Animacy, Grammatical Relations, and Topic Continuity in Japanese: An Experimental Approach

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SUMMARY: The present paper examines the factors which possibly affect the topic continuity of NPs in Japanese discourse, and argues, based on experimental evidence, that the most prominent factor for topic continuity is the animacy of NPs. We compare our finding with the claim made in previous studies that the strongest factor for topic continuity is the grammatical relation of NPs, showing that this apparent controversy stems from the spurious correlation between animacy and grammatical relations.

BACKGROUND: Some studies claim that subject NPs are cataphorically more topical than object NPs in that the referent of a subject is more likely to be mentioned in the subsequent sentences in discourse than the referent of an object (e.g. Imamura 2017a, 2017b; Kameyama 1985; Siewierska 1993; Walker, Iida, & Cote 1994). (See the EXPERIMENT section below for the method of calculating cataphoric topicality in our study.) This generalisation is based on the notion of grammatical relation such as 'subject' and 'object'. However, this could be caused by the correlation between animacy and grammatical relations. That is, it is possible that the generalisation comes from a difference in animacy, rather than a difference in grammatical relations. According to Givón (2001: 200), animate NPs are more topical than inanimate ones. Given this cross-linguistically attested pattern (see also Yamamoto 1999: 60–67), one may expect that the reason why subject NPs tend to persist in discourse may be that they are usually animate. Similarly, the reason why object NPs tend to disappear from discourse may be that they are usually inanimate. In fact, the latter point is confirmed in Imamura's (2019) corpus survey, which shows that in Japanese, an object NP tends to be inanimate. This casts doubt on the widespread view that subject NPs are more likely to persist in discourse than object NPs; it may be the case that the decisive factor is the animacy of NPs, rather than their grammatical relations.

EXPERIMENT: As delineated in (1) below, one may formulate three possible hypotheses regarding the causal connections among grammatical relations, animacy, and topicality.

(1) a. Grammatical relations exclusively influence the cataphoric topicality of a referent.
    b. Animacy exclusively influences the cataphoric topicality of a referent.
    c. Both grammatical relations and animacy influence the cataphoric topicality of a referent.

To test the hypotheses in (1), we conducted a sentence-production experiment, with 18 subjects (university students of age 19–23). Each stimulus consists of a target sentence (OSV) and the preceding context. The experiment was designed so that animacy and grammatical relations are tested independently. As illustrated in (2)–(3), the objects are animate in the first group, and the objects are inanimate in the second group. (A note on abbreviations: ACC 'accusative', MM 'modal marker', NOM 'nominative', and PST 'past'.)

(2) Group 1 (with an animate object NP)
Tanaka-o   Suzuki-ga   taoshi-ta-noda.
Tanaka-ACC Suzuki-NOM beat-PST-MM
'Tanaka beat Suzuki.'

(3) Group 2 (with an inanimate object NP)
Gaisha-o   Hirose-ga   kat-ta-noda.
foreign.car-ACC Hirose-NOM buy-PST-MM
'Hirose bought a foreign car.'

That is to say, the experiment has a 2×2 factorial design, with grammatical relations (subject vs. object) and animacy of objects (animate vs. inanimate) as the factors. In Japanese, inanimate subjects are generally avoided; this is why we focussed on the animacy of object NPs. The participants were presented a set of stimuli (each of which consists of context-setting sentences and a target sentence such as those in (2)–(3)) on a computer screen. Each stimulus is meant to be an opening discourse for a story, which the participants were asked to compose by typing on the keyboard. For each story created by the participants, the cataphoric topicality of a referent was measured in terms of 'Topic Persistence' (TP), which is defined as the number of recurrences of the referent in the subsequent 10 clauses (Givón 1988: 248).

RESULT & DISCUSSION: A series of two-way analysis of variance (ANOVA) tests with repeated measures were conducted on the TPs of the subject and the object. The results showed that the subject NPs had higher TPs than the object NPs, and that the animate NPs had higher TPs than the inanimate NPs. Further, the interaction between animacy and grammatical relations was significant. Planned comparisons revealed that there was a significant difference between the inanimate objects and the animate subjects, but there was no significant difference between the animate subjects and the animate objects. These facts are consistent with (1b). This is also indicative that the claim in previous work that the strongest factor for topic persistence is grammatical relations is based on the spurious correlation (accidentally made in the extant studies) between animacy and grammatical relations (i.e. animate–subject, inanimate–object).

Keywords
animate; inanimate; subject; object; scrambling

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