

Semantic incorporation in English singular indefinites

Abstract

In this paper, we introduce a class of exceptionally narrow-scoping singular indefinites in English (e.g., “John drove *a car* for several years before switching to a truck”), which pattern more closely with what have been termed “weak definites” in the literature (e.g., Poesio 1994, Carlson et al. 2006) than with regular indefinites. While the existence of such exceptional “weak” indefinites has been previously anticipated by Klein et al. (2013), the category is difficult to distinguish from simple narrow-scoped singular indefinites in most contexts. Here, we argue that there is one environment where weak indefinites can be distinctively identified: namely, when they appear with *for*-adverbials. We sketch a concrete implementation of a semantic incorporation-based account for such indefinites, bringing them analytically in line with incorporation analyses of weak definites, building closely on the ideas in Dayal (2011). We further briefly discuss how the proposed analysis adjudicates between two competing analyses for *for*-adverbials, one which assumes that *for* encodes a universal quantifier (e.g., Deo & Piñango 2011) and another which takes *for* to be non-quantificational (e.g., Champollion 2013, 2016), in favor of the latter view.

1. Introduction

In this paper, we introduce and examine a class of exceptionally narrow-scoping singular indefinites in English, an example of which is shown in (1a). These indefinites are crucially unlike their more regular counterparts in (1b), which do not receive covarying readings with *for*-adverbials. Instead, they seem closer to what have been termed *weak definites* in the literature (e.g., Poesio 1994, Aguilar-Guevara 2014, Carlson et al. 2006, Klein et al. 2013, Schwarz 2014) – represented in (2a), where the nominal *the bus* does not imply uniqueness of the described object, despite the presence of definite article *the*.

(1) a. John saw **a therapist** for many years (for his anxiety).

→ may have switched therapists one or more times

b. John hated **a therapist** for many years.

→ unique therapist

(2) a. John rode **the bus** to work every day (for years).

→ possibly different bus each day

b. John repaired **the bus** everyday.

→ unique bus

Following a suggestion by Klein et al. (2013), we take the existence of indefinites like in (1a) to support an analysis of the nominals in both (1a) and (2a) as instances of semantic incorporation, despite being DPs (see also Schwarz 2014). An incorporation analysis is shown to be independently supported by the empirical behavior of these novel indefinites. We sketch one concrete implementation of such an account, building closely on Dayal (2011), and not only discuss how it explains the exceptionally narrow-scoping behavior of indefinites like in (1a), but also that it can help adjudicate between two competing views on *for*-adverbials – one which assumes that *for* encodes a universal quantifier (e.g., Deo & Piñango 2011) and another which takes *for* to be non-quantificational (e.g., Champollion 2013, 2016) – in favor of the latter view. We close with a consideration of some pressing open issues in the study of semantically incorporated DPs in English.

2. Novel data: Exceptionally narrow-scoping English singular indefinites with “for”-adverbials

A well-accepted generalization pertaining to English *for*-adverbials in the literature is that singular indefinites appearing with them are typically not compatible with narrow-scope or covarying readings (e.g., Zucchi &

White 2001, Kratzer 2007, Champollion 2010). For instance, (3) necessarily conveys that John found the *same* flea over and over again, despite the implausibility of such an event. (See also (1b) above.)¹

(3) John found **a flea** on his dog for months. (same flea each time)

In a few cases like (4), adapted from Deo & Piñango (2011), a covarying reading of the indefinite has been noted to be possible, but is thought to come about only due to the availability of the additional contextual/world knowledge-based cue that snowmen are built at regular intervals – namely, during the winter of each year.

(4) The children built **a snowman** in the yard for many years. (different snowman each winter)

Proposed accounts for (3)-(4) differ in their explanation for why covarying readings of singular indefinites are generally disallowed with *for*-adverbials, and how being able to infer a regular interval based on salient world knowledge helps support them. In Champollion’s (2013) non-quantificational view of *for*-adverbials where non-covarying readings are the expected norm, common knowledge about when snowmen are built in (8) leads one to infer a covert distributive operator situated above the VP, perhaps paraphrasable as *every winter*, which introduces a universal quantifier. The singular indefinite scopes under this operator, leading to the expected non-singular, covarying reading. However, in the absence of a contextually salient interval, or “cover” (following Schwarzschild 1996) – like in (3) – such an operator cannot be inferred, leaving the pragmatically implausible wide-scope reading of the indefinite as the only available one.

By contrast, Deo & Piñango (2011) take the *for*-adverbial to itself encode a universal quantifier over a “regular partition”, returning true if each element of the partition overlaps with an occurrence of the VP event. A regular partition is defined as a set of equal-sized, mutually exclusive sub-intervals that exhaustively span a larger interval. When the sub-intervals are of infinitesimal lengths (i.e., in cases where the event is known to overlap with every instant of the larger interval), we get a durative reading of the (singular) event. When they are contextually inferable, non-infinitesimal intervals, like in (4), an iterative interpretation of the event can arise. In the absence of contextual support allowing a reasonable inference of (infinitesimal or non-infinitesimal) regular partitions, neither the durative nor iterative reading is available, explaining the oddness of (3). Either way, what is presently important to us is only the stated empirical generalization regarding covarying readings of singular indefinites with (iterative) *for*-adverbials: *such readings are *not* obtained, unless regular-sized intervals demarcating each occurrence of the event can be contextually inferred.*

The key novel empirical observation in this paper is that in certain occurrences of English singular indefinites, like in (5)-(12) below, covarying interpretations of the highlighted indefinites are available despite the absence of any contextual or world knowledge supporting the inference of regular intervals. In (5), for instance, the modifying adjunct indicates that the speaker has used more than one smartphone over the years, despite presence of a singular indefinite in the matrix clause. The length of intervals for which they used each phone is irrelevant to the truth of (5), and indeed no regular intervals can be inferred. In this, (5) is crucially unlike (4). Similarly, it is irrelevant in (6) whether it was one or more than one car that was driven, and at what intervals each car was driven. Given the average pet lifespan, the indefinite in (7) clearly refers to more than one pet, possibly owned over time intervals of different lengths – but again, these temporal details are irrelevant to what is being conveyed. The continuations in (8) and (9) make it

¹ The facts are different however in the case of bare plural indefinites like (i), where covarying readings are always available with *for*-adverbials, so that John found different (sets of) fleas each time he looked over the course of months.

(i) John found fleas on his dog for months.

In exhibiting this property, English bare plurals pattern with the exceptionally narrow-scoping English singular indefinites introduced in (5)-(12) in the main text. However, we do not wish to subsume the two types of nominals under a single incorporation-based analysis, given that they differ from each other in other important ways. We revisit this point in Section 5.

clear that multiple boats were owned and therapists seen, despite the singular indefinite, though it isn't clear for how long each boat was owned, or at what intervals therapists were seen. In (10) and (11), it is understood that possibly different cars were driven and laptops used as and when needed, and not at any inferable fixed intervals. Finally, in (12), it is clear that the speaker worked at more than one office over a span of years, though what isn't clear is how often they worked at each office, or when the shift from one office to the other was made.²

(5) I've used **a smartphone** for many years now, the first one being the Nokia 7650 back in 2002.
(<https://blogs.windows.com/devices/2011/06/13/five-days-with-an-s40-phone-day-one/>)

(6) If you are a new driver aged 20 or older, you can still expect to pay more for car insurance than someone of the same age who has driven **a car** for several years.
(<http://www.wholekitchen.info/what-age-does-car-insurance-go-down/>)

(7) This includes one-third of cat owners who have owned **a pet** for 35 years or more over the course of their lifetime. (<https://faunalytics.org/wp-content/uploads/2015/05/Citation380.pdf>)

(8) We have owned **a boat** for years, our older boats had so many issues I got stranded on the lake 4 times in one summer. After that, we sold it and bought a newer model with only 30 hours.
(<http://discussions.texasbowhunter.com/showthread.php?t=718742>)

(9) She has been seeing **a therapist** for a few years now due to behavior issues. She started off seeing a therapist in the office, but she wouldn't open up, tried a few different therapists before they referred us to a home/school based therapist group.

(10) Jill drove **a car** for years, first a Mazda and then a Honda, before switching to a truck for good.

(11) I have used **a laptop** for years. Currently, I have an ASUS which I love. My daughter has my "old" ASUS (which is about 3 years old now) [...] Prior to my "old" ASUS, I had an HP.
(<https://silo.tips/download/anyone-using-just-a-laptop-in-their-office>)

(12) I've worked in **an office** for years, first in New York and then in Baltimore.
(<https://victinerary.com/nomadvic-blog/2021/9/8/fresh-start-in-cincinnati>)

To reiterate, the availability of covarying readings of the singular indefinites in the above examples (5)-(12) is neither directly anticipated by Deo & Piñango's (2011) account of *for*-adverbials – as a non-infinitesimal regular partition cannot be inferred from context, nor by Champollion (2013) – as a contextually salient cover that can license a covert distributive operator at the VP level is not available. We suggest that the key to such exceptional behavior of (5)-(12) is to be found in the nature of the indefinites themselves: that is, there must be something distinctive about the singular indefinites in these sentences that allows them to bypass the usual restrictions holding of their more regular counterparts with *for*-adverbials. Specifically, we develop the idea that the singular indefinites in (5)-(12) – unlike those in other regular contexts considered by Deo & Piñango (2011) or Champollion (2013) – are instances of *semantic incorporation*, and discuss how such a view helps explain their exceptional covarying behavior with *for*-adverbials.

3. A semantic incorporation-based account of the exceptionally narrow-scoping indefinites

In this section, we take a closer look at some properties of the exceptionally narrow-scoping English singular indefinites introduced in (5)-(12), aside from the fact that they receive covarying readings with *for*-adverbials even in the absence of contextually supported regular intervals. In particular, we observe that

² To the best of our knowledge, the only other place where such data have been noted is Dayal (2011), footnote #30. She presents examples like "John smoked a pipe for twenty years" and "John drove a car for many years", originally attributed to Kratzer (p.c. with Dayal), which don't lead respectively to the inference that John smoked only one pipe or drove only one car. Dayal does not analyze these data; instead, the exceedingly few such instances from English are only noted in contrast to Hindi where inanimate bare singulars, by virtue of being incorporated, are much more productively amenable to covarying readings.

many of their properties resemble those of semantically incorporated nominals across languages. A similar observation has also been made of English *weak definites* in the recent literature (e.g., Schwarz 2014, Klein et al. 2013), such as (2a), with Klein et al. (2013) exactly predicting the existence of counterpart *weak indefinites* and proposing to extend to them a similar incorporation analysis.³ Here, we take this idea seriously and examine whether an incorporation analysis for the indefinites in (5)-(12) could indeed be suitable. We begin first with a general overview of semantic incorporation.

3.1 A brief overview of semantic incorporation

Incorporation of *determinerless* bare nominal objects is a cross-linguistically well-attested phenomenon, in which the incorporated object has a closer-than-usual relationship to the verb it appears with. While initially construed as a process of morpho-syntactic fusion of the nominal with the verb, incorporation is now more commonly identified as exemplifying a set of characteristic semantic properties (often in addition to morpho-syntactic markers such as the absence of overt case-marking/determiners). This change has been driven at least in part by the identification of *pseudo-incorporated* nominals (e.g., Massam 2001, Dayal 2011), where the incorporated element is a full NP rather than an N, can stand alone independently of the verb, and may in some cases even permit modification or scrambling away from the verb.

The core semantic properties of (pseudo-)incorporated objects include obligatory narrow scope, compatibility with non-singular co-varying or *number-neutral* interpretations in atelic contexts despite lack of plural morphology, and stereotypicality/well-establishedness, or *name-worthiness* (Mithun 1984), of the activity denoted by the verb + incorporated nominal. Many of these properties are instantiated in the Hindi sentences in (13), closely adapted from Dayal (2011), containing the incorporated nominal *laRkii* ('girl') which appears without accusative case-marking otherwise required on non-incorporated, animate nominals in the language. *laRkii dekhna* ('girl-seeing') in (13a) is a type of culturally familiar, *name-worthy* activity among Hindi speakers, wherein family members look for a bride(groom) for their children. Such name-worthiness is essential to allow incorporation.⁴ If we replace the verb in (13) with another that does not express a name-worthy activity, like in (14), the nominal is no longer understood to be incorporated, as seen from the fact that it is now not allowed to appear without overt accusative case.

In (13a), it is further understood that Anu is probably looking at multiple girls in her quest to find her son a suitable one, despite the singular morphology on the nominal. The incorporated nominal is an NP rather than N, given its compatibility with (limited) typical modifiers (13b), and its ability to scramble away from the verb (13c).

- (13) a. Anu apne beTe ke-liye **laRkii** dekh rahii hai.
 Anu her son for girl look PROG be-PRS
 "Anu is looking at girls (prospective brides) for her son to marry." (Dayal 2011; ex. 22b)
- b. Anu apne beTe ke-liye **paRhii.likhii laRkii** dekh rahii hai.
 Anu her son for educated girl look PROG be-PRS
 "Anu is looking at educated girl(s) for her son to marry." (Dayal 2011; similar to 26b)
- c. Anu apne beTe ke-liye **laRkii** nahin dekh rahii hai.
 Anu her son for girl NEG look PROG be-PRES
 "Anu is not looking at girl(s) for her son to marry." (Dayal 2011; similar to 28a)
- (14) Anu ***laRkii/laRkii-ko** sulaa rahii hai.
 Anu girl/girl-ACC sleep.make PROG be-PRES
 "Anu is putting the girl to sleep." (Dayal 2011; similar to 21b)

³ It is worth noting that many of the examples in (5)-(12) fall into the category of chore/routine/hobby nouns, noted by Klein et al. (2013) as one canonical type of contexts that support weak (in)definite interpretations.

⁴ Though note that while some version of *name-worthiness* is empirically well-established as necessary for nominal incorporation across languages, the exact bounds of what counts as name-worthy are not well understood and vary considerably.

One consequence of re-imagining incorporation as a phenomenon characterized by semantic rather than purely morphological properties, and moreover as one where the incorporated element may be larger than just the nominal head, is that it now allows the possibility of incorporated nominals even in a language like English, where singular nouns are typically accompanied by overt determiners. Indeed, at least one type of English DP has already been claimed an instance of semantic incorporation: namely, *weak definites* like in (2a), discussed in Section 3.2.⁵

3.2 English *weak definites* as instances of semantic incorporation

Some uses of English *the* in direct object positions, like in (2a), do not presuppose uniqueness of the described referent, unlike more regular uses of the definite article like in (2b) – repeated as (15a) and (15b) respectively. Instead, in (19a), *the bus* scopes exceptionally under the quantificational phrase *every day*, allowing for an uncharacteristically covarying interpretation of the nominal containing the definite article. Such uses have been termed *weak definites*, and observed to have a severely limited distribution, appearing only within predicates that are plausibly *name-worthy*, similar to what we noted above for semantically incorporated objects in Hindi. For instance, while riding a bus can qualify as a culturally familiar, name-worthy activity to English speakers, repairing a bus does not. Accordingly, weak definite interpretation is allowed in (15a) but not (15b). Weak interpretations are also unavailable with nominal modifiers making the event type atypical, as in (15c), where riding a broken bus does not count as a name-worthy activity. Similarly to the Hindi examples in (13), (15a) is compatible with John having taken more than one bus on his way to work – perhaps a different one each day, or even a change of bus on a single day – despite singular morphology on the nominal.

- (15)a. John rode **the bus** to work every day.
 → possibly different bus each day
- b. John repaired **the bus** everyday.
 → unique bus gets repaired everyday
- c. John rode **the broken bus** to work everyday.
 → unique broken bus

Given such sensitivity to the nature of the verbal predicate, propensity to appear in object rather than subject positions, as well as compatibility with co-varying or *number-neutral* readings, one type of analysis recently proposed for weak definites groups them along with semantically incorporated nominals in other languages (e.g., Schwarz 2014, Klein et al. 2013, Carlson et al. 2014).⁶ Under the specific implementation

⁵ Another type of nominals in English that are candidates for an incorporation-based analysis are the bare singulars like in (i); see Stvan (1998, 2007) for detailed discussion of English bare singular nominals. Given the lack of overt determiners, it is plausible that these are NPs/Ns, rather than DPs. In this article, we restrict our focus to nominals with overt determiners, thus DPs, but which nonetheless exhibit properties akin to incorporated nominals.

(i) Bill is in **prison**.

McKenzie (2021) also notes constructions like *hand-wash*, *pan-fry*, and *window-shop* where the indirect nominal is claimed to be incorporated, and somewhat less frequently – cases like *world-build*, where the incorporated nominal is the direct object. These too will not be our focus here, given that they aren't DPs, and therefore more plausibly instances of canonical rather than pseudo-incorporation. It is worth noting that neither bare singulars nor compounding completely overlap with the weak (in)definites that are the topic of this article. In particular, as a reviewer points out, compounding in English seems altogether more productive than weak singular indefinites. We revisit this point, and some potential reasons for why it should be so, in Section 5.

⁶ Though the English *weak definites* resemble pseudo-incorporated bare nominals in languages like Hindi in many of their properties, we cannot expect full parallelism in exactly which nominals are incorporated between the two languages. For instance, all instances of inanimate bare singular objects in Hindi without overt case-marking show properties of semantic incorporation, but this is clearly not the case in English (e.g., the nominal in *read the book* does not receive a weak definite reading). Though we do not have a conclusive answer for why such discrepancies must exist, they are likely to be a result of idiosyncratic variation in what

of this idea discussed in Klein et al. (2013), semantic composition relies only on the meanings of the verbal and nominal predicates – *ride* and *bus* in (1) – but not the article itself. As such, it is predicted that English DP-incorporation should not be restricted to definite nominals alone. Specifically: we should see analogous *weak indefinites*, containing indefinite article *a*.⁷

Consistent with this expectation, Klein et al. (2013), in the course of a detailed study of weak definites, report experimental evidence suggesting that singular indefinites in weak-definite-permitting contexts like (15a), and (16a) below, pattern with weak definites (16b), rather than regular indefinites (16c). For instance, in (16a)-(16b), *go to a/the hospital* was found to be more likely to be interpreted as describing a scenario instantiating the *name-worthy* meaning of the VP, where the FedEx driver went to the hospital to get his health checked – and NOT to make a delivery. By contrast, in (16c), it is more likely that the driver went to the farm to make a delivery (and not to carry out a farming-related activity).

- (16) a. The FedEx driver had to go to **a hospital**.
b. The FedEx driver had to go to **the hospital**.
c. The FedEx driver had to go to **a farm**.

However, such experimental evidence notwithstanding, Klein et al. also note the difficulty in finding introspective evidence for incorporated *weak indefinites*, since the ability to take narrow scope is not specific to these instances alone, but is instead a general property of regular indefinites in English. That is, given the English indefinite article’s general compatibility with narrow-scope interpretations, the mere availability of such readings is not informative about whether they are “weak” in any real sense – unlike in the case of weak definites which do not allow narrow-scope readings at all in regular contexts. For example, it is not possible to claim simply by looking at it that the co-varying reading of *a bus* in (17) indicates it is “weak”, since this is exactly what we would expect from a regular indefinite that scopes under the quantificational adverbial *every day*.⁸

- (17) John rode **a bus** to work every day.

Instead, maintaining the parallel with weak definites, what seems to be needed in order to identify truly exceptionally narrow-scoping indefinites is an environment that does not typically allow for narrow-scope, covarying interpretations of indefinite nominals in English – save perhaps in certain special cases, which may then be understood to correspond to genuine instances of *weak indefinites*. In Section 2, we have observed that English *for*-adverbials instantiate exactly such an environment. Accordingly, we now suggest that certain indefinites appearing with *for*-adverbials, as in (5)-(12), are exactly cases where semantically incorporated *weak indefinites* in the sense of Klein et al. may be identified introspectively. These cases certainly seem to exhibit the canonical properties expected of incorporated nominals, as we discuss below.

3.3 *Weak indefinites as instances of semantic incorporation*

We have already noted how the singular indefinites in (5)-(12) receive exceptionally narrow-scoping, covarying interpretations with *for*-adverbials, patterning distinctly in this regard from more regular occurrences

counts as *name-worthy* across languages, along with pseudo-incorporation perhaps being generally more productive with NPs than DPs. Thanks to a reviewer for urging us to explicitly acknowledge this point.

⁷ Other accounts of weak definites which analyze them as generics (e.g., Aguilar-Guevara 2014, Schwarz 2014) would also be consistent with the existence of *weak indefinites*, since English singular indefinites can have generic readings. However, only Klein et al. (2013) make the explicit prediction that incorporated/weak indefinites exist in English in what we argue is an empirically distinguishable way. As such, we focus on Klein et al.’s view here, leaving open the question of how the incorporation account for weak (in)definites relates to the generic account. We note that Aguilar-Guevara and Zwarts (2010)’s Kind-Lifting rule used for weak definite objects is tantalizingly similar to the van Geenhoven (1998)-inspired incorporation rule used for incorporated weak indefinites below, as is their notion of “stereotypicality” to the *name-worthiness* of incorporated constructions, but a full comparison will need to wait for another day.

⁸ Relatedly, Carlson (2003) suggests that all narrow-scope indefinites are incorporated, or VP-internal, unlike other presuppositional nominals positioned VP-externally. We don’t assume this here, instead taking “weak indefinites” (1a) to be distinct from regular, narrow-scoped indefinites (1b). The noted interpretive contrast between them would seem to justify such a separation.

of singular indefinites in English, but similarly to nominals that are claimed to be semantically incorporated in other languages. It may further be observed that such exceptional narrow-scoping behavior is sensitive to the *name-worthiness* of the denoted activity. These effects vanish on adding atypical modifiers affecting the name-worthiness of the described activity, as illustrated in (18)-(20).

- (18) John saw **an accomplished therapist** for years (for his anxiety). (unique therapist)
 (19) I have used **a broken smartphone** for as long as I can remember. (unique phone)
 (20) I have driven **an expensive red car** for years. (unique car)

By contrast, the contextual-interval example in (4) is not similarly sensitive to name-worthiness, as seen from its variant in (21), lending support to our view that the source of covariation is different between them.

- (21) We built **a huge snowman** in our yard for many years. (one snowman per winter)

Covarying readings of the indefinite in (5)-(12) can also be altered by changing the verb, so that it is once again no longer part of a name-worthy activity:

- (22) Beth repaired **a smartphone** for years (#, both iPhone and Android).
 (23) Naomi dated **a therapist** for several years (#, both young and old).
 (24) #We have sold **a boat** for many years, in all price ranges.

Additionally, notice that exceptionally narrow-scoping *weak indefinites* typically occur in direct object positions in English – much like the weak definites, rather than in subject positions. This is true of all the examples in (5)-(12). Moreover, in cases like (25)-(26) where the indefinite appears in the subject position, covarying readings are not obtained – despite the name-worthiness of these activities. Such a subject-object asymmetry is characteristic of semantically incorporated nominals in the crosslinguistic literature (van Geenhoven 1998, Dayal 2011, Aguilar-Guevara 2014 *i.a.*)⁹

- (25) **A therapist** treated John for years to help him cope with his anxiety. (unique therapist)
 (26) **A car** was driven by Bill for years before he switched to a truck. (unique car)

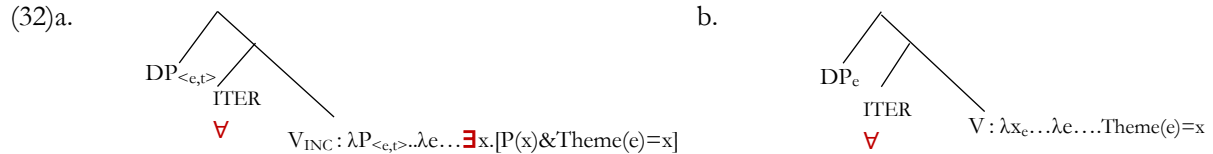
Once again, such an asymmetry does not seem to exist in variants of (4), where covariation of the indefinite is driven solely by the presence of a contextually salient cover, regardless of grammatical position: see (27).

- (27) **A snowman** was built in the yard for many years. (one snowman per winter)

Thus, in their sensitivity to name-worthiness, in allowing for number-neutral, covarying readings in atelic contexts (even in the absence of a contextually-determined cover), and in being productive in object rather than subject positions, the singular indefinites in (5)-(12) behave like semantically (pseudo-)incorporated nominals in languages like Hindi, and also like their English weak definite counterparts, but crucially unlike regular indefinites in English. In light of these observations, it seems reasonable to attempt an

⁹ Though semantically incorporated nominals in subject positions are exceedingly rare (and seemingly non-existent at least in English), it should be noted that they are not entirely non-existent across languages. Their existence is problematic for many incorporation accounts, including Dayal 2011, which we adapt in our analysis of the English weak singular indefinites in Section 4. Note however that this is not the only analysis of incorporation that is suitable for explaining the co-varying readings obtained with “weak” indefinites. Just about any alternative will do, as long as it is ensured that the argument represented by the incorporated weak indefinite nominal is bound prior to composition with ITER; e.g., Schwarz (2014) and Srinivas (2021). At least some of these alternative possibilities do anticipate incorporated nominals in subject positions as well.

The nominal argument, whether incorporated or otherwise, is merged after ITER has already applied. The key to the covarying readings of the incorporated nominals in (5)-(12) is that the internal Theme argument is bound within the verb denotation, so that the existence of a P-object is independently posited in each sub-event e and e' . The universal quantifier introduced by ITER scopes above the existential quantifier(s) binding the internal argument in $\text{see}_{\text{INC-V}}$. By contrast, with non-incorporating verbs like in (3), the Theme is not existentially bound within the verb denotation; so ITER doesn't scope above it – thus precluding covarying readings. (32a) below represents the LF for incorporated constructions like (5)-(12), (32b) for non-incorporated ones like (3).¹⁰



The assumption of a covert ITER is consistent with a measure-functional analysis of the *for*-adverbial as in Kratzer (2007) or Champollion (2013, 2016), wherein the adverb does not itself encode universal quantification. In fact, Champollion (2013) explicitly discusses iterativity in examples like (3) as arising due to ITER (though his definition of ITER differs from ours). The low-scoping ITER in (3) is claimed to be distinct from the VP-level covert distributive operator in (4), licensed via support from world-knowledge – so that non-incorporated indefinites (DP_e in 32b, *a flea* in 3) can scope below the VP-level operator but not V-level ITER. One indication that ITER is separate from the VP-level operator, discussed in Champollion (2013), is that sentences like (4) – involving the VP-level operator and requiring regular intervals to be contextually inferred – are associated with higher processing costs than sentences like (3), or (33) below, containing ITER alone, which can be interpreted iteratively even without contextual support (which are in turn are costlier to process than durative sentences without any covert operators; see Deo & Piñango 2011 for a discussion of psycholinguistic studies supporting this latter result). The existence of (5)-(12), where singular indefinites covary even in the absence of contextually inferable regular intervals can be viewed as additional support towards the separation of these two operators.

(33) John found fleas on his dog for a month.

On the other hand, the use of ITER here is less compatible with a universal quantifier view of the *for*-adverbial, like in Deo & Piñango (2011). In their account, given that *for* itself is able to induce iterativity just as long as a non-infinitesimal regular partition can be contextually inferred, there is no need to further posit either a covert VP-level distributive operator requiring contextual support, or a covert V-level ITER. In fact, these authors explicitly reject the existence of covert ITER as an explanation for processing cost in iterative utterances over durative ones, and appeal instead to the additional effort needed to infer the identity of the regular partition. However, as we argued in Section 4, (5)-(12) don't have readings that can be accounted for by inferring a regular partition made up of non-infinitesimal sub-intervals, making the covarying readings of the indefinite fully unexpected under this view regardless of its incorporation status.¹¹

That being said, it may yet be possible to rescue an account like Deo & Piñango's by redefining the nature of the partitions over which the quantificational *for*-adverbial is allowed to scope, though it is presently unclear to us how exactly to implement such a move. The general idea would be this: (5)-(12) do not work with Deo & Piñango's account as it stands because the repeated intervals involved are not regular

¹⁰ Note that we would need a slightly modified version of ITER to deal with the non-semantically incorporated (32b), where the second argument to ITER is of type e instead of $\langle e,t \rangle$. This is exactly similar to Dayal (2011), who assumes a different ITER for incorporating verbs *vs.* elsewhere.

¹¹ Per Deo & Piñango, iterative readings are *only* obtained in the presence of an inferable regular partition, making not only such readings in (5)-(12) puzzling (even aside from covariation of indefinites), but also their availability with bare plurals like in (33) surprising, as discussed in Champollion (2013).

in terms of their temporal structure, but perhaps the notion of “regularity” could be generalized to one that encompasses habituality/repetitiveness or even *name-worthiness* of the VP event.

Another possibility in a similar vein stems from the observation that at least some of the examples in (5)-(12) lend themselves to a durative rather than iterative interpretation – for instance, (7)-(8), involving the state of *owning* something – so that the sub-intervals making up the regular partition can simply be assumed to be of infinitesimal length, with each sub-interval coinciding with an *owning* state, thereby precluding the need for a contextually-inferable set of non-infinitesimal intervals responsible for an iterative reading. The infinitesimal sub-intervals are bound (as usual) by the universal quantifier under Deo & Piñango’s (2011) account, which scopes above the indefinite nominal, leading to conditions under which covariation can potentially arise. Similar durative readings are not immediately possible with the other examples containing more eventive predicates – for instance, seeing a therapist (9) or driving a car (10) – since these events surely do not overlap with every infinitesimal sub-interval spanning the time indicated in the *for*-adverbial, but it could be worth exploring whether *name-worthiness* can somehow coerce a stative interpretation of these predicates, so that they are understood to hold at all points of a fixed interval, thereby licensing infinitesimal sub-interval lengths.

This story sounds promising as stated so far, but several considerations come together to make it on the whole implausible. First, it is not obvious to us how or why *name-worthiness* of a predicate could by itself serve to enable a stative interpretation of squarely eventive predicates like *see* or *drive*. Moreover, positing *name-worthiness* as a factor relevant to the interpretation of *for*-adverbials would directly point towards the question of whether these data should receive an incorporation analysis after all, somehow integrated with the quantificational account of *for*-adverbials. That is, more would need to be said about what it means for the semantics of *for*-adverbials to be sensitive to a property like *name-worthiness* so established with nominal incorporation. Second, covariation is likely to be independently ruled out even if such stative re-interpretation can be achieved to license infinitesimal sub-intervals, since it would violate Krifka’s (1998) *Uniqueness of participants* rule, which informally states that one and the same event that stretches out in time cannot have different participants. This rule is also invoked by Deo & Piñango (2011) to explain why narrow-scope, covarying readings of the indefinite are not available in sentences that convey durative readings of telic events (e.g., *John pushed a cart for an hour* necessarily describes a situation where John pushed a single cart for an hour). What Deo & Piñango conclude, instead, is that “narrow scope is possible only when the partition measure assumes a contextually-determined non-infinitesimal value.”¹²

Finally, we would also need an independent explanation for why a covarying reading of the singular indefinite does not naturally arise in (1b), despite *hate* being a stative predicate. Thus, all else being equal and pending much further investigation, we take (5)-(12) to more straightforwardly support a non-quantificational, Champollion-esque view of *for*-adverbials, compatible with a very low-scoping ITER.

5. Remaining issues: Situating weak (in)definites in relation to other narrow-scoping nominals in English (bare plurals, bare singulars, and nominals within noun-verb compounds)

In this section, we briefly take up some remaining points in need of further discussion, many of which require systematic and detailed follow-up investigation in future work. The first point pertains to the empirical fact that English bare plurals always receive narrow-scoping interpretations in episodic contexts (Carlson 1977), and further that they can receive covarying readings on appearing with *for*-adverbials, regardless of the availability of a salient contextual cover, as seen in (33) above. In this, their behavior parallels that of the exceptionally narrow-scoping, singular *weak indefinites* that we have focused on in this paper. Should the bare plurals then receive an incorporation-based analysis, similar to the weak indefinites? van Geenhoven (1998) at least argues that it should be so – specifically, that all nominals restricted to narrow-scope are to be considered semantically incorporated. However, bare plurals fail to exhibit any of

¹² It is possible that Krifka’s *Uniqueness of participants* rule holds of eventive predicates alone, and therefore that its violation is no longer an issue once the predicates have been (re-)analyzed as stative, but this needs further investigation.

the other properties that have additionally been identified to be characteristic of semantic incorporation, such as sensitivity to *name-worthiness* (e.g. *finding fleas* is not name-worthy among English speakers), or the restriction to object rather than subject positions: see (34), understood to describe a situation where different (sets of) fleas may have been found on the dog over the course of a month. This indicates that an incorporation analysis of the English bare plurals may not be entirely suitable.

(34) Fleas were found on the dog for a month.

Dayal (2004, 2011, 2015) reaches a similar conclusion, and argues that covarying readings of bare plurals (in English as well as in Hindi) are not due to combining with a special incorporating verb. Instead, following Chierchia's (1998) proposal for English bare plurals, they are said to arise through a series of type-shifts starting from the basic kind reading of the bare plurals in Hindi as well. An alternative explanation for the covariation in (33) is proposed by Champollion (2013), where the covariation is attributed to a lexical property of the bare plurals (not shared by their singular counterparts): namely, *lexical cumulativity*. Informally, when lexically cumulative bare plural arguments combine with verbs in English (which are also cumulatively closed), the result is a scopeless, cumulative predicate. This means that a sentence like (33) containing the lexically cumulative predicate *found fleas* scopelessly conveys that *n* fleas were involved in *m* findings, without presuming how many of the *n* fleas were involved in each one of the *m* findings. Thus, we obtain what appears to be a covarying reading of the bare plural, where different (sets of) fleas could have been the object of different finding events over the course of a month. We remain agnostic between Dayal's *vs.* Champollion's explanations for how covarying readings arise with bare plurals across all contexts, but agree with both these authors that they must receive an explanation different from the singular, semantically incorporated, *weak indefinite* cases.

Another set of issues that calls for further discussion is that of how weak definites and weak indefinites differ from one another (if at all they do), and moreover, how they differ from other types of nominals in English that have been sporadically discussed as instances of nominal incorporation. Taking up the latter question first, we note that there are at least two other cases of nominal incorporation in English that come to mind: first, bare singulars like *school* or *prison* in prepositional phrases like in (35)-(36) discussed in Stvan (1998), and second, nominals that appear within compound terms like in (37)-(40), recently discussed by McKenzie (2021). What is common between (35)-(36) on the one hand and (37)-(40) on the other, which in turn sets them apart from the weak (in)definite DPs that we have focused on in this paper, is that the incorporated nominals in these appear mostly as indirect rather than direct objects: *location* in (35)-(37), *instrument* in (38).¹³ In fact, McKenzie (2021) notes that while formation of compounds with indirect objects is generally productive, compounds with direct objects are only possible in the presence of special licensing factors, such as name-worthiness (39), or a morphological affix like *-er* (40).

(35) The children have gone to *school*.
(*different children may have gone to different schools*)

(36) John spent many years in *jail*.
(*he may have been shifted from one jail to another*)

(37) Pratchett *window-shops* on Tuesdays. (McKenzie 2021: ex. 74c)

(38) We *hand-washed* the dishes. (McKenzie 2021: ex. 74a)

(39) We *deer-hunt* every year. (McKenzie 2021: ex. 77a)

(40) John is a *truck-driver*.

¹³ Though see Stvan (2007) for examples of more limited occurrences of the bare singular count nouns in direct object as well as subject positions.

Importantly for our purposes, this means that while incorporated direct objects like in (39)-(40) do require a licenser in compounds (unlike indirect objects), *name-worthiness* is only one among other factors that can license them. This, we tentatively propose, is key to explaining the difference in productivity that a reviewer has pointed out to us between McKenzie-style direct object compounds and incorporated singular weak indefinite DPs. Specifically, the reviewer notes that (41) can be used to describe a situation where Rose has dated multiple models in her time as a “model-dater”, as expected if the noun *model* has been incorporated with the verb within the compound, but the singular indefinite in (42) does not receive a similarly covarying reading. Our suggestion is that this is because the incorporation in (41) is licensed by the nominalizing suffix *-er*, despite the activity denoted not being particularly name-worthy. By contrast, the lack of name-worthiness precludes incorporation of the singular indefinite in (42). The relationship between compounding and DP incorporation in English merits substantial future investigation, and we leave it open whether a unified analysis may still be viable.

(41) Rose was a *model-dater* for ten years.

(42) Rose dated a *model* for ten years.

We further conjecture that bare singulars in English are closer in their semantics to incorporated nominals in McKenzie-style compounds than to incorporated weak (in)definite DPs in English. The bare singulars’ propensity to occur as indirect objects within prepositional phrases, as well as the fact that they do not contain overt determiners, would seem to lend some initial support to such a conclusion. This would further account for why a weak interpretation is not obtained when the bare singulars in (35)-(36) are replaced with singular indefinites, if the weak indefinite article is not expected to make any semantic contribution after all (per our account in Section 4). In particular, we suspect this may be due to differences in licensing conditions between incorporated bare singulars *vs.* weak DPs in English (e.g., weak DPs, like other instances of pseudo-incorporation, can only appear in direct object positions), though once again, further research should investigate if this is a plausible story.

Next, there is the very important question of what exactly is different between weak definites containing *the* on the one hand and weak indefinites with *a* on the other. It is clear that some difference must indeed exist – specifically, one driven by the nature of the determiner – since weak uses of the definite article do not fully overlap with weak uses of the indefinite article. Instead, weak indefinites seem to be distributed more widely in terms of allowable NPs: they are not only able to replace the definite article in weak definites (per Klein et al.’s experimental findings), but they additionally occur in the examples noted in Section 2 of this paper. By contrast, replacing the indefinite article in (1a), or (5)-(12), with *the* does not retain the weak reading, as seen in (43).

(43) Peter saw **the therapist** for many years. (unique therapist)

From these contrasts we conclude that a vacuous semantics for *the* in English weak definites – as assumed for weak indefinite article *a* in Section 4 – will not fully suffice; something more needs to be said. To this end, Klein et al. (2013) suggest that the effect of the definite determiner in weak definites shows up at the VP level, after the nominal has combined with the verb, and serves to restrict the distribution of weak definites to only those activities known to be “familiar” to the agent or habitually performed by them (owing to the definite article’s sensitivity to *familiarity*; see Heim 1982, Kamp 1981). On the other hand, no such familiarity relative to the agent is required in the case of weak indefinites. However, in (43), this explanation would lead us to expect availability of the weak definite interpretation, since it is being conveyed precisely that therapist-seeing is a habitual activity performed by the agent, John.

An alternative to consider is a recent account for *the* proposed in Coppock & Beaver (2015), developed precisely with the goal of reconciling English nominals containing an overt definite article with bare nominals in determinerless languages. In this proposal, the definite article is associated with weaker uniqueness requirements than what is usually presumed, wherein only uniqueness but not existence is presupposed – so that in cases where existence may not be taken for granted, the definite article behaves like a non-presuppositional, semantically vacuous item. If we can find a systematic way to characterize

contexts that allow for weak definite interpretations as exactly ones that do not presuppose existence (cf. Carlson 2003), then this would permit treating *the* in such contexts to be semantically vacuous, though not elsewhere. Under such a view, it would not be surprising that the indefinite article more readily allows for weak readings than definite articles, since the weakness of the definite article is now sensitive to conditions apart from *name-worthiness* alone, such as whether existence can be independently inferred. This seems to us a potentially promising avenue towards a unified semantics of the definite article encompassing both its regular and weak uses, which also anticipates a difference in distribution between weak definites and indefinites, though it is not clear to us at the moment how to derive a lack of existence of the object in weak definite contexts alone and not elsewhere. We leave this puzzle open as one we hope to investigate in future work.

Finally, aside from the semantics of weak *the* vs. *a*, future research should also investigate why other determiners (e.g., demonstratives *this* and *that*), unlike *a* and *the*, are not – as a reviewer puts it – “able to shed the burden of their semantics” in order to receive weak interpretations, as well as what exactly counts as *name-worthy* within a particular language, and whether this notion interacts at all with the choice of the determiner in weak (in)definites.

6. Conclusion

In this paper, we have identified previously unstudied, systematic occurrences of English singular “weak” indefinites that take exceptional narrow scope with iterative readings of *for*-adverbials. We have observed that these facts find a natural explanation under an analysis that treats them as instances of semantically incorporated nominals, comparable to what some have suggested for their weak definite counterparts under certain recent analyses, including Klein et al. (2013). We also briefly discussed how a semantic incorporation analysis of weak indefinites more straightforwardly supports a non-quantificational view of *for*-adverbials (as in Champollion 2013), where quantification is contributed by other (covert) operators, over a view where *for* initializes a universal quantifier (e.g., Deo & Piñango 2011) – though we identified a few avenues to salvage the latter analysis that should be more thoroughly explored in future work. Several questions pertaining more directly to the nature of DP incorporation also remain widely open, especially ones surrounding the similarities and differences between the various types of nominal incorporation that have so far been identified in the literature, including bare singulars, nominals within noun-verb compounds, weak singular definites, and finally, the weak singular indefinites that we have introduced and focused on here. It is our hope that the empirical and analytical points raised in this article will provide a catalyst towards further exploration of the many remaining puzzles in the relatively novel area of semantic DP incorporation.

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