

A mirative evidential in exclamative: A semantics of *nodaroo*

Introduction: *Nodaroo* in Japanese has an evidential use (1a) as well as an exclamative use (1b), but other evidentials do not have exclamative use (1b). The pronunciation of *roo* is optional and the exclamative use is possible only when a *wh*-phrase *nante* is combined (cf. Ono 2006). The goal of this paper is to propose a semantics of *nodaroo* which explains why only *nodaroo* can have an exclamative interpretation though it is an evidential marker. The result of this study suggests that exclamative *wh*-phrase *nante* is responsible for the degree meaning of exclamatives and that *nodaroo* is a so-called mirative evidential.

Data: What differentiates *nodaroo* from other evidentials such as *daroo* or *sooda* is that *nodaroo*(*p*) requires a potential result of *p* to be in the common ground (CG). As shown in (1c), *daroo* (inferential) nor *sooda* (hearsay) cannot be felicitously uttered when the speaker and hearer perceive a potential result of *p* (In this case, *there are a lot of empty wine bottles* is a potential result of *John drank a lot of wine* and the former is in CG. Thus, *nodaroo* is felicitous (1a).) Conversely, *nokamo* and *yooda* are felicitous (1c) in context (1) like *nodaroo* (1a). *Nokamo* is distinguished from *nodaroo* in that *nokamo* suggests the speaker is quite uncertain about the truth of *p*. This is observed by the fact that *nokamo* is incompatible with *kitto* ‘certainly’, which requires a high degree of certainty by the speaker (2). The difference between *nodaroo* and *yooda* is presented in (3): Unlike *nodaroo*, *yooda* is compatible with hearsay contexts.

Analysis: We propose (4) as a semantics of *nodaroo*. Adopting Gutzmann (2011), we assume that evidentiality contributes to use-conditional meanings, and treat *nodaroo* as a use-conditional item. RESULT is a function which takes a proposition *p* as its argument and gives a proposition *p_{RE}* which can be a result of *p*. The definition of *p_{RE}* is (5). Informally, the use-condition of *nodaroo*(*p*) is that (i) a potential result of *p* is in CG and (ii) the likelihood of *p* is higher than a relevant threshold. In an exclamative context, (i) is satisfied because a certain situation which surprises the speaker plays a role of *p_{RE}* (cf. ex2 in (5)), and (ii) is fulfilled due to the factivity of exclamative; the likelihood of *p* is always 100 percent in exclamative contexts.

Predictions: Our analysis correctly predicts that only *nodaroo* can be used as an evidential marker as well as an exclamative marker. *Daroo* nor *sooda* cannot have the semantics of (4) since they are infelicitous when a potential result of *p* is in CG (1c). The denotation of *yooda* also cannot be (4), since *yooda* is felicitous in hearsay contexts (3), where a potential result is not in CG. The reason why *nokamo* cannot have the semantics of (4) is that it marks the speaker’s uncertainty (2) and the likelihood of the proposition does not exceed the threshold.

On exclamative *wh*-phrase: We adopt Ono’s (2006) analysis and assume that a *nante* phrase undergoes covert *wh*-movement. The semantics of *nante* in (1b) is (6). The function μ_S is a measure function which maps a property *P* to the unique degree *d* on the relevant scale *S*. The LF for (1b), for example, is (7). *Nante* takes a property *P* (‘a lot of’ in 1b), an individual *x* (‘wine’ in 1b), an abstracted proposition *Q* (‘John drank *x*’ in 1b), a degree *d*, and a world *w*. Following Rett (2011), we assume that a degree *d* is supplied from the context. In (7), STANDARD is introduced as a degree argument. As a result, the at-issue meaning (i.e. truth-condition) of (1b) becomes $\lambda w_s. \mu_{QUANT}(much) \geq STANDARD \wedge much(wine) \wedge drank(John)(wine) \text{ in } w$. This becomes the argument of *nodaroo* at not-at-issue level and *nodaroo* gives the use-condition in (4). Assuming a denotation like (6) for an exclamative *wh*-phrase relies on the assumption that the lexical entries of the exclamative *wh*-phrase and interrogative *wh*-phrase are different. This assumption is supported morphologically as well as syntactically (Zanuttini & Portner 2003, Ono 2006).

Further issues: As Rett & Murray (2013) and Lau & Rooryck (2017) point out, not a few languages have a mirative evidential (i.e. an evidential marker which can also function as a mirative marker). Unlike exclamatives, miratives do not necessarily require degree meanings (cf. Rett 2011). Since we showed that the exclamative *wh*-phrase is responsible

for the degree meaning of exclamation, we can say that *nodaroo* is a kind of mirative evidential. This point becomes more convincing if we decompose *nodaroo* into *noda* and *roo*. As shown in (8), *noda* (colloquially *nda*) has a mirative use. We suggest that the use-condition of *noda* is $RESULT(p) \in CG$ in (4) and that of *roo* is $\mu_{likelihood}(p) > THRESHOLD$ in (4) respectively. *Roo* is infelicitous in (8) for pragmatic reasons: In mirative context, the condition $\mu_{likelihood}(p) > THRESHOLD$ is vacuously fulfilled, but *roo* has a role of disambiguation between an evidential use and mirative use. Therefore, when *roo* is present, evidential interpretation is preferred and (8) is infelicitous. *Roo* does not play this role in exclamation like (1b) since exclamation *wh*-phrase already disambiguates the interpretation. The pronunciation of *roo* is optional in exclamation (1b) for this reason.

- (1) [The speaker and hearer entered John's room. There are a lot of empty wine bottles. Neither speaker nor hearer heard about John's drinking.]
- a. John-wa takusan wain-o nonda **nodaroo**.
John-TOP a.lot.of wine drank NODAROO
'I guess John drank a lot of wine.'
- b. John-wa **nante** takusan wain-o nonda {**nodaroo**/*daroo/*sooda/*nokamo/*yooda}!
John-TOP wh a.lot.of wine drank NODAROO INFER HEARSAY might seem
'What a lot of wine John drank!'
- c. John-wa takusan wain-o nonda {#**daroo** / #**sooda** /^{ok}**nokamo** /^{ok}**yooda**}.
John-TOP much wine drank INFER HEARSAY might seem
- (2) John-wa **kitto** takusan wain-o nonda {**nodaroo** / ***nokamo**}.
John-TOP certainly much wine drank NODAROO might
- (3) Kare iwaku, [[kotoshi-no fuyu] -wa samui {#**nodaroo** /^{ok}**yooda**}].
he according.to this.year-GEN winter -TOP cold NODAROO seem
'According to him, {#I guess this winter is cold /^{ok}this winter seems to be cold}.'
- (4) $\llbracket \text{nodaroo} \rrbracket = \lambda p. RESULT(p) \in CG \wedge \mu_{likelihood}(p) > THRESHOLD$
- (5) A proposition p_0 is *PRE* for p iff p can cause p_0 .
(ex1.) p_0 : The ground is wet.
 p : It is raining. In this case, p_0 is *PRE* for p since p can cause p_0 .
(ex2.) p_0 : John stooped to get on a train.
 p : The **degree** of John's height is **extreme**. (\Rightarrow exclamation)
In this case, p_0 is *PRE* for p since p can cause p_0 .
- (6) $\llbracket \text{nante} \rrbracket = \lambda P_{\langle e, t \rangle} \lambda x_e \lambda Q_{\langle e, t \rangle} \lambda d_d \lambda w_s. \mu_S(P) \geq d \wedge P(x) \wedge Q(x)$ in w
- (7) $\llbracket [\text{nante takusan wain-o}]_i \text{ John-wa } t_i \text{ nonda nodaroo} \rrbracket$
= ($\llbracket \text{nante} \rrbracket$ ($\llbracket \text{takusan} \rrbracket$) ($\llbracket \text{wain} \rrbracket$) ($\llbracket \text{John } t \text{ nonda} \rrbracket$)) $\llbracket \text{nodaroo} \rrbracket$
= $(\lambda d_d \lambda w_s. \mu_{QUANT}(\text{much}) \geq d \wedge \text{much}(\text{wine}) \wedge \text{drank}(\text{John})(\text{wine})$ in w) $\llbracket \text{nodaroo} \rrbracket$
 $\Rightarrow (\lambda w_s. \mu_{QUANT}(\text{much}) \geq \text{STANDARD} \wedge \text{much}(\text{wine}) \wedge \text{drank}(\text{John})(\text{wine})$ in w) $\llbracket \text{nodaroo} \rrbracket$
- (8) [The speaker entered a room and found John, who was usually absent.]
E, John kita **nda** (#roo)!
oh John came NODA ROO

Selected References: Gutzmann, Daniel. (2011). Expressive modifiers and mixed expressives. In Oliver Bonami & Patricia Cabredo Hofherr (eds.), *Empirical issues in Syntax and Semantics* 8, 123–141. CSSP. Lau, Monica Laura & Rooryck, Johan. (2017). Aspect, evidentiality, and mirativity. *Lingua*, 186, 110–119. Ono, Hajime. (2006). *An Investigation of Exclamatives in English and Japanese: Syntax and Sentence Processing*. Doctoral dissertation, University of Maryland, College Park. Rett, Jessica. (2011). Exclamatives, degrees and speech acts. *Linguistics and Philosophy*, 34(5), 411–442. Rett, Jessica & Murray, Sarah. (2013). A semantic account of mirative evidentials. *Proceeding of Semantics and Linguistic Theory*, 23, 453–472. Zanuttini, Raffaella & Portner, Paul. (2003). Exclamative clauses: At the syntax-semantics interface. *Language*, 79(1), 39–81.