Where the Nominative/Genitive Alternation Genuinely Takes Place in Modern Japanese
Category: formal syntax, phycholinguistics

1. Introduction: Based on a Visual Analogue Scale (VAS) based analysis, following Gould *et al.* (2001), Maki *et al.* (2009) show that the genitive subject in Modern Japanese (Japanese, hereafter) may co-occur with stative predicates, but may not co-occur with eventive predicates. They used the intransitive verbs of the intransitive/transitive alternation verbs and adjectives as stative predicates, and unergative verbs as eventive predicates, as shown in (1a-c).

(1) a. [Sukkari   kizu-ga/-no   naotta neko]-wa kono neko desu.   (stative)
         completely injury-NOM/-GEN cured cat-TOP   this   cat   be
         'The cat which was completely cured of the injury is this cat.'
     b. [Totemo raamen-ga/-no   oishikatta mise]-wa   kono mise   desu. (stative)
          very   noodle-NOM/-GEN delicious restaurant-TOP this   restaurant be
         'The restaurant where noodles were very delicious was this restaurant.'
     c. [Yonaka-ni Yuuta-ga/-no   sakenda riyuu]-wa kono riyuu desu.   (eventive)
         midnight-at Yuuta-NOM/-GEN screamed reason-TOP this   reason be
         'The reason why Yuta screamed at midnight was this reason.'

They found a statistically significant difference between nominative case and genitive case at the level of eventive verb, not stative verb, and concluded that the genitive subject may not co-occur with eventive predicates.

However, in their study, they used relative clauses whose heads are arguments for stative predicates (*neko* 'cat' and *mise* 'restaurant'), but relative clauses whose heads are adjuncts for eventive predicates (*riyuu* 'reason'). Therefore, it might be the case that this difference might have affected their analysis. The purpose of this study is to reexamine where the nominative/genitive alternation genuinely takes place in Japanese excluding this inadequacy, and using as test sentences relative clauses whose heads are arguments for both stative and eventive predicates.

2. This Study: We conducted a grammaticality judgment test with 40 native speakers of Japanese. In the judgment test, we used the Visual Analog Scaling (VAS) evaluation method, and used the scale (100 mm long) in (2).

(2) *How would you judge the naturalness of the sentence? Place a vertical mark [|] on the line below*
     to indicate how natural you feel the sentence is.
     Totally   └─────────────────────────────────────┘ Completely
     unnatural   0   100 natural

We used ten patterns of structures based on the combination of the two factors (case type and predicate type). We employed a counterbalanced design, and made 2 different questionnaires, each of which contained 50 test sentences, 90 filler sentences, and 10 bench sentences. 100 target sentences were used in total. The representative examples of the target sentences are illustrated in (3). (We used present forms of unergative verbs as eventive predicates, and progressive forms of the unergative verbs and present forms of adjectives as stative predicates in this study.)

(3) a. *adjunct relative clauses, verbs with eventive reading*
         [Yoku Hanako-ga/-no   warau riyuu]-wa kono riyuu desu.
          often Hanako-NOM/-GEN laugh reason-TOP this   reason be
         'The reason why Hanako often laughs is this reason.'
     b. *adjunct relative clauses, verbs with stative reading*
         [Ribingu-de   Hanako-ga/-no   waratteiru riyuu]-wa kono riyuu desu.
          living room-in Hanako-NOM/-GEN laughing   reason-TOP this   reason be
         'The reason why Hanako is laughing in the living room is this reason.'
     c. argument *relative clauses, verbs with eventive reading*
         [Yoku Yuuko-ga/-no   miru bangumi]-wa   kono bangumi desu.

often Yuko-NOM/-GEN watch program-TOP this program be
'The program which Yuko often watches is this program.'

d. argument *relative clauses, verbs with stative reading*
[Ribingu-de   Yuuko-ga/-no   miteiru bangumi]-wa kono bangumi desu.
 living room-in Yuko-NOM/-GEN watching program-TOP this program be
'The program which Yuko is watching in the living room is this program.'

e. argument *relative clauses, adjectives*
[Totemo kami-ga/-no   nagai zyosei]-wa kono zyosei desu.
 very   hair-NOM/-GEN long woman-TOP this woman be
'The woman who has very long hair is this woman.'

The standard analysis of the data is shown in (4), and visually represented in Figure 1.

(4) *Standard Analysis (Millimeters)*

Type	(2a)		(2b)		(2c)		(2d)		(2e)	
	Nom	Gen	Nom	Gen	Nom	Gen	Nom	Gen	Nom	Gen
Average	74.79	65.12	59.73	53.31	78.93	70.87	73.89	58.94	61.53	64.95
Standard Deviation	23.29	19.92	21.60	20.54	21.07	20.33	21.55	18.62	21.42	21.69

Fig 1. Standard Analysis
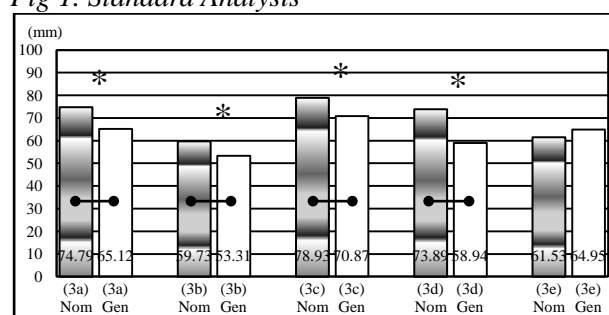
(*statistical significance threshold, $p < .05$, by Bonferroni correction)

We conducted a repeated measure of 2x5 ANOVA, and found a statistically significant difference among the five levels within factor predicate type ($F(4, 36)=20.30$, $p<.001$), and found a statistically significant difference between the two levels within factor case type ($F(1, 39)=19.32$, $p<.001$). We also found an interaction between predicate type and case type ($F(4, 36)=8.45$, $p<.001$). We then conducted a multiple comparison (Bonferroni) on the data, and found no statistically significant difference between nominative case and genitive case only with respect to adjective predicates ($F(1, 39)=2.63$, $p<.11$).

3. Discussion: The analysis shows that only when the predicate is an adjective is there no difference between nominative and genitive, which indicates that this is the place where the nominative/genitive alternation genuinely takes place in Japanese. It also shows, contrary to our prediction, that the progressive forms of unergative verbs behave exactly like the present forms of the same verbs, which indicates that they are not stative in nature or not as stative as adjectives. Let us now consider what this result suggests for the theory of (Japanese) syntax. We claim that the genitive subject is only allowed when it is in a low position in the structure based on Baker's (1988: 46) Uniformity of Theta-Assignment Hypothesis (UTAH), which states that the identical thematic relationships between predicates and their arguments are syntactically represented by identical structural relationships between those items at the level of D-structure. Since the subject of an adjective cannot be agentive, it must be generated in a lower position than the one filled by a true agentive subject, which should be *v*P SPEC. The position of the well-formed genitive subject then should be within VP, which indicates that it is closer to the predicate than an agentive subject. The interesting question immediately arises as to what the true mechanism of genitive subject licensing is. The present research at least suggests that it should involve more than licensing by D or by the attributive form of the predicate.