Transitive-Intransitive Alternations in Japanese

Anqi Zhang, University of Chicago

Overview: In event semantics, it is well documented that in some languages the accomplishment predicates sometimes do not have the expected culminated reading (Singh, 1991; Koenig and Muansuwan, 2000; Bar-El et al., 2004, among others). It has been suggested that non-culminated readings highly correlate with agentivity (Martin, 2015). Based on the Japanese data that only the transitives of the potential accomplishment predicates can have a non-culminated reading, I argue that unlike English, the Japanese transitive verbs semantically only encodes the agent's action on the object, without the component of the property-changing process of the object. This explains why non-culminated readings tend to appear in highly agentive sentences, and some cross-linguistic entailment differences observed in Japanese and English transitives.

Non-Culmination in the Transitive Only: In Japanese, verbs usually come in pairs of morphologically distinct transitive and intransitive forms. For example, while the predicate 'to burn' in English can have either transitive or intransitive uses, it corresponds to two morphologically distinct verbs *moyasu* in the transitive and *moeru* in the intransitive in Japanese. As shown in (1), the transitive form of an accomplishment verb can have a non-culminated reading, but the intransitive cannot in the perfective. This sentence is true in the sense that the agent perhaps lit a fire and then placed the leaves on the fire, but none of the leaves were burnt to the least. However, if the intransitive is used, the leaves must have gone through some change. This suggests that semantically, the intransitive encodes the change on the object, whereas the transitive does not.

(1)   moyashi-ta/*moe-ta   keredo, moe-nakat-ta.
          burn.TR-PFV/*burn.INTR-PFV though burn.INTR-NEG-PFV
          [literally 'I burned it, but it didn't burn.']   adapted from Ikegami (1981, 273)

Atelicity of the Transitive:According to Tsujimura (2003), the transitive is ambiguous between a telic reading and an atelic reading, because the transitive are compatible with both the Japanese equivalents of *for*-phrase and *in*-phrase. This suggests that at least sometimes the transitive verb can perhaps be considered as an activity predicate because it is atelic.

(2)   Taroo-ga otiba-o   itizikan/itizikan-de moyasita.
          Taro-NOM fallen.leaves-ACC for-/in-an.hour   burned
          'Taro burned the (fallen) leaves for/in an hour.'   Tsujimura (2003, 394)

Problems with Deriving the Transitive from the Intransitive: Tsujimura (2003) indeed analyzes the transitive as inherently an activity verb that can be pragmatically coerced as an accomplishment and the intransitive as a change of state verb. However, the actual semantic representation she gives for the transitive still wrongly suggests that it is an accomplishment, because it encodes the culmination of the event as in (3a), as the change-of-state operator BECOME is still included in the semantics.

(3)   a. transitive(lexical causative): [x CAUSE [y BECOME *state*]]
        b. intransitive (inchoative): [y BECOME *state*]   Tsujimura (2003, 398)

Problems with Deriving Activities from Accomplishments: For similar non-culminating accomplishment phenomena in Thai, Koenig and Muansuwan (2000) also claim that the verbal stem of Thai accomplishment verbs are actually activities. However, as shown in (4), they instead propose that a verb stem α in Thai actually has a imperfective operator that derives the activity meaning from the corresponding the accomplishment by projecting the culmination into the inertia worlds. Unfortunately, this analysis is also not sufficient for two reasons: First, morphologically, the corresponding accomplishment predicate is a more complex form with the verb stem plus a suffix, and yet the morphologically more complex accomplishment has a simpler semantics than the activity verb stem, which is not ideal according to the Monotonicity Hypothesis (cf. Koontz-Garboden, 2009). Second, even placing the culmination point in the inertia world, the

culmination point is not truly deleted in the semantics, but only delayed into the inertia world. Furthermore, it does not fundamentally explain why languages like Thai and Japanese would package the semantics of an inherently accomplishment-type event with an intended culmination point as an activity.

(4) a. $\alpha = impfv(ev, \phi)$

    b. An eventuality ev and an event description ϕ satisfy condition α if and only if there is an e' which (non-necessarily properly) includes ev and satisfies ϕ in all 'inertia' worlds i.e. in all worlds compatible with what it would mean to complete ev without being interrupted.

<div align="right">Koenig and Muansuwan (2000, 163)</div>

To overcome these problems, I argue that these two approaches assume too strong of a link between the transitive and the intransitive, either as a causation relationship or an temporally sequential relation which will eventually lead to culmination in the inertia worlds. Consequently, analyses along these lines are inherently faced with the problem of not being able to delete the semantically encoded culmination point because of the Monotonicity Hypothesis that no semantic content can be deleted later in the semantic composition. The culmination entailment patterns of the transitive/intransitive alternations in Japanese actually strongly suggests that the link may be much weaker, because only the intransitive entails culmination. In other words, the transitive may not even have the culmination point in the first place.

Proposal: Building on Beavers's (2011) work on affectedness, I argue that the transitive verbs in Japanese actually semantically merely encode the agent's action on the patient, without encoding any information about the change of the patient. And the intransitive in Japanese encodes the changing process of the object.

Take 'burn' in Japanese as an example, as in (5a), the transitive stem describes that the agent acts on the patient by a burning act, in which the agent lights a fire, places the fire near the object and holds the fire close for an indefinite amount of time. The transitive merely describes the agent's action on the object, without referring to the actual change of the object at all. Consequently it follows naturally that the object might not have undergone any change in the sentences with the transitive in the perfective.

In contrast, as in (5b), the intransitive of 'burn' describes a gradual process of the object going out of existence by the manner of burning, which I call a 'burning-change' event. Since the semantics asserts that the object has undergone some degree of change in its existence (cf. Kennedy and Levin, 2008), once the intransitive is used in the perfective, it can no longer be denied that no change has occurred.

(5) a. BURN.TR$=\lambda x \lambda y \lambda e(agent'(y)(e) \wedge patient'(x)(e) \wedge burning - act'(e))$

    b. BURN.INTR $= \lambda x \lambda d \lambda e(theme(x)(e) \wedge burning - change'(e) \wedge existence'_\Delta(e)(x) = d)$

My analysis is crucially different from the previous analyses in that in Japanese the eventualities described by the transitive and the intransitive are merely loosely related in world knowledge that an burning act usually can lead to the object's going out of existence by burning. Through pragmatic strengthening, the usual reading of the transitive in the perfective implies the object has been burnt. In other words, although in English, a burning event in the transitive both encodes the agent's act and the actual change of the object, in Japanese this complex burning event is packaged into two different sub-events separately as the act and the change. Precisely because the Japanese transitive verb is actually not packaged the same way as English, we observe the non-culminating reading in Japanese transitive but not in English transitive in the perfective.

Conclusion: Based on the entailment patterns of Japanese transitive and intransitive equivalents to English accomplishments, I propose a new compositional semantic analysis that more naturally explains the non-culminated reading in the transitive sentences and avoids problems related to the Monotonicity Hypothesis. This analysis also offers an innovative way of analyzing morphologically related verbal concepts as not necessarily semantically derived from each other, but rather more generally linked in world knowledge. (**keywords: semantics, event semantics, Japanese, Altaic**)