What Differentiates Two Japanese Exhaustive Focus Particles?

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There is more than one exhaustive focus (sensitive) particle meaning *only* in Japanese. This paper studies two of them, *-dake* and *-bakari*, which are both bound morphemes, and explains why they behave differently. Although the distinction between the two focus particles has been studied for a long time, none of the previous analyses are convincing. This paper argues that *-dake* is only composed of the exhaustive operator, while *-bakari* is composed of the iterative operator along with the exhaustive operator. This means that, even when *-bakari* associates with a noun phrase, it pluralizes the event. The aims of this paper are: (i) to generalize the behavior of *-dake* and *-bakari*, and (ii) to account for how *-bakari* suffixing to a noun phrase can derive the plural event.

In (1), where Acc(usative) case marker, *-o*, suffixes to the object, *Jun*, the sentence could be uttered in either the single event situation, as in (1a), or the plural event situation, as in (1b). When *-dake* suffixes to the object instead of Acc marker, the sentence could be uttered in both the singular and plural event situations, as in (2a). When *-bakari* suffixes to the object, however, the sentence can only be uttered in the plural event situation, as in (2b). This contrast between *-dake* and *-bakari* is observed across all the types of noun phrases, regardless of plurality and definiteness. That is, *-bakari* requires a plural event, while *-dake* has no such requirement.

This paper proposes that both *-dake* and *-bakari* are composed of the exhaustive operator (EXH), defined as in (3a), modifying Rooth's (1985) analysis of *only* and his alternative set analysis of focus. Adopting Krifka's (1989) idea of iterativity, we furthermore propose that *-bakari* consists of the Iterative operator (ITER), defined as in (3b), in addition to EXH. The two operators are combined by means of Generalized Conjunction, which combines two elements of the same type into the same semantic type, as in (3c). In addition to Event Identification in (4) and Existential Closure in (5), we also assume that *-bakari* makes the associated NP a generalized quantifier, which undergoes QR, as illustrated in (6). Then, the structure and truth condition of (2b) are illustrated in (6) and (7), respectively. (7) is interpreted as in (8), which is exactly what (2b) means. Note that it is also possible that *-bakari* suffixes to the subject and even the VP, as in (9). The proposed analysis also gives an account for those cases, although *-bakari* (EXH and ITER) adjoins to Voice' and it needs to be type-shifted into <est, est> in the case of the VP association, as in (10). The truth condition of (9) is as follows: [there is an event of hitting (e) for which Pat is Jun and Agt is Aoi, whereif, for all P', which is an alternative member, there is no event (e') for which Agt is Aoi and P'≠P, and there are events (e", e'") such that e" and e'" are event subsets of e and they are not identical and x' is a subset of Aoi, and e" is an event of hitting for which Pat is Jun and Agt is Aoi, and e'" is an event of hitting for which Pat is Jun and Agt is Aoi]. In cases of the subject association, where *-bakari* suffixes to the subject, *Aoi*, instead of the object, *Jun*, in (2), the denotation of *-bakari* is defined as in (3c), which is the same as the object association cases. In such cases, the truth condition is as follows: [there is an event of hitting (e) for which Pat is Jun and Agt is Aoi, whereif, for all y, which is an alternative member, there is no hitting event (e'), for which Pat is Jun and Agt is y and y is not Aoi, and there are events (e", e'") and there's a set of individuals (x') such that e" and e'" are event subsets of e and they are not identical and x' is a subset of Aoi, and e" is an event of hitting for which Pat is Jun and Agt is x', and e'" is an event of hitting for which Pat is Jun and Agt is x'].

If this analysis is on the right track, it should be the case that *-bakari* cannot co-occur with a one-time event predicate, like *kill*. This is borne out in (11). The *kill*ing event cannot apply to the same animate object more than once. The only possible interpretation for this sentence is that the person who was killed is, for example, a character in a game and can return to life, which makes it possible that s/he can be killed more than once. The analysis also accounts for the fact that *-bakari* cannot appear in predicates that refer to a specific time like *at that time*. Any specific time event cannot go along with the iterative property of *-bakari*. Furthermore, this analysis predicts that *-bakari* cannot co-occur with a individual level verb, like *understand* or *know*, but it can with stage level verbs, such as *speak*. This is borne out in (12).

This analysis not only makes a clear distinction between the two Japanese exhaustive focus particles, *-dake* and *-bakari*, but also implies that some focus particles introduce event pluralities.

(1) Aoi-wa Jun-o tatai-ta. a. single event situation: 'Aoi hit Jun (once).'
Aoi-Top Jun-Acc hit-Pst b. plural event situation: 'Aoi hit Jun (exclusively).'

(2) Aoi-wa [Jun]$_F$-**dake**/-**bakari** tatai-ta.
Aoi-Top Jun-only/-BAKARI hit-Pst
a. **-dake**: 'Aoi only hit JUN (once/exclusively).'
b. **-bakari**: 'Aoi only hit JUN *once/exclusively.'

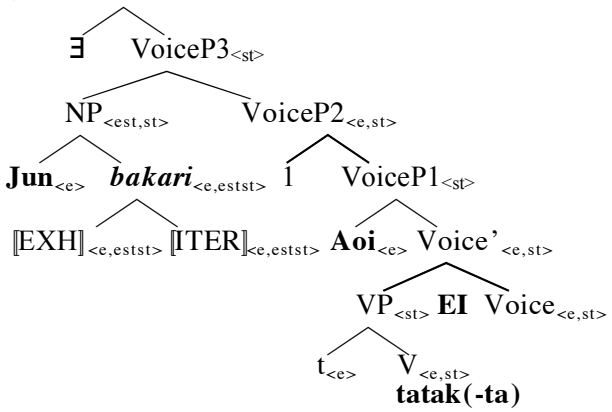
(3) a. [[EXH]] = λx. λP$_{<e,st>}$.λe. P(e,x) & ∀y[y∈Alt -> ¬∃e'[P(e',y) & y≠x]]
b. [[ITER]] = λx. λP$_{<e,st>}$.λe. P(e,x) & ∃e",e"'∃x'[e",e"'⊆e & e"≠e"' & x'⊆x & P(e",x') &P(e"',x')]
c. [[-***bakari***]] = [[EXH]] & [[ITER]]
=λx. λP$_{<e,st>}$.λe. P(e,x) & ∀y[y∈Alt -> ¬∃e'[P(e',y) & y≠x] & ∃e",e'"∃x'[e",e'"⊆e & e"≠ e'" & x'⊆x & P(e",x') &P(e'",x')]

(4) Event Identification (Kratzer 1996):
f<e,st> + g<s,t> -> h<e,st>
= λx. λe. f(e,x) & g(e)

(5) Existential Closure (Heim 1982):
[[∃]] = λS$_{<st>}$. ∃eS(e)

(7) ⟦Aoi-wa Jun-**bakari** tataita⟧ = 1 iff
∃e[hit(e)&Pat(e,Jun)&Agt(e,Aoi) &
∀y[y∈Alt ->¬∃e'[hit(e')&Pat(e',y)&
Agt(e',Aoi) & y≠Jun]
& ∃e",e'"∃x'[e",e'"⊆e & e"≠ e'"& x'⊆Jun
& hit(e")&Pat(e",x')&Agt(e",Aoi)
& hit(e'")&Pat(e'",x')&Agt(e'",x')] = 1

(6)



(8) a. There is an event of hitting (e) for which Pat(ient) is Jun and Ag(en)t is Aoi, where
b. if, for all y, which is an alternative member, there is no hitting event (e'), for which Pat is y and Agt is Aoi and y is not Jun, and
c. there are events (e", e'") and there's a set of individuals (x') such that e" and e'" are event subsets of e and they are not identical and x' is a subset of Jun, and
d. e" is an event of hitting for which Pat is x' and Agt is Aoi, and
e. e'" is an event of hitting for which Pat is x' and Agt is Aoi.

(9) Aoi-wa [Jun-**bakari** tatai]$_F$-ta.
Aoi-Top Jun-BAKARI hit-Pst 'Aoi only HIT JUN exclusively.'

(10) [[-***bakari***]] = [[EXH]] & [[ITER]]
= λP$_{<est>}$.λx.λe. P(e,x) & ∀P'[P'∈Alt -> ¬∃e'[P'(e',x) & P'≠P]] &
∃e",e"'∃x'[e",e"'⊆e & e"≠e"' & P(e",x') & P(e"',x')]

(11) Kare-wa [sono hito]$_F$-**bakari** korosi-ta.
3Sg.m-Top the person-BAKARI kill-Pst
'He only killed THE PERSON *once/#exclusively.' (only in-a-game reading)

(12) [Eigo]$_F$-**bakari** *wakaru/hanasu hito
English-BAKARI understand/speak person
'person who only *understands/speaks ENGLISH (exclusively)'