A Negative Concord Exceptive: Japanese –sika

Kratzer and Shimoyama (2002) propose to reduce the cross-linguistic properties of polarity items to the properties of expressions that introduce alternative semantic objects into the semantic computation. The whole range of possible polarity (alternative introducing) items is still to be determined. This paper brings into the arena a negative concord exceptive: Japanese -sika, for which a Hamblin semantics is provided.

Japanese -sika is described as an NPI in that it is licensed by a c-commanding negation (see Tanaka (1997) and references therein). When licensed, it seems to be equivalent to -dake (“only”), as shown in (1). Despite the apparent similarities, we argue that only -dake is an operator of the type of English only: –sika is actually an exceptive phrase.

The Analysis. I. The Framework. We assume a Kratzer & Shimoyama’s style Hamblin semantics: [i] the semantics maps expressions of type σ into sets of objects of type σ: the alternatives; [ii] a principle of pointwise functional application (PFA) (see (2)) combines expressions denoting sets of alternatives; [iii] a family of expressions, like the VP-level negation in (3), operates over sets of alternatives; and [iv] agree at LF with the alternative-triggering expressions they combine with.

II. -sika. [i] NP-sika is an exceptive phrase: it subtracts the denotation of the NP from a set of contextually determined alternatives to it (which may come into existence via focus marking) (see (4)); and [ii] it is a negative concord phrase: it has to agree with negation at LF obligatorily.

Illustration. Take (1a). The set in (4a) combines via PFA with the verb (5a). Negation operates over the result (5b) to yield the property in (5c), which combines via PFA with the subject. Quantity allows us to infer that the set of alternatives negation operates over is maximal.

We can then conclude that John sang rock (and only rock).

Support. I. DISTRIBUTION OF SCALARS. The analysis predicts the distribution of -sika with scalars, illustrated in (6). We assume an alternative semantics for the Japanese scalars in (6) under which n-kyoku-izyoo / n-kyoku-ika (more than / less than n songs) denote a set of sets containing n or more than (less than) n songs. We then let 2-kyoku-izyoo-(kyoku-ika)-sika operate over the set of sets containing any number of songs. In (6a), sika subtracts the set of sets containing two or more songs and, as a consequence, negation ends up operating over the property of singing one song: the sentence is predicted to be true if John didn’t sing a song. The set of alternatives negation operates over is maximal: it doesn’t include the alternatives subtracted by -sika, so we are led to conclude that John did sing two or more songs. We get a contradiction. The same line of argument applies to (6b). No contradiction arises in (6c): the semantics says that John didn’t sing three or more songs and we conclude, via the usual reasoning, that he sang either two or one.

II. LOCAL AGREEMENT. [1.] The analysis claims that it is agreement with negation that licenses -sika. The examples in (7) show that downward entailment, the closest potential candidate, is not a relevant licensing condition. [2.] The agreement relation is local. We then expect to find locality effects. No operator (e.g., wh) can intervene between negation and the alternatives created by -sika. Nested dependencies (8) are fine, but crossing ones (9) are not (for an alternative account, see Tomioka (2004)). [3.] The processing cost of an intervening prosodic boundary (10b) (vs. (10a)) can be also seen as the result of disrupting local agreement, assuming that prosodic units are interpretive units (see Schafer (1997); for the same effect on whs, see Hirotani (in progress)).

   John-TOP rock-(ACC)-Sika sing-NEG-PAST
b. John-wa [rokku]-dake utat-ta.
   John-TOP rock-(ACC)-DAKE sing-PAST.
   ‘John only sang rock.’

(2) If [α] ⊆ D_{σ,τ} and [β] ⊆ D_σ, \{α(β)\} = \{t ∈ D_τ | ∃a ∈ [α]∃b ∈ [β][t = a(b)]\}

(3) Where A ⊆ D_{e,\{s,t\}}, \{\text{not}_{\text{VP}}\}(A) = \{λx.λw.\text{none of the properties in A is true of x in w}\}
Let $D = \{ \text{pop, opera, country, rock} \}$; $\llbracket \text{rock} \rrbracket = \{ \text{rock} \}$

a. $\llbracket \text{rock-sika} \rrbracket = D - \llbracket \text{rock} \rrbracket = \{ \text{pop, opera, country} \}$

(4) Let $D = \llbracket \text{rock} \rrbracket = \{ \text{pop, opera, country, rock} \}$; $\llbracket \text{rock} \rrbracket = \{ \text{rock} \}$

b. $\llbracket \text{not (5a)} \rrbracket = \{ \lambda x. \lambda y. x \text{ didn’t sing pop, opera or country in } w \}$

c. $\llbracket \text{not (5a)} \rrbracket (\text{John}) = \{ \lambda w. \text{ John didn’t sing pop, opera or country in } w \}$

(5) a. $\llbracket \text{sang} \rrbracket = \{ \lambda x. \lambda y. \lambda w. y \text{ sang } x \text{ in } w \}$

John-TOP 2-cl (for songs)-more than or equal to SIKAI (ACC) sing-NEG-PAST
‘John only sang two or more than two songs.’

John-TOP at least-2-cl (for songs)-SIKAI (ACC) sing-NEG-PAST
‘John only sang at least two songs.’

John-TOP 2-cl (for songs)-less than or equal to SIKAI (ACC) sing-NEG-PAST
‘John only sang two or less than two songs.’

(7) a. Every band who played anything won the prize.

rock-SIKAI (ACC) play-PAST which band-MO prize-ACC win-PAST

c. [Rokku-sika ensoosi-nakat-ta] dono bando-mo syoo-o kakutokusi-ta.
rock-SIKAI (ACC) play-PAST which band-MO prize-ACC win-PAST

(8) Dare-ga [rokk] \五千-sika  utawa-nakat-ta-no?
who-NOM rock-SIKAI (ACC) sing-NEG-PAST-Q
‘Who sang only rock?’

(9) ?* [John] \五千-sika  nani-o  utawa-nakat-ta-no?
John-SIKAI (NOM) what-ACC sing-NEG-PAST-Q
‘What did only John sing?’

(10) (Parentheses: major phonological phrases; #: difficulty in processing a sentence.)

a. (John-wa) ([rokk] \五千-sika konsaato-de \五 utawa-nakat-ta).
John-TOP rock-SIKAI ACC concert-in sing-NEG-PAST

b. # (John-wa) ([rokk] \五千-sika) (konsaato-de \五 utawa-nakat-ta).
John-TOP rock-SIKAI ACC concert-in sing-NEG-PAST

‘Rock \五千, John sang nothing but \五 in the concert.’ (Lit.)

References