Crosslinguistic variation in concessive scalar particles*

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1 Introduction

In Nakanishi and Rullmann (2009) and Rullmann and Nakanishi (2009), we examined semantic properties of what we call 'concessive' *at least* in English and the corresponding expressions in other languages. In (1), for example, English *at least* and Japanese *dake-demo* '(lit.) only-even' has a 'settle for less' reading that although the speaker considers eating the ice cream to be less preferable than eating healthier food, he is content with it (because it is better than eating nothing).

- (1) a. Eat at least [the ice cream] $_F$.
 - b. [Aisu]_F-dake-demo tabe-nasai. ice cream-DAKE-DEMO eat-IMP (Rullmann & Nakanishi 2009, (28))

In our work, we left out the discussion of distributional differences. For instance, unlike *at least*, Japanese *dake-demo* is distributionally restricted: it is deviant in episodic sentences, as in (2), but licensed in downward-entailing (DE) contexts like in the restrictor of universal quantifiers (3) and the antecedent of conditionals (4), where it is generally glossed with *even* (Nakanishi 2006).¹

^{*} My interests in concessive particles grew from working with Hotze. I admire his knowledge as a linguist and his warm heart as a person. I thank him for his insights and encouragement over the course of my research. Contact: kimiko@ltr.meijigakuin.ac.jp. ¹ Another context where NPIs appear is questions. Indeed, *dake-demo* is also felicitous in questions, as in (i), where it is glossed with *at least* (cf. Giannakidou 2007 on Greek *esto*). For lack of space, I do not discuss these examples any further.

⁽i) [Aisu]_F-dake-demo tabe-ta-no? ice cream-DAKE-DEMO eat-PAST-Q 'Did you eat at least the ice cream?' (Rullmann and Nakanishi 2009, (29))

- (2) *John-wa toi [iti]_F-dake-demo toi-ta.

 John-TOP question one-DAKE-DEMO answer-PAST

 'John answered even Question 1.'
- (3) [Toi [iti]_F-dake-demo toi-ta] dono hito-mo ukaru. question one-DAKE-DEMO answer-PAST everyone pass 'Everyone who answers even Question 1 will pass.'
- (4) [Toi [iti]_F-dake-demo toi-ta]-ra ukaru. question one-DAKE-DEMO answer-PAST-if pass 'If you answer even Question 1, you will pass.'

The distribution of *dake-demo* is not limited to the contexts where NPIs appear: *dake-demo* is felicitous in imperatives, as in (1b), and in a variety of modal contexts, as exemplified in (5) with the necessity modal. Just like in (1b), *dake-demo* in (5) carries a concessive interpretation.

(5) John-wa toi [iti]_F-dake-demo toka-nebanaranai. John-TOP question one-DAKE-DEMO answer-must 'John must answer at least Ouestion 1.'

The distribution of *dake-demo* described here is the same as that of so-called 'concessive scalar particles' (CSPs) like Greek *esto* (Giannakidou 2007), Spanish *siquiera* (Alonso-Ovalle 2009, 2016) and *aunque sea* (Lahiri 2010), and Slovenian *magari* (Crnič 2011). CSPs are infelicitous in episodic sentences, but they can occur in various DE contexts, where they are glossed with *even*.² They can also appear in various modal environments, where they are glossed with *at least* and convey a concessive interpretation.

This short paper compares the distribution and interpretation of dake-demo with those of CSPs in other languages. Although dake-demo in principle patterns with other CSPs in its distribution, I demonstrate that there are some crucial differences. In particular, I show that dake-demo is truth-conditionally vacuous unlike CSPs in some other languages. Following Nakanishi (2006), I argue that dake-demo is composed of wide scope EVEN and narrow scope ONLY, and account for its distribution

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² There is cross-linguistic variation as to under which DE contexts CSPs are licensed. For example, Spanish *siquiera* is licensed with clausemate negation (Alonso-Ovalle 2009, 2016), but *dake-demo* (Nakanishi 2006), Greek *esto* (Giannakidou 2007), and Slovenian *magari* are not (Crnič 2011).

and interpretation by introducing a new way of calculating the scalar presupposition of EVEN based on concessive conditional morphology.

2 Previous analyses

Regarding the question of why *dake-demo* is acceptable in DE contexts, but not in episodic sentences, I presented in Nakanishi (2006) an analysis that decomposes *dake-demo* into *dake* 'only' and *demo* 'even'. This analysis is based on Guerzoni's (2003) account of German *auch nur* 'even', which is an NPI that is licensed in DE contexts like (6), but not in episodic contexts.

(6) Niemand hat auch nur [das Buch]_F gelesen. nobody has even the book read 'Nobody even read the book.'

Guerzoni argues that *auch nur* consists of two focus-sensitive propositional operators associated with the same focus site, namely, *auch* 'also' (ALSO) in (7) and *nur* 'only' (ONLY) in (8). They take a contextually determined set of alternatives C as their first argument, and a proposition p as their second argument. They are truth-conditionally vacuous, but introduce presuppositions; ALSO triggers the existential presupposition (ExistP) that there is a proposition other than p that is true, while ONLY evokes two presuppositions: the exclusive presupposition (ExclusiveP) that there is no proposition other than p that is true, and the scalar presupposition (ScalarP) that p is the most likely among the alternatives in C.

- (7) $[ALSO]^{g,c} = \lambda C. \lambda p. \lambda w: \exists q \in C[q \neq p \land q(w) = True]. p(w) = True$
- (8) $[[ONLY]]^{g,c} = \lambda C. \ \lambda p: \forall q \in C[q \neq p \rightarrow p >_{likely} q]. \ \lambda w: \neg \exists q \in C[q \neq p \land q(w) = True]. \ p(w) = True$

³ While ALSO has the same lexical meaning as regular additive particles, ONLY in (8) proposed for *auch nur* differs from regular exclusive particles. In particular, while regular exclusive particles are considered to make a truth-conditional contribution in terms of exclusivity (e.g., *Only Al came* is true iff there is no other person but Al who came), ONLY in (8) merely introduces presuppositions. This is based on the observation that *auch nur* is truth-conditionally vacuous (but see Schwarz 2005 for the claim that *auch nur* is an existential quantifier at the level of truth conditions).

The ExistP of ALSO and the ExclusiveP of ONLY are inconsistent, but the conflict can be resolved if there is an intervening DE operator. For instance, in (9), which is the LF of (6), *auch* presupposes that there is some book other than this book that nobody read, while *nur* presupposes that there is no book other than this book that everyone read (assuming that the trace is interpreted as a universal quantifier: see Heim 1983). These two presuppositions are consistent, correctly predicting (6) to be felicitous

(9) ALSO C' [nobody₁ [ONLY C [
$$t_1$$
 read [[this book]_F]_F]]]

Extending Guerzoni's analysis, I argued in Nakanishi (2006) that dake-demo consists of dake 'only' (ONLY) that has the same lexical entry as nur in (8), and demo 'even' (EVEN) that has the same meaning as regular scalar particles, given in (10); EVEN makes no truth-conditional contributions, but it introduces the ScalarP that p is the least likely among the alternatives in C.

(10)
$$[EVEN]^{g,c} = \lambda C. \lambda p: \forall q \in C[q \neq p \rightarrow q >_{likely} p]. \lambda w. p(w) = True$$

With *dake-demo*, there is an inherent conflict between the ScalarP of EVEN and the ScalarP of ONLY. In the LF of (2) in (11), while EVEN presupposes that 'that John answered Q1' is the least likely, ONLY evokes the opposite ScalarP that the same proposition is the most likely. For the two ScalarPs to be consistent, there needs to be an intervening DE operator that reverses the scale of wide scope EVEN. With the LF: EVEN > DE > ONLY, the two ScalarPs yield the reading where Question 1 is taken to be the easiest, which is consistent with our intuition (see Section 4 for more discussion).

(11) EVEN C' [ONLY C [John answered Question [[one
$$]_F]_F$$
]]

As it stands, this compositional analysis can explain why *dake-demo* occurs in DE contexts, but not in episodic sentences. However, it cannot predict why *dake-demo* is licensed in various modal contexts. Presumably, in (5), the necessity modal intervenes between EVEN and ONLY, as in (12). Unlike DE operators, however, modals preserve the problematic entailments, and thus the two ScalarPs remain inconsistent. This predicts (5) to be infelicitous, contrary to the fact.

(12) EVEN C' [must [ONLY C [John answers Question [[one]_F]_F]]]

Crnič (2011) presents an anlaysis that can cover the full range of distribution of CSPs. He argues that CSPs like Slovenian *magari* consist of two focus-sensitive operators, EVEN and AT LEAST, that associate with the same focus site. While EVEN introduces the ScalarP in (10), AT LEAST is a weak existential quantifier, as in (13). In his analysis, (5) has the LF in (14).

(13)
$$[AT LEAST]^{g,c} = \lambda C. \lambda p. \lambda w. \exists q \in C[p \geq_{likely} q \land (p(w) = True \lor q(w) = True)]$$
 (Crnič 2011:6)

(14) EVEN C' [must [AT LEAST C [John answers Question [[one]
$$_F$$
] $_F$]]

Suppose that there are three questions, Q1, Q2, and Q3. In this case, (5) has the strengthened free choice interpretation in (15a), where Q1 stands for the proposition that John answers Q1, etc. The alternatives for EVEN then are (15b), and since there are no entailment relations between the alternatives, the ScalarP of EVEN in (15c) is licit and captures the concessive meaning. The ScalarP in (15c) makes sense if Q1 is the easiest question among the three; it is more likely for the speaker to demand John to answer harder questions. The speaker settles for less by letting John to answer any of the questions, rather than requiring him to answer a harder question.

(15) a.
$$\Box$$
(Q1 ∨ Q2 ∨ Q3) \land \Diamond Q1 \land \Diamond Q2 \land \Diamond Q3

b.
$$[\![C']\!]^{g,c} = \{ \Box (Q1 \lor Q2 \lor Q3) \land \Diamond Q1 \land \Diamond Q2 \land \Diamond Q3, \Box (Q2 \lor Q3) \land \Diamond Q2 \land \Diamond Q3, \Box Q3 \}$$

c. 'that John must answer Q1 or Q2 or Q3 and John may answer Q1 and John may answer Q2 and John may answer Q3' is the least likely among the alternatives in C'

Crnic's analysis can also explain why CSPs are deviant in episodic contexts, but fine in DE contexts. Applied to (2), EVEN evokes the ScalarP that 'that John answered Q1 or Q2 or Q3' is the least likely, but this is contradictory. However, when EVEN scopes over a DE operator, the entailments get reversed, which makes the ScalarP plausible.

3 Cross-linguistic differences

One of the crucial differences between Nakanishi's (2006) analysis and Crnič's (2011) is the truth-conditional contributions of CSPs. The difference is apparent with universal modal examples such as (16a) with *magari*. Assuming that the relevant scale is <scanned photo, original photo>, the truth conditions under Crnič's analysis are (16b). Alonso-Ovalle (2016) claims that the corresponding example with Spanish *siquiera* has the same interpretation, supporting Crnič's claim that CSPs convey an existential meaning. In contrast, under my analysis as well as under any accounts that treat CSPs as being truth-conditionally vacuous (Giannakidou 2007; Alonso-Ovalle 2009; Lahiri 2010), (16a) is predicted to have the interpretation in (16c), which Crnič claims is too strong for Slovenian *magari* (and also for Spanish *siquiera*, as Alonso-Ovalle points out).

- (16) a. Za potni list mi mora Janez poslati magari for passport me must John send magari [poskenirano]_F sliko.
 scanned photo
 'To get a passport, John must send me at least a scanned photo.' (Crnič 2011:5)
 - b. □(scanned.photo V original.photo) Λ ◊scanned.photo Λ ◊original.photo
 - c. □scanned.photo

Unlike *magari* and *siquiera*, however, *dake-demo* is indeed truth-conditionally vacuous; unlike (16a), (17) with *dake-demo* is infelicitous. This can be explained if the assertion of (17) is (16c). The requirement in (16c) is pragmatically odd; it is hard to imagine a situation where a scanned photo, but not an original one, is needed for a passport application.

(17) #Pasupooto sinsei-notame John-wa [sukyansita]_F
passport application-for John-TOP scanned
syasin-dake-demo okura-nebanaranai
picture-DAKE-DEMO send-must
'For a passport application, John must send at least a scanned photo.'

Similarly, in (5) with *dake-demo*, John is required to answer Q1; he may possibly answer other questions in addition, but the asserted requirement is for him to answer Q1. In contrast, in the corresponding examples with *magari* or *siquiera*, John may answer any of the questions, as in (15a). Likewise, in the imperative (1b) with *dake-demo*, the addressee is required to eat ice cream.

The same claim holds for *dake-demo* in DE contexts. In (3), to pass, it is necessary for everyone to answer Q1; it is not certain whether they pass by answering Q2 or Q3 without answering Q1, even if Q2 and Q3 are harder than Q1. Similarly, in (4), the addressee needs to answer Q1 in order to pass. There is no guarantee of his passing by answering harder questions without answering Q1.⁴

In sum, there is a cross-linguistic difference as to the truth-conditional contributions of CSPs. Unlike *magari* or *siquiera*, *dake-demo* makes no contributions. Thus, any analysis that allocates a CSP a weak existential meaning (such as Crnič 2011 or Alonso-Ovalle 2016) is not suitable for *dake-demo*. In contrast, the correct truth conditions can be derived from Nakanishi's (2006) compositional analysis presented in the previous section. However, as pointed out above, this analysis fails to account for why *dake-demo* is licensed in modal contexts. In the following, I suggest a way of saving the analysis by adopting a new way of calculating the ScalarP of EVEN

4 Proposal

CSPs are licensed with the necessity modal, as shown in (18a) with Spanish *aunque sea* and (18b) with Japanese *dake-demo*. Assuming that the LF of (18) is (19), the ScalarP of EVEN says that 'that you must go to the doctor once a month' is the least likely. As Lahiri (2010) points out, this presupposition is not correct: the target proposition is entailed by 'that you must go to the doctor n times a month' (n>1). This is because *must* preserves the problematic entailment, as pointed out above. Then

⁴ The observation here shows that *dake-demo* lacks what Schwarz (2005) calls 'characteristic implications', observed with German *auch nur*. For instance, (ii) implies that the speaker loses the bet if Hans read the second or third volume.

 ⁽ii) Wenn Hans auch nur den [ersten]_F Band gelesen hat, dann verliere if Hans even the first volume read has then lose ich die Wette.
 I the bet

^{&#}x27;If Hans has even read the first volume, I lose the bet.' (Schwarz 2005:151)

the target proposition is taken to be the most likely, which wrongly predicts (18a,b) to be unacceptable.

- (18) a. Tiene usted que ir al médico aunque sea have.to you go to the doctor "even"

 [una]_F vez al mes.

 once a month

 'You have to go to the doctor at least once a month.'

 (Lahiri 2010:20)
 - b. Isya-ni tuki [ik-kai]_F-dake-demo doctor-DAT month one-time-DAKE-DEMO ika- nebanaranai go-must
 'You have to go to the doctor at least once a month.'
- (19) EVEN C' [must [ONLY C [you go to the doctor [[once] $_F$] $_F$ a month]]

Faced with this problem, Lahiri (2010) claims that *aunque sea* in the modal contexts is a narrow scope operator interpreted in the scope of the modal, but its ScalarP is calculated based on a conditional statement whose antecedent is the proposition that *aunque sea* applies to and whose consequent is some contextually salient goal. In (18a), for instance, there is a contextually salient goal such as that you will stay healthy. *Aunque sea* combines with the proposition 'that you go to the doctor once a month', and evokes the ScalarP that 'that if you go to the doctor once a month, you will stay healthy' is the least likely. This is plausible; the likelihood of leading a healthy life increases as the number of your visits to the doctor increases. However, Lahiri shows that this analysis faces problems when applied to *aunque sea* in DE contexts. He thus concludes that two different analyses are required. Below I search for a way of maintaining a unified analysis of *dake-demo*.

Lahiri's (2010) analysis in modal contexts is motivated by the fact that *aunque sea* has concessive conditional morphology: *aunque* is one of the particles used to form *even if* conditionals, and *sea* is the third person singular present subjunctive of *ser* 'be'. For instance, the concessive conditional in (20) is formed with *aunque*, and *sea* serves as the main verb of the antecedent clause, agreeing with the *pro* subject. As Lahiri notes, the literal translation of *aunque sea* is 'even if (it) be.SUBJ'.

(20) Aunque sea podrida, tienes que recoger la even.if be.3SG.SUBJ rotten.SG have.2SG to pick the manzana.

apple

'You have to pick the apple, even if it is rotten.'

(Lahiri 2010:14)

Japanese demo in

- (21) is generally considered to be a focus particle corresponding to *even*, but it may be analyzed as having a clausal structure consisting of the copula *de* 'be' and the particle *mo* 'also, even' (Hiraiwa & Nakanishi 2021; Nakanishi 2021; Oda 2021). More specifically,
- (21) may be viewed as a concessive conditional whose antecedent has the main verb *de* 'be' with the *pro* subject. That is,
- (21) is paraphrasable to 'Even if (it) be a child, (he) will pass.'
- (21) Kodomo-demo ukaru. child-DEMO pass 'Even a child will pass.'

Note here that the conditional contains two phonologically silent pronouns. The one in the main clause is posited in place of the expression to which *demo* attaches, and thus its interpretation corresponds to that expression (in

- (21), kodomo 'child'). Regarding the one in the antecedent, it denotes an individual concept (Romero 2005), assuming that the copula sentence is specificational (in the sense of Higgins 1973). Roughly, it is interpreted as an individual that is salient in the context (cf. Oda 2021), that is, whatever individual that is freely picked up by the appropriate context, just like Lahiri's goal (in
- (21), the person who takes the relevant exam, etc.).

I continue to assume that *demo* is a scalar particle that is truth-conditionally vacuous and introduces a ScalarP just like *even*. Taking the spirit of Lahiri's (2010) analysis, I propose that its presupposition is calculated based on a conditional statement. However, the content of the conditional statement is different from Lahiri's; in my analysis, the

antecedent is a specificational copula sentence, and the consequent is the proposition that EVEN combines with. In

(21), for example, the ScalarP is that 'if (it) be a child, (he) will pass' is the least likely, where the subject in the antecedent is interpreted as something like the person who takes the exam. This ScalarP is plausible when other people are more likely to pass, which is consistent with our intuition.

Regarding dake-demo, I maintain Nakanishi's (2006) analysis that it consists of EVEN and ONLY, both of which introduce presuppositions without making contributions to the truth conditions. The only difference is how the ScalarP of EVEN is calculated. The LF of (18b) is thus the one in (19). The sentence asserts that the addressee is required to go to the doctor once a month, and it has the presuppositions of ONLY and EVEN. ONLY introduces the ScalarP that visiting the doctor once a month is the most likely, i.e., it is easier than visiting multiple times. The ScalarP of EVEN is calculated based on a conditional statement; it says that 'if the number of your possible visits to doctor is once a month, you must go to the doctor that many times' is the least likely. This ScalarP is satisfied; the conditional statement that EVEN combines with entails the alternatives of the form 'if the number of your possible visits to the doctor is n times a month, you must go to the doctor n times' (n>1), which means that the former is the least likely. Furthermore, this ScalarP together with the assertion successfully captures the concessive interpretation; the speaker is more likely to require the addressee to go to the doctor as often as possible (which is harder than going just once), but he settles for less by demanding the addressee to go just once (as stated in the assertion).⁵

Let us now see whether the analysis extends to *dake-demo* in DE contexts. Take (3), for example, whose LF is provided in (22). The ScalarP of ONLY says that 'that x answers Q1' is the most likely (where x is universally quantified, following Heim 1983), which suggests that Q1 is easier than other questions. The ScalarP of EVEN applied to a conditional statement says that 'if the question on the test is Q1, everyone who answers it will pass' is the least likely. This is sensible: the likelihood that everyone who answers Q1, which is the easiest (as the

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⁵ Alonso-Ovalle (2009, 2016) presents an example with Spanish *siquiera* corresponding to (18), reporting that the sentence is acceptable even when the speaker is less likely to require the addressee to go more often than once a month. However, (18b) with *dakedemo* is infelicitous in such a context. In particular, in (18b), there is a strong expectation on the speaker's part that the addressee goes to the doctor as often as possible.

ScalarP of ONLY suggests), will pass is less than the likelihood that everyone who answers harder questions will pass.

(22) EVEN C' [everyone₁ [ONLY C [t_1 answers Question [[one]_F]_F]] will pass]

We can also explain why (3) is infelicitous when *ukaru* 'pass' is replaced by *otiru* 'fail' (see Lahiri 2010 for this pattern). According to the ScalarP of EVEN, 'if the question on the test is Q1, everyone who answers it will fail' is the least likely, but this is only licit in a pragmatically odd context where the likelihood of failing increases by answering harder questions.

Let us now examine *dake-demo* in episodic contexts. When *demo* is used in episodic sentences like (23), it is interpreted as a concessive without a hypothetical meaning (Tomura 1988, among others); (23) is paraphrasable as 'Although (it) was a child, (he) passed', where two pronouns are interpreted in the same way as

- (21) (e.g., it is something like the person who took the exam).
- (23) Kodomo-demo ukat-ta. child-DEMO pass-PAST 'Even a child passed.'

Based on these morphological data, I propose that in episodic contexts like (23), the ScalarP of *demo* is calculated based on a concessive statement. In (23), the ScalarP is that 'although (it) was a child, (he) passed' is the least likely. This is plausible and also consistent with our intuition.

The ScalarP applied to a concessive statement can account for why *dake-demo* is infelicitous in episodic sentences, as in (2), whose LF is given in (11). The ScalarP of EVEN is that 'although the question on the test was Q1, John answered it' is the least likely. This is sensible in the context where Q1 is taken to be the hardest question. However, this is inconsistent with the ScalarP of ONLY that 'that John answered Q1' is the most likely, which suggests that Q1 is the easiest. Indeed, just like (23), (2) without *dake* is acceptable when Q1 is considered to be the hardest question.

⁶ Similarly, while Spanish *aunque* with a subjunctive clause expresses the sense of 'even if', as in (20), it expresses the sense of 'even though' when used with an indicative clause (Lahiri 2010, see also Haspelmath & König 1998).

Finally, the current analysis can further account for the observation that when *dake-demo* is used with an actual event in the past, as in (2) and (24) with *toi-ta* 'answer-PAST', the infelicitous sentences become perfectly acceptable when the agent's emotion (such as a desire or a regret) is explicitly expressed, as exemplified in (24) (Yamanishi 2015). In the latter case, EVEN evokes the ScalarP that 'although the question on the test was Q1, I wanted to answer it' is the least likely. This is plausible; it is more likely for the speaker to want to solve harder questions, assuming that Q1 is the easiest question (as the ScalarP of ONLY suggests).

(24) Toi [iti]_F-dake-demo {*toi-ta / tok-itakat-ta}. question one-DAKE-DEMO answer-PAST answer-want-PAST 'I {answered/wanted to answer} at least Question 1.'

5 Concluding remarks

This paper examined the distribution and interpretation of *dake-demo*. Following Nakanishi (2006), I argued that *dake-demo* consists of wide scope EVEN and narrow scope ONLY, which introduce presuppositions without contributing to the truth conditions. I further proposed a novel way of calculating the ScalarP of EVEN, applied to a conditional or a concessive statement, and by so doing accounted for the distribution of *dake-demo* as well as concessive interpretations in modal contexts.

The current work sheds light on two cross-linguistic variations in CSPs, namely, whether CSPs convey an existential meaning, and whether CSPs have concessive conditional morphology. I consider the second of the two to be especially important as little investigation has been done from a cross-linguistic perspective. Further investigation is required to determine the relevance of such morphology to the distribution and interpretation of CSPs.

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