is available in addition to the head introducing a thematically underspecified argument, the co-occurrence is possible.

The analysis employing Voice and Appl would be able to account for (21), but not (20). The analysis as it is would have no way to prevent Voice and Appl from co-occurring, thus wrongly predicting the co-occurrence of an agent and a non-agent. Moreover, this analysis would lead to an inconsistent morphological analysis: it would end up with the assumption that Voice and Appl are realized as identical (i.e., as \emptyset), which is nothing but an accident, while it would have to assume that Appl is realized as *-se* in (21).

No such morphological problem arises in the present account: the head introducing a thematically underspecified argument is realized as \emptyset , while the head introducing a recipient argument (Appl) is realized as *-se*. Thus, we can eliminate accidental homophony and achieve a consistent morphological analysis under our assumptions.

Furthermore, consider (22), which is the passivized version of (19).⁷

- (22) Taroo-ga Ziroo-niyotte \emptyset ude-o
 T.₁-NOM Z.-by [pro₁ arm]-ACC
 or- \emptyset -are-ta
 $\sqrt{\text{break}}$ -CAUS-PASS-PST
 ‘Taroo had his arm broken by Ziroo.’

The sentence is a case of possessor passive, which does not have the active counterpart, as (19) shows. As is clear, the co-occurrence of an agentive adjunct and an affectee is possible. This is because, as we saw above, *-rare* is the head responsible for suppression of an external argument and is distinct from the head introducing a thematically underspecified argument. Thus, (22) suggests that heads with different functions can co-occur.⁸ Moreover, the nominative argument, which is

⁷ *Niyotte* passivization, which involves suppression of an external argument, is employed. It is also possible to form a *ni* passive out of (22), but *-rare* in *ni* passives introduces an affected argument, which is the subject.

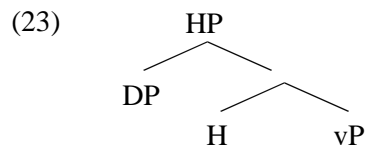
⁸ See Takehisa (2018) for discussion.

introduced as underspecified, is interpreted as an affectee in the presence of the agentive adjunct.

To sum up the discussion so far, an agent argument and a non-agent argument are in fact the same argument, which is introduced as thematically underspecified in syntax and later receives interpretation at the C-I interface. This assumption that they are one and the same argument makes it possible to account for the distribution of agents and affectees properly and maintain a consistent morphological analysis of the relevant syntactic heads.

4 The Interpretive Procedure

In this section, we will see how thematically underspecified arguments are interpreted. First, consider (2) again, repeated as (23) below:



The thematically underspecified argument (DP) introduced by H in (23) receives interpretation based on the context of occurrence. In the simplest case, vP serves to specify the thematic interpretation of DP. If vP is irrelevant in determining the thematic interpretation, the following interpretive rules apply as a last resort to resolve the thematic underspecification at the C-I interface.

- (24) Integrate DP into the event denoted by vP by construing it as a proto-agent.
 (25) Integrate DP into the event denoted by vP by construing it as a proto-patient.

These rules apply in observance of thematic uniqueness, which requires no more than one thematic relation of a particular type in an event. Thus, (24) applies in the absence of a proto-agent in the event, and (25) applies in the absence of a proto-patient in the event.

Let us see how these rules apply in the examples we saw above: in the absence of both a proto-agent and a proto-patient, as in (3) and (8), the underspecified subjects can be either an agent or a proto-patient (i.e., an affectee or recipient).

Moreover, in the presence of (an implication of) an agent, as in (12) and (22), the underspecified argument, *Taroo*, can only be interpreted as a proto-patient. Likewise, when vP receives a conventional interpretation that presupposes involvement of a particular type of agent, as in (13) and (17), the underspecified argument can be interpreted as a proto-patient. Furthermore, in the presence of a proto-patient, as in (11), the underspecified argument can only be interpreted as a proto-agent. Thus, the interpretational variability can be well accounted for in terms of the interpretive procedure presented here.

5 Summary

This paper argues that external arguments are thematically underspecified and their interpretation is determined depending on the context of occurrence. The claim in this paper amounts to saying that affectee subjects in so-called adversity causatives, as in (3), are in fact no different from agent subjects in canonical lexical causatives. Though they are quite different in thematic interpretation, these arguments are introduced by the maximally underspecified argument introducer rather than by different heads such as Voice and Appl.

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