

## The Japanese scalar particle *hitotsu* ‘even’: Variations of EVEN items \*

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**Abstract** The Japanese classifier *tsu* is used for counting separable inanimate entities, and when combined with the numeral *hito* ‘one’, as in *hito-tsu*, it indicates that the number of entities is one. However, *hitotsu* can also function as a scalar particle, where *hitotsu* itself is interpreted as ‘even’. In this paper, I analyze the meaning and use of *hitotsu* as a scalar particle by comparing it with ordinary scalar particles, such as *sae* ‘even’, and show that the scalar particle *hitotsu* imposes a semantic restriction that the noun it attaches to must be non-specific and interpreted as the theme of an event. I argue that the scalar particle *hitotsu* is sensitive to event kinds and creates contrasts among events typically denoted by a VP. It will be shown that the meaning and distribution pattern of the scalar particle *hitotsu* can be explained based on the idea of pseudo-incorporation (e.g., Carlson 2003; Gehrke 2019). In studies on the semantics of EVEN, various approaches have been proposed – such as scope theory (e.g., Karttunen & Peters 1979), lexical ambiguity theory (e.g., Rooth 1985), and degree-based theory (e.g., Greenberg 2018). These approaches generally assume that EVEN functions as a propositional operator. This paper demonstrates that, unlike ordinary scalar particles, the scalar particle *hitotsu* ‘even’ is not a propositional operator. Instead, it represents a new type of EVEN, which is sensitive to thematic roles and event kinds.

**Keywords:** scalar particle, *hitotsu*, classifiers, pseudo-incorporation, minimizer, negative polarity item, focus, variation, not-at-issue meaning

### 1 Introduction

The Japanese classifier *tsu* is a classifier for counting separable inanimate entities. When combined with the numeral *hito* ‘one’ and the scalar particle *mo* ‘even’ (i.e.,

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\* I am grateful to Daisuke Bekki, Chris Davis, Martin Hackl, Shun Ihara, Chris Kennedy, Takeo Kurafuji, Teruyuki Mizuno, Kenta Mizutani, David Oshima, Harumi Sawada, Jun Sawada, Eri Tanaka, Muyi Yang and the audience and the reviewers of SALT 35 for their valuable comments and discussions. Parts of this paper were presented at LENLS 20, Semantics Workshop in Tokai and Kansai (2025) and Modality Workshop (2025), the audiences at which I also thank for their valuable comments. This study was supported by JSPS KAKENHI (Grant number JP22K00554). All remaining errors are, of course, my own.

The Japanese scalar particle *hitotsu* ‘even’

*hito-tsu-mo* ‘even 1-CL’), it functions as a negative polarity minimizer:

- (1) Sora-ni-wa kumo-ga hito-tsu-mo nai.  
sky-LOC-TOP cloud-NOM one-CL<sub>thing</sub>-even NEG.exist  
‘There is not even a single cloud in the sky.’

However, as Sawada (2007) observes, *hitotsu* can also be utilized as a scalar particle, in which *hitotsu* itself is interpreted as ‘even’, as shown in (2):

- (2) Taro-wa aisatsu-hitotsu {shi-nai /\*su-ru}.  
Taro-TOP greeting-even do-NEG /do-Non.PST  
‘Taro does not even [say hello]<sub>F</sub>.’

*Aisatsu* ‘greeting’ in (2) is not a kind of noun that can be counted by the classifier *tsu* (i.e., \**aisatu-o hito-tsu* [greeting-ACC one-CL] ‘1 greeting’).<sup>1</sup> This type of *hitotsu* is a negative polarity item (NPI) because its positive counterpart of the sentence becomes ill-formed as in (2).

In this paper, I analyze the meaning and use of *hitotsu* as a scalar particle by comparing it with ordinary scalar particles, such as *sae* ‘even’, and argue that the scalar particle NPI *hitotsu* ‘even’ imposes a semantic restriction that the noun *hitotsu* attaches to must be non-specific and interpreted as the theme of an event. I will show that the meaning and distribution pattern of the scalar particle *hitotsu* can be explained based on the phenomenon of pseudo-incorporation (e.g., Carlson 2003; Farkas & de Swart 2003; Espinal & McNally 2010; Gehrke 2019) and argue that the scalar particle *hitotsu* is sensitive to event-kind and it makes a contrast among events typically denoted by a VP.

In this paper, I also examine the phenomenon of classifier-based minimizers. Building on Sawada’s (2007) observation, I argue that sentences containing classifier-based minimizers can be ambiguous between a quantity reading and an event-scale reading:

- (3) Taro-wa biiru ip-pai nom-e-nai.  
Taro-TOP beer one-CL<sub>cup</sub> drink-can-NEG  
Quantity reading: Taro cannot drink even [one glass]<sub>F</sub> of beer. (At-issue:  
Taro cannot drink one glass of beer.)

<sup>1</sup> There is also a construction, NP-*no hitotsu-mo*:

- (i) Aisatsu-no hito-tsu-mo nai.  
greeting-GEN one-CL-even NEG.exist  
‘There is not even a single greeting.’

I consider that this construction differs from the scalar particle *hitotsu*. Unlike example (2) in (i), *mo* is required. It functions as a scalar particle on its own.

Event-scale reading: Taro cannot even [drink beer]<sub>F</sub>. (At-issue: Taro cannot drink one glass of beer.)

I discuss the relationship between the scalar particle *hitotsu* and the N 1-classifier minimizer, and argue that although the latter still retains its status as a classifier, it exhibits a characteristic of pseudo-incorporation in its event-scale reading.

A theoretical implication of this paper is that unlike ordinary scalar particles, the scalar particle *hitotsu* ‘even’ cannot be analyzed of as a sentential operator. In studies on the semantics of EVEN, various approaches have been proposed—such as scope theory (e.g., Karttunen & Peters 1979), lexical ambiguity theory (e.g., Rooth 1985), and degree-based theory (e.g., Greenberg 2018). These approaches have assumed that EVEN functions as a propositional operator. This paper shows that the scalar particle *hitotsu* represents a novel type of EVEN—one that is sensitive to event structure and thematic roles.

## 2 Some background on pseudo-incorporation

The main claim of this paper is that the scalar particle *hitotsu* involves the phenomenon of pseudo-incorporation. Before addressing this point, I will first provide some background on pseudo-incorporation. Pseudo-incorporation is a linguistic phenomenon in which a noun phrase, though syntactically independent, is tightly linked to a verb and appears to be semantically incorporated. The term “pseudo-incorporation” refers to a family of phenomena that exhibit the semantic—but not syntactic—properties of incorporation (e.g., Massam 2001; Dayal 2011; Farkas & de Swart 2003; Espinal & McNally 2010; Gehrke 2019). In the literature on pseudo-incorporation, it has been observed that incorporated nominals exhibit several properties. First, pseudo-incorporated nouns lack determiners. The following is an example from Hungarian:

- (4) Mari bélyeget gyűjt.  
 Mari stamp.ACC collect  
 ‘Mari collects stamps.’ (*Hungarian*; Farkas & de Swart 2003: 14)

Second, pseudo-incorporated nouns obligatorily take narrow scope. For instance, in the following example, there is a reading in which the deontic modal takes scope over the pseudo-incorporated noun. However, there is no reading where the pseudo-incorporated noun takes scope over the modal—that is, there is no interpretation in which Mary is required to read a particular poem (see Farkas & de Swart 2003):

- (5) (Narrow scope reading only)  
 Mari verset kell olvasson.  
 Mari poem.ACC must read.Subj

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‘Mari must read a poem/poems.’ (*Hungarian*; Farkas & de Swart 2003: 7)

Similarly, pseudo-incorporated nouns take narrow scope with respect to negation. The following is an example from Catalan (Espinal & McNally 2010):

- (6) No busco            pis.  
not look.for.1SG apartment

‘I am not looking for an(y) apartment.’ (*Catalan*; Espinal & McNally 2010: 91)

This sentence means that the speaker is not looking for any apartment. It does not mean that there is a particular apartment she is not looking for.

Third, pseudo-incorporated nouns are discourse opaque. In the following example, the pronoun cannot refer to the pseudo-incorporated noun:

- (7) Avui porta        faldilla. # La        hi        vam        regalar  
today wear.3SG skirt        it.ACC her.DAT AUX.PST.1PL give.INF  
l’any        passat.  
the.year last

‘Intended: Today she is wearing a skirt. We gave it to her as a present last year.’ (*Catalan*; Espinal & McNally 2010: 94)

In addition to these observations, there are various empirical findings regarding incorporated nouns. See Gehrke 2019 for a detailed overview. Carlson (2003) argues that certain indefinite internal objects undergo verb incorporation in order to form an event-kind (which Carlson refers to as an event-type). In line with the mapping hypothesis proposed by Diesing (1992), Carlson (2003) suggests that the VP serves as the domain of a context-free interpretive mechanism that specifies an event-type. Noun phrases that rely on time, worlds, truth, or context for evaluation—such as proper names, definite descriptions, and indexicals—cannot combine with verbs at the VP level.

### 3 *Hitotsu* creates a configuration of pseudo-incorporation

I argue that the noun to which the scalar particle *hitotsu* attaches exhibits properties typical of incorporated nouns. First, nouns accompanied by *hitotsu* cannot co-occur with demonstratives, nor can they be proper nouns, as shown in the following examples:

- (8) Hanako-wa okyaku-san-ni sono ocha-{\*hitotsu / sae} dasa-nai.  
Hanako-TOP visitor-HON-to that tea-even / even provide-NEG  
‘Hanako does not even serve that tea to her guests.’

- (9) Toyota-{(de)-sae /\*hitotsu} anzen kensa-ni toora-nakat-ta.  
 Toyota-even /even safty inspection-to pass-NEG-PST  
 ‘Even Toyota didn’t pass the safty inspection.’ (Toyota = a car company)

Second, nouns accompanied by the scalar particle *hitotsu* obligatorily take narrow scope. For example, the following sentence with an ability modal does not convey the meaning that there is a particular beer that Taro cannot even drink:

- (10) Taro-wa biiru hitotsu nom-e-nai.  
 Taro-TOP beer even drink-can-NEG  
 Event-scale reading: Taro cannot even [drink beer]<sub>F</sub>.  
 (Based on Sawada 2007: 162, slightly modified)

Third, nouns accompanied by *hitotsu* are discourse opaque:

- (11) Taro-wa ocha-hitotsu dasa-nakat-ta. # Sore-wa kono hi-no  
 Taro-TOP tea-even provide-NEG-PST it-TOP this day-GEN  
 tameni yooi-shi-ta mono-nanoda-ga.  
 purpose prepare-do-PST thing-*noda*-PRED-but  
 ‘Taro did not even serve that tea. It was something he had prepared for the occasion.’

Note that in the case of *sae*, the noun it combines with can be specific. Therefore, it is possible to refer back to it using a pronoun in the second sentence:

- (12) Taro-wa sono ocha-hitotsu dasa-nakat-ta. Sore-wa kono hi-no  
 Taro-TOP that tea-even serve-NEG-PST it-TOP this day-GEN  
 tameni yooi-shi-ta mono-nanoda-ga.  
 purpose prepare-do-PST thing-PRED-but  
 ‘Taro did not even serve that tea. It was something he had prepared for the occasion, though.’

Although there is no movement operation in sentences containing the scalar particle *hitotsu*, we can consider that the scalar particle *hitotsu* semantically links the noun it attaches to with the predicate, forming an event-kind interpretation. That is, although *hitotsu* attaches to a non-specific noun, it contrasts with the verb phrase (VP). For example, in (13), *hitotsu* contrasts “to sing a song” with other activities such as “to perform a play”. In (14), *hitotsu* contrasts *ocha-o das-u* ‘to serve tea’ with *aisatsu su-ru* ‘to greet’:

- (13) Hanako-wa joyuu-nanoni uta-hitotsu uta-e-nai.  
 Hanako-TOP actress-despite song-even sing-can-NEG  
 ‘Hanako can’t even [sing a song]<sub>F</sub> despite being an actress.’

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- (14) Taro-wa okyaku-san-ni [ocha-o dasu]-dokoroka aisatsu-hitotsu  
Taro-TOP visitor-HON-to tea-ACC serve-let.alone greeting-even  
shi-nakat-ta.  
do-NEG-PST

‘Taro did not even [greet]<sub>F</sub> his guests, let alone [serve tea] to them.’

This is what is referred to as an “anti-pied-piping” configuration (Branan & Erlewine 2023), in which a constituent properly contained within the logical focus is marked with a focus particle.<sup>2</sup>

Note that as the following example shows, *hitotsu* cannot combine with a noun that has an instrumental role:

- (15) Kono ishi-wa kureen-de-{sae / \*hitotsu} mochiage-rare-nai.  
this stone-TOP crane-with-even / even lift.up-can-NEG  
‘This stone cannot even be lifted by a crane.’ (*kureen* ‘crane’ = instrumental)

The pseudo-incorporation approach naturally explains why the scalar particle *hitotsu* requires its first argument to function as a theme. Generally, only internal arguments undergo incorporation, so the thematic role of arguments tends to be a theme (see Gehrke 2019 for a recent overview of event-kinds).

#### 4 Analysis

How can we explain the above facts? In this paper, I argue that the scalar particle *hitotsu* is sensitive to event-kind and contrasts events denoted by a verb phrase (VP). Let us now consider a formal analysis based on the following example:

- (16) Taro-wa okyaku-san-ni ocha-hitotsu dasa-nai.  
Taro-TOP visitor-HON-to tea-even provide-NEG  
‘Taro does not even [serve tea]<sub>F</sub> to his guests.’ Non-at-issue: Taro serving tea to visitors is more expected than other actions.

Based on the framework of event semantics, I propose that the scalar particle *hitotsu* has the following meaning (where *C* is a contextually determined set):

<sup>2</sup> There are also cases wherein a sentence with the scalar particle *hitotsu* contrasts two individuals:

- (i) Taro-wa okyaku-san-ni [shokuji]-dokoroka [ocha]-hitotsu dasa-nakat-ta.  
Taro-TOP visitor-HON-to food-let.alone tea-even serve-NEG-PST  
‘Taro did not even serve [tea], let alone [food], to his guests.’

I assume that, even in this case, the scalar particle *hitotsu* is contrasting two events, i.e., “to serve” tea and “to serve food”. That is, the predicate in *R* is the same as *P*.

- (17)  $\llbracket \text{hitotsu}_{NPI} \rrbracket = \lambda k \lambda P \lambda x \lambda y \lambda e : \forall R \in C [R \neq P(k) \rightarrow P(k)(x)(y)(e) >_{\text{expected}} R(x)(y)(e)]. P(k)(x)(y)(e)$  (where  $k$  = a kind nominal  $\wedge$   $k$  = a theme of the event predicate  $P$ )

In prose, *hitotsu* takes a kind-denoting noun  $k$  (of type  $e^k$ ), a predicate  $P$ , individuals  $x$  and  $y$ , and an event  $e$ , and presupposes that for all  $R$  that are in the contextually determined set  $C$ , if  $R$  is distinct from  $P(k)$ , then  $P(k)(x)(y)(e)$  is more expected than  $R(x)(y)(e)$ .<sup>3</sup> As for the scalar meaning “expected”, I assume that it has various modal flavors, including at least three meanings: “desired/hoped” (bouletic), “required” (deontic), or predicted (epistemic).<sup>4</sup> Since the most expected event tends to be the most basic event, the at-issue event can be construed as a minimum event. In this sense, *hitotsu* functions dually as both a minimizer and an instance of EVEN.

Crucially, the scalar particle *hitotsu* introduces contrast at the VP level. The expression  $P(k)$  corresponds to a verb and its theme argument.

The question is how to explain the polarity sensitivity of the scalar particle *hitotsu*:

- (18) Taro-wa aisatsu-hitotsu {shi-nai /\*su-ru}.  
Taro-TOP greeting-even do-NEG /do-Non.PST  
‘Taro does not even say hello.’

I argue that the polarity sensitivity of the scalar particle *hitotsu* can be accounted for from a syntactic perspective. One piece of evidence is that *hitotsu* can only be licensed locally by negation. A sentence with external negation (i.e., negation outside the clause containing *hitotsu*) is ungrammatical.

- (19) \* Taro-wa aisatsu-hitotsu shi-ta-wake.de.wa.nai.  
Taro-TOP greeting-even do-PST-it.is.not.the.case.that  
‘It is not the case that Taro even said hello.’

Building on Giannakidou’s (2007) analysis of the Greek NPI-EVEN *oute kan*, I assume that *hitotsu* carries a [uNeg] feature and must be locally licensed by negation.<sup>5</sup> The following figure illustrates the logical structure of (16):

<sup>3</sup> I ignore intensionality for simplicity. Namely, kinds are treated as type  $e$  rather than type  $\langle s, e \rangle$ . See also Chierchia 1998.

<sup>4</sup> See also Sawada 2022 for an analysis of the Japanese minimizer *kakera* ‘piece’, in which multiple meanings of ‘expectation’ are assumed.

<sup>5</sup> The scalar particle *hitotsu* appears to be a strict NPI, as it cannot occur in non-veridical contexts such as questions or conditionals:

- (i) a. \* Taro-wa aisatsu-hitotsu shi-ta-no?  
Taro-TOP greeting-even do-PST-Q



- c. Aisatsu-hitotsu nai. 'There wasn't even a greeting.'  
greeting-even NEG.exist

An unaccusative verb is an intransitive verb whose grammatical subject is not a semantic agent. The subject of an unaccusative verb is semantically similar to the direct object of a transitive verb. Theoretically, it is often assumed that the subjects of unaccusative verbs do not originate in subject position, but rather as complements of the verb (Burzio 1986). This contrasts with unergative verbs, which have agentive subjects. When *hitotsu* co-occurs with an unergative verb whose subject is agentive, the resulting sentence sounds unnatural:

- (22) a. Tori-{??hitotsu / sae} nai-tei-nai.  
bird-even / even cry-PROG-NEG  
'Not even birds are singing.'  
b. Kodomo-{??hitotsu / sae} odora-nakat-ta.  
child-even / even dance-NEG-PST  
'Even children didn't dance.'

However, some verbs that are generally classified as unergative such as *tob-u* 'fly' and *hashi-ru* 'run' can behave like unaccusative verbs. In such cases, they can co-occur with *hitotsu*:

- (23) a. Denpa-hitotsu ton-dei-nai.  
radio.wave-even fly-PROG-NEG  
'Not even radio waves are flying.'  
b. Toori-ni-wa kruma-hitotsu hashit-tei-nai.  
street-LOC-TOP car-even drive-PROG-NEG  
'Not even a car was driving on the street!'

Thus, the scalar particle *hitotsu* can appear as the subject of an unaccusative verb. In such cases, although the number of arguments is reduced compared to a two-place or three-place predicate, the same basic analysis remains applicable:

- (24)  $\llbracket \text{hitotsu}_{NPI} \rrbracket = \lambda k \lambda P \lambda e : \forall R \in C [R \neq P(k) \rightarrow P(k)(e) >_{\text{expected}} R(e)]. P(k)(e)$   
(where  $k = \text{a kind nominal} \wedge k = \text{a theme of the event predicate } P$ )

## 5 Notes on the non-at-issue properties of the scalar particle *hitotsu*

While Section 4 focused on analyzing the meaning of the scalar particle *hitotsu* as a presupposition, it may in fact also be interpreted as a conventional implicature (CI). Both presupposition and CI are types of non-at-issue meaning and share similar

characteristics. First, it is reasonable to conclude that the scalar particle *hitotsu* conveys non-at-issue meaning. This is supported by the fact that its interpretation lies outside the semantic scope of logical operators, as shown in (25):<sup>6</sup>

(25) a. (Modal)

Utiawase-de-wa ocha-hitotsu de-nai-daroo.  
meeting-LOC-TOP tea-even served-NEG-will

‘There will not even be tea at the meeting.’ (Non-at-issue: Among all the contextually relevant events (or customs), serving tea is the most commonly expected.)

b. (Question)(Context: The speaker heard that his colleague went all the way to the head office and received no hospitality whatsoever.)

Ocha-hitotsu de-nakat-ta-no?  
tea-even served-NEG-PST-Q

‘Was there not even tea?’ (Non-at-issue: Among all the contextually relevant events (or customs), serving tea is the most commonly expected.)

c. (Conditional)(Context: The speaker is going to visit his client’s office.)

Moshi ocha-hitotsu de-na-kereba senpou-wa  
by.any.chance tea-even provided-NEG-COND the.other.party-TOP  
shoodan-su-ru ki-wa nai-to iu-koto-daroo.  
business.meeting-do-Non.PST intention-TOP NEG-that say-thing-EPI

‘If even tea is not offered, it likely means that the other party is not interested in having a business meeting.’ (Non-at-issue: Among all the contextually relevant events (or customs), serving tea is the most commonly expected.)

The question is whether the non-at-issue meaning of the scalar particle is a presupposition or a CI. A presupposition is an inference or proposition whose truth is taken for granted in the utterance of a sentence. In the framework of semantic presupposition, there is a dependency between the presupposition and the truth conditions of the given sentence: if the presupposition is false, it becomes impossible to determine the truth value of the proposition (e.g., [Strawson 1950](#)). In contrast, under pragmatic presupposition, the presupposition is considered backgrounded and forms part of the common ground shared by the conversational participants (e.g., [Stalnaker 1974](#)).

In contrast, a CI is not part of “what is said” and is logically independent of at-issue meaning. Furthermore, it is typically speaker-oriented by default ([Grice 1975](#);

<sup>6</sup> The question here is interpreted as a confirmatory question.

Potts 2005). Speaker-oriented adverbs, appositives, and expressives are considered typical examples of CIs (e.g., Potts 2005; McCready 2010; Sawada 2010, 2017; Gutzmann 2011).

In terms of independence, the meaning of the scalar particle *hitotsu* is independent of “what is said”, thus behaves like a CI. This is supported by the fact that even if the expectation component of *hitotsu* is false, the truth conditions of the given sentence can still be determined. Furthermore, the presence or absence of *hitotsu* does not affect the truth conditions of the sentence. Even if *hitotsu* is omitted, as in example (26), the truth conditions remain unchanged.

- (26) Taro-wa {aisatsu-hitotsu / aisatsu(-o)} shi-nai.  
 Taro-TOP greeting-even / greeting-ACC do-NEG  
 ‘Taro does not {even say hello/say hello}.’

In terms of evaluation, *hitotsu* expresses the speaker’s emotion and in many cases the speaker’s emotion is a negative emotion. However, it is possible to use the scalar particle *hitotsu* to convey a positive evaluative meaning using *hitotsu* as well:

- (27) a. Hanako-wa fuman-hitotsu morasa-nai.  
 Hanako-TOP complaint-even let.leak-NEG  
 ‘Yamada does not even complain.’  
 b. Taro-wa guchi-hitotsu iwa-nai.  
 Taro-TOP complaint-even say-NEG  
 ‘Taro does not even complain.’

In either case, the scalar particle *hitotsu* expresses the speaker’s attitude/evaluation. Thus, from the perspectives of independence and expressivity, *hitotsu* appears to exhibit the characteristics of a CI.

However, *hitotsu* also seems to possess features of a pragmatic presupposition. The event-type scale constructed by *hitotsu* typically aligns with common sense and general cultural expectations. For example, to understand the sentences in (25), one must possess cultural and customary knowledge—such as knowing that serving tea upon a guest’s arrival is the most typical and expected response. Additionally, it is necessary for both speaker and listener to share a certain degree of common ground regarding alternative, less expected events (e.g., serving a meal). In this paper, I have treated *hitotsu* as a presupposition trigger; however, it may be more accurately described as a phenomenon that combines features of both CI and pragmatic presupposition. Further investigation is warranted.

## 6 Related phenomena: The classifier-based minimizer

So far, we have discussed the scalar particle *hitotsu*. This section investigates a related phenomenon: the classifier-based minimizer. Interestingly, some one-classifier expressions can behave like *even* while still retaining their classifier status. In (28) *tsu* in *hito-tsu* functions as a classifier phrase, and *hito-tsu* is interpreted as ‘even a single’:

- (28) Sora-ni-wa kumo hito-tsu nai. (classifier)  
sky-LOC-TOP cloud one-CL<sub>thing</sub> NEG.exist  
‘There is not even a single cloud in the sky.’ (= quantity reading)

This is different from the scalar particle *hitotsu* in (29), where *hitotsu* itself is interpreted as ‘even’:

- (29) Hanako-wa okyaku-san-ni ocha-hitotsu dasa-nai. (scalar particle)  
Hanako-TOP visitor-HON-to tea-even provide-NEG  
‘Hanako does not even serve tea to her guests.’ (event-scale reading)

Sawada (2007) observes that, in some cases, sentences containing an N + one-classifier construction can be ambiguous between an event-scale reading and a quantity reading (see also Sakamoto 2002).

- (30) Taro-wa biiru ip-pai nom-e-nai.  
Taro-TOP beer one-CL<sub>cup</sub> drink-can-NEG  
Quantity reading: Taro cannot drink even [one glass]<sub>F</sub> of beer. (At-issue: Taro cannot drink one glass of beer.)  
Event-scale reading: Taro cannot even [drink beer]<sub>F</sub>. (At-issue: Taro cannot drink one glass of beer.)

Sawada (2007) claims that although the N + one-classifier minimizer has been grammaticalized to some extent as a scalar construction, its classifier function partially remains. The scalar particle *hitotsu*, on the other hand, has been declassified and reanalyzed as an independent scalar construction. There is no morphological boundary between *hito* and *tsu*, and the word *hitotsu* functions as a single scalar adverb (Sawada 2007: 171).<sup>7</sup>

Crucially, the classifier-based minimizer “N + 1-CL” is similar to the scalar particle *hitotsu* in that it must attach to a non-specific noun. As the following example shows, the demonstrative *sono* ‘that’ cannot co-occur with the noun:

<sup>7</sup> Ogawa (2022) assumes that the post-nominal classifier phrase is grammaticalized as the head of FocP, resulting from head movement from Num to Foc and the process of Upward Reanalysis. This idea is similar to Sawada’s (2007) concept of grammaticalization.

- (31) ?? Taro-wa sono biiru ip-pai nom-e-nai.  
 Taro-TOP that beer one-CL<sub>cup</sub> drink-can-NEG  
 ‘lit. Taro cannot even drink one glass of that beer.’

Let us examine each interpretation in turn. In the event-scale reading, *ip-pai* behaves similarly to the scalar particle *hitotsu*.

I argue that, just like the scalar particle *hitotsu*, the N + 1-CL minimizer in its event-scale reading contrasts with events denoted by the verb phrase (VP). Semantically, it gives rise to an anti-pied-piping configuration:

- (32) Shachoo-wa osake-o furuma-u-dokoroka ocha ip-pai  
 president-TOP alcohol-ACC serve-Non.PST-let.alone tea 1-CL<sub>cup</sub>  
 dasa-nakat-ta.  
 serve-NEG-PST  
 ‘The president didn’t even [offer a cup of tea]<sub>F</sub> to the visitors, let alone serve them alcohol.’

As shown in the example above, in the event-scale reading, quantity is not relevant to the calculation of alternatives, and comparison can be made with events that are not related to quantity. I argue that *ip-pai* behaves similarly to the scalar particle *hitotsu* ‘even’, except that it additionally restricts the first argument. Namely, *k* must be a liquid that can be counted using *pai/hai* ‘cup’. Furthermore, the at-issue component includes the information that the number of cups is greater than or equal to one.<sup>8</sup>

- (33)  $\llbracket ip-pai_{NPI.event} \rrbracket = \lambda k \lambda P \lambda x \lambda e : \forall R \in C [R \neq P(k) \rightarrow P(k)(x)(e) >_{expected} R(x)(e)].$   
 $P(k)(x)(e) \wedge \mu_{cup}(k) \geq 1$  (where  $k =$  a kind nominal  $\wedge k =$  liquid that  
 can be counted by cups  $\wedge k =$  a theme of the event predicate  $P$ )

Here, we examine *biiru ip-pai* as a specific example of an N + 1-classifier construction. However, there are various other N + 1-classifier forms, depending on the type of noun and classifier involved:

- (34) a. Taro-wa dansu-o su-ru-dokoroka [uta i-kkyoku  
 Taro-TOP dance-ACC do-Non.PST-let.alone song 1-CL<sub>song</sub>  
 uta]-e-nai.  
 sing-can-NEG  
 ‘Taro cannot even [sing a song]<sub>F</sub>, let alone [dance].’

<sup>8</sup> Here, I assume that in the at-issue component, the numeral 1 denotes “greater than or equal to 1”, so that in the corresponding negative sentence, the number is interpreted as zero.

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- b. Taro-wa tegami-o kak-u dokoroka denwa ip-pon  
Taro-wa letter-ACC write-Non.PST let.alone phone 1-CL<sub>long.thing</sub>  
yokosa-nai.  
give.me-NEG  
‘Taro doesn’t even make a phone call, let alone write a letter.’

Therefore, although it is not possible to analyze these examples in detail here due to space limitations, it should be possible to generalize (33) as  $1-\alpha_{NPI.event}$ , where  $\alpha$  represents an arbitrary classifier.

Let us now consider the quantity reading of example (30). At first glance, this reading resembles the 1-CL-*mo* construction illustrated in example (35):

- (35) Taro-wa biiru-o ip-pai-mo nom-e-nai.  
Taro-TOP beer-ACC one-CL<sub>cup</sub>-even drink-can-NEG  
‘Taro cannot drink even one glass of beer.’

However, there is a difference in both meaning and usage between the N + 1-classifier minimizer (which is the focus of our discussion) and the 1-classifier-*mo* construction. First, while the 1-classifier-*mo* construction can co-occur with a specific noun, the N + 1-classifier minimizer cannot, as illustrated in example (36):

- (36) Taro-wa sono biiru-o ip-pai-mo nom-e-nai.  
Taro-TOP that beer-ACC one-CL<sub>cup</sub>-even drink-can-NEG  
‘Taro cannot drink even [one]<sub>F</sub> glass of the beer.’

Furthermore, there is a difference between the N + 1-classifier minimizer and the 1-classifier-*mo* minimizer in terms of information structure. In response to a question concerning the quantity of the noun in question, the 1-classifier-*mo* construction can be used, whereas the N + 1-classifier minimizer cannot.

- (37) A:Taro-wa biiru-o nom-e-masu-ka?  
Taro-TOP beer-ACC drink-can-PRED.POLITE-Q  
‘Can Taro drink beer?’  
B:Iie, (Taro-wa biiru-o) ip-pai-mo nom-e-masen.  
No Taro-TOP beer-ACC one-CL<sub>cup</sub>-even drink-can-NEG.POLITE  
‘No, Taro can’t even drink one glass of beer.’  
B’:?? Iie, Taro-wa biiru ip-pai nom-e-masen.  
No Taro-TOP beer one-CL<sub>cup</sub> drink-can-NEG.POLITE  
‘No, Taro cannot even drink one glass of beer.’

On the other hand, when beer is presented as a representative example of the category “alcohol”, N plus 1-CL can be used, but 1-classifier-*mo* cannot.

- (38) A:Taro-wa osake-o nom-e-masu-ka?  
 Taro-TOP sake-ACC drink-can-PRED.POLITE-Q  
 ‘Can Taro drink beer?’  
 B:?? Iie. Taro-wa biiru-o ip-pai-mo nom-e-masen.  
 No Taro-TOP beer-ACC one-CL<sub>cup</sub>-even drink-can-NEG.POLITE  
 ‘No, he cannot even drink one glass of beer.’  
 B’:Iie. Taro-wa biiru ip-pai nom-e-masen.  
 No Taro-TOP beer one-CL<sub>cup</sub> drink-can-NEG.POLITE  
 ‘No, he can’t even one glass of beer.’

In terms of information structure, *biiru ip-pai* ‘beer 1-CL<sub>cup</sub>’ cannot be interpreted as given (i.e., discourse-old) information. The noun must refer to a kind and be non-specific. Here, I define the quantity interpretation of N *ip-pai* as follows:

- (39)  $\llbracket \text{ip-pai}_{NPI.quantity} \rrbracket = \lambda k \lambda P \lambda x \lambda e : \forall n \in C [n \neq 1 \rightarrow (P(k)(x)(e) \wedge \mu_{cup}(k) = 1) >_{expected} (P(k)(x)(e) \wedge \mu_{cup}(k) = n)]. P(k)(x)(e) \wedge \mu_{cup}(k) \geq 1$   
 (where  $k$  = a kind nominal  $\wedge k$  = liquid that can be counted by cups  $\wedge k$  = a theme of the event predicate  $P$ )

Here, I assume a lexical entry specialized for the classifier *pai/hai*. However, there are various types of one-classifier minimizers, and a more generalized definition is possible in the form 1- $\alpha_{NPI.quantity}$ , where  $\alpha$  represents an arbitrary classifier.

## 7 Note on Nakanishi’s (2006) analysis of one-classifier minimizers

Nakanishi (2006) also investigated 1-classifiers and offered important observations and insights. She notes that Japanese has three types of minimizers that utilize the 1-classifier construction. Among them, what she terms the Type 3 one NPI corresponds to the category of 1-CL minimizers currently under discussion:

- (40) a. (Type I: NP-CASE 1-CL-*mo*)  
 Alan-wa kooen-de inu-o [ip-piki]<sub>F</sub>-mo mi-nakat-ta.  
 Alan-TOP part-at dog-ACC one-CL-even see-NEG-PST  
 ‘Alan didn’t see any dogs.’  
 b. (Type II: 1-CL-GEN NP-*mo*)  
 Alan-wa kooen-de [ip-piki-no inu]<sub>F</sub>-mo mi-nakat-ta.  
 Alan-TOP park-at one-CL-GEN dog-even see-NEG-PST

‘Alan did not see any dogs.’

c. (Type III: Noun 1-CL)

Alan-wa kooen-de [inu ip-piki]<sub>F</sub> mi-nakat-ta.

Alan-TOP park-at dog one-CL see-NEG-PST

‘Alan didn’t see any dog(s) at the park.’ (Nakanishi 2006)

As Nakanishi (2006) observes, in Type 1 and Type 2 constructions, the scalar particle *mo* is obligatory. In contrast, in Type 3, *mo* is not required. In fact, as Nakanishi (2006) notes, when *mo* is placed after a 1-classifier minimizer, the resulting sentence is considered ill-formed:

(41) (Type III: Noun 1-CL with *mo*)

\*Alan-wa kooen-de [inu ip-piki]-mo mi-nakat-ta.

Alan-TOP park-at dog one-CL-even see-NEG-PST

‘Alan didn’t see any dog(s) at the park.’ (Nakanishi 2006)

As for Type III, Nakanishi (2006) posits a covert sentential operator EVEN, which takes scope over the entire proposition, based on scope theory.<sup>9</sup> Below are the semantic analyses of the sentences in (40) as proposed by Nakanishi (2006):

(42) (Type I)(=40a)

a. LF: even C [ not [ Alan saw [one]<sub>F</sub> dog ] ]

b.  $\llbracket \text{even} \rrbracket (C)(p)$ , where  $p = \lambda w. \neg \exists x [\text{one}(x) \wedge \text{dog}(x) \wedge \text{see}(a, x, w)]$  and  $C \subseteq \{q : \exists P [q = \lambda w. \neg \exists x [P(x) \wedge \text{dog}(x) \wedge \text{see}(a, x, w)]]\}$

c. E.g. C = {that Alan didn’t see one dog, that Alan didn’t see two dogs, ..., that Alan didn’t see n dogs}

d.  $\forall q \in C [q \neq \lambda w. \neg \exists x [\text{one}(x) \wedge \text{dog}(x) \wedge \text{see}(a, x, w)]] \rightarrow q >_{\text{likely}} \lambda w. \neg \exists [\text{one}(x) \wedge \text{dog}(x) \wedge \text{see}(a, x, w)]$  (Nakanishi 2006)

(43) (Type II (=40b)/Type III (=40c))

a. LF: even C [ not [ Alan saw [one dog]<sub>F</sub> ] ]

b.  $\llbracket \text{even} \rrbracket (C)(p)$ , where  $p = \lambda w. \neg \exists x [\text{one}(x) \wedge \text{dog}(x) \wedge \text{see}(a, x, w)]$  and  $C \subseteq \{q : \exists P [q = \lambda w. \neg \exists x [P(x) \wedge \text{dog}(x) \wedge \text{see}(a, x, w)]]\}$

c. E.g. C = {that Alan didn’t see one dog, that Alan didn’t see two dogs, ..., that Alan didn’t see n dogs

that Alan didn’t see one cat, ..., that Alan didn’t see n cats,

that Alan didn’t see one rabbit, ..., that Alan didn’t see n rabbits }

<sup>9</sup> Following Nakanishi (2006), Ochi (2016) assumes that the postnominal classifier phrase (1-CL) contains a null focus head and provides a syntactic account.

- d.  $\forall q \in C [q \neq \lambda w. \neg \exists x [\text{one}(x) \wedge \text{dog}(x) \wedge \text{see}(a, x, w)] \rightarrow q >_{\text{likely}} \lambda w. \neg \exists [\text{one}(x) \wedge \text{dog}(x) \wedge \text{see}(a, x, w)]]$  (Nakanishi 2006)

A relevant point here is that in Type 3, Nakanishi (2006) assumes that there is focus on *inu ip-piki* [dog one-CL] ‘one dog’, which can trigger a set of alternatives consisting of animals (e.g., cat, rabbit) whose cardinalities are greater than or equal to one (i.e., {one dog, two dogs, one cat, two cats}). Nakanishi’s analysis aligns with mine regarding the event-scale reading of the 1-CL minimizer, in that in (40c), the focus is not placed on the numeral. Instead, it assumes a set of alternatives consisting of animals other than dogs. However, her analysis places the focus on the [N 1-CL] constituent. This contrasts with my analysis of the event-scale reading, in which the focus is placed on the VP. (44) contrasts the act of singing with other contextually determined acts, such as performing or narrating stories.

- (44) Hanako-wa joyuu-nanoni uta ik-kyoku uta-e-nai.  
 Hanako-TOP actress-despite song one-CL<sub>song</sub> sing-can-NEG  
 ‘Hanako can’t even [sing a song]<sub>F</sub> despite being an actress.’ (At-issue: Hanako cannot sing one song. Non-at-issue: The event of Hanako singing a song is more expected than other events.)

As for (40c), Nakanishi (2006) assumes that the verbs in the set of alternatives all relate to the verb *mi-ru* ‘see’. This is presumably because the sentence describes Alan’s observation of a situation in the park. From a pragmatic perspective, since the sentence centers on Alan’s act of observation, it is difficult to imagine events involving verbs other than *mi-ru* ‘see’. It is possible that (40c) represents a special case in which the verb is shared between the focus and its alternatives.

## 8 Varieties of EVEN expressions

Finally, let us consider the diversity of scalar particles from a broader perspective. In studies on the semantics of EVEN, various approaches have been proposed, but they tend to assume that EVEN functions as a sentential operator. For example, under the scope-based unitary approach (e.g., Karttunen & Peters 1979; Wilkinson 1996; Nakanishi 2006), EVEN takes wide scope over negation and interprets the resulting negative proposition as the least likely (or least expected) among the alternatives. By contrast, the so-called lexical ambiguity theory (e.g., Rooth 1985; Rullmann 1997) posits that, in addition to the positive EVEN, there exists an NPI EVEN that appears below negation. It is typically assumed that this NPI EVEN takes scope over the affirmative proposition and interprets it as the most likely (or most expected) among the alternatives:

- (45) (LF structure of “John did not invite even [Bill]<sub>F</sub>.”)

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- a. EVEN [NOT [John invited [Bill]<sub>F</sub> ] ]
- b. NOT [EVEN<sub>NPI</sub> [John invited [Bill]<sub>F</sub> ] ]

In both approaches, EVEN is considered an operator that takes a proposition as its argument.<sup>10</sup> Since the scalar particle *hitotsu* restricts the type of nominal argument, neither approach fits the phenomenon of *hitotsu*.

Furthermore, [Branan & Erlewine’s \(2023\)](#) operator-particle approach to the anti-piped-piping configuration of focus does not seem to fit the phenomenon of *hitotsu*. [Branan & Erlewine \(2023\)](#) analyze the pseudo-English sentence *Peter read only Hamlet*, meaning “Peter only [read Hamlet]<sub>F</sub>”, as in (46), and argue that the presence of the particle (PRT) itself is semantically inert and serves only to morphologically indicate the presence of the corresponding operator OP that is interpreted (MSF = Morphosyntactic Responses to Focus).

- (46) Peter<sub>i</sub> OP<sub>only</sub> [<sub>VP</sub> *t<sub>i</sub>* [<sub>VP</sub> read [PRT<sub>only</sub> [Hamlet]<sub>MSF</sub> ] ] F ]  
([Branan & Erlewine 2023](#))

Since the scalar particle *hitotsu* imposes a semantic restriction on the type of nominal argument it morphologically attaches to, we cannot assume the presence of a covert sentential operator at a higher level that governs the meaning and distribution of *hitotsu*.

## 9 Conclusion

This paper has explored the meaning and distribution of the scalar particle *hitotsu*, demonstrating that it is sensitive to event kinds and serves to create contrast among events typically expressed by verb phrases. Theoretically, I have argued that the behavior of the scalar particle *hitotsu* can be effectively accounted for through the notion of pseudo-incorporation (e.g., [Carlson 2003](#); [Gehrke 2019](#)). Furthermore, I have examined the similarities and differences between *hitotsu* and the N 1-classifier minimizer. I demonstrated that while the N + 1-classifier minimizer retains its classifier function, it exhibits a comparable tendency toward VP focus and pseudo-incorporation in its event-scale interpretation. This paper suggests that not all EVEN items operate at the sentential level. I hope it offers a new perspective on the variation in meaning and distributional patterns of EVEN items. In this paper, I focused solely on Japanese data, and a cross-linguistic investigation into the relationship between focus and pseudo-incorporation, as well as the relationship between classifiers and focus, would be necessary.

<sup>10</sup> In [Giannakidou 2007](#), Greek EVEN items that attach to nouns are analyzed as non-propositional operators.

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