

The Meaningful Bounds of Incorporation

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Abstract

Noun-incorporation structures (e.g. Mithun, 1984, Baker, 1988) have been investigated in detail by semanticists in recent years. Much of this work has centered around a notion of “semantic incorporation” (van Geenhoven, 1998), the semantic correlate of incorporation structures. A theory of semantic incorporation is necessary to account for a consistent constellation of semantic effects associated with noun-incorporation, including indefiniteness, lack of specificity, lack of scoping interactions with other logical operators, etc. In this paper I argue that this same constellation of effects is found in some (morphologically) unincorporated structures, and propose that a further notion, that of restrictedness, also appears to be a consistent, stable feature of all these structures, and bears further investigation.

1. Introduction

The phenomenon of noun-incorporation (when a nominal argument in some sense becomes a part of the verb) is a very well-described phenomenon, both formally, and, more recently, semantically (see van Geenhoven (2002) and Gerds (1998) for two overview articles on the topic).¹ In (1) below are just a few instances which illustrate the structures under discussion:

- (1) a. *Arnajaraq eqalut-tur-p-u-q*
A.ABS salmon-eat-IND-[u]-3SG
‘A. ate salmon’
(West Greenlandic, Van Geenhoven 1998)
- b. *a-urapá-pirár*
I-bow-open
‘I draw my bow.’
(Tupinambá, Mithun 1984)
- c. *Nej-Ek 'EIE-IgE-g'i*
hill-LOC snow-melt-3SG.S
‘On the hill, the snow melted.’
(Chuckchi, Polinsky 1992)

One of the chief formal characteristics of incorporation structures is that they always have a full syntactic counterpart expressible in the language, with the argument appearing in regular argument position. Pairs as exemplified in (2a,b) are systematically found:

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- (2) a. *Enan qaa-t qErir-ninet*
 3sg.Erg reindeer.Abs.pl seek-3sg.s/3.pl.o
 b. *Etlon qaa-rer-g'e*
 3sg.Abs reindeer-seek-3sg.s
 'He is looking for reindeer.'
 (Chuckchi, Spencer 1995)

Much work has been done on this type of construction in both the descriptive and theoretically-oriented literature. The work of, for instance, Mithun (1984), Sadock (1980, 1986) and Baker (1988, 1996) provide a sampling of the detail of formal knowledge of such constructions. While this literature for some time focused on the question of whether incorporation is a lexical or a syntactic process, in the semantics literature this particular question has been replaced by proposals regarding the semantic correlates of the formal structures (however they arise), under the rubric of *semantic incorporation*, a term due to van Geenhoven (1998). Various ideas along these lines were previously developed in the work of de Hoop (1992), which highlighted the semantic interest of 'weak' NPs and their formal correlates in grammar.

A primary, and controversial, assumption of this exploratory paper is that the phenomenon of noun incorporation is in fact a unified phenomenon, at least as far as its basic semantic characteristics are concerned. It is very well-known that incorporation structures vary widely from language to language. Mithun (1984, 1986) follows Sapir and limits discussion to compounding types of structures, setting aside the denominal 'affixal' structures found in Greenlandic, a decision Sadock (1986) takes issue with. Languages may also vary widely on which grammatical relations may be incorporated, though theme/patient-type direct objects seem always candidates, and incorporation is nearly always limited to just one noun.² Languages vary widely in what kinds of verbs or nouns may participate in incorporation, and whether there is the possibility of 'doubling', as exemplified in (3), or 'stranding', as exemplified in (4):

- (3) a. *Gäi-[ga'] yu' kätu, lao matai.*
 agr.have-pet I cat but agr.die
 'I had a pet cat, but it died.'
 b. *Hayi gäi-[patgun] hao?*
 who? WH[nom].agr.have-child you
 'Whose child are you (lit. Who has a child, namely, you)?'
 (Chamorro, Chung & Ladusaw 2004)
- (4) a. *Ka-rakv thikv ka-nuhs-a'*
 3N-white that pre-house-Suf
 'That house is white'
 b. *Ka-nuhs-rakv thikv*
 3N-house-white that

² Chukchi is an exception, allowing two incorporated stems so long as one is argumental and the other an adjunct (Lambert, 1999).

‘That house is white’
(Mohawk, Postal 1962)

One further source of variation, this one semantic, is whether the incorporated nominal may be referred back to pronominally in subsequent discourse, which may or may not signal different type of interpretation for the nominal in each instance.

In spite of this diversity, we are going to speak of incorporation as a single unified phenomenon. In this paper I outline semantic correlates of the incorporation structures one finds persisting in a sampling of the world’s languages and suggest, supporting others, that the structures that may be used to express such meanings are not limited to the clear canonical instances of incorporation. If this reasoning holds, it raises a very interesting question regarding the syntax/semantics interface: what are the bounds of syntactic structures that may express incorporated-type meanings?

2. Semantics

We have been blessed with a series of more recent works which very carefully examine the semantics of incorporation structures from a formal point of view. Van Geenhoven (1998) provides a detailed semantics for Inuit (West Greenlandic) incorporation, as does a portion of Bittner (1994, 2001). Farkas & de Swart (2003) devote their book-length study to incorporation structures in Hungarian, and Chung & Ladusaw (2004) devote their work to Maori indefinites and to incorporation in Chamorro. Further, Dayal, in a series of papers, has examined in detail the workings of incorporation in Hindi (e.g. Dayal 1999, 2003). These focus primarily on details of the semantics of incorporated nominals, and how they get interpreted, in contrast to previous works which focus primarily on formal detail and provide chiefly notional semantic characterization.

It would be fair to say that something like a consensus has been formed regarding at least some of the stable properties of the semantics of incorporation. In general, the incorporated nominal is interpreted: 1) as an indefinite, rather than as a definite or some quantified type of noun phrase; 2) the indefinite is a non-specific, rather than specific in import; 3) the indefinite is interpreted as a narrow-scope indefinite only, showing no scoping interactions with other logical operators in the same sentence that is typical of syntactically-expressed indefinites; 4) the incorporated nominal is interpreted as an existential, and not as a generic indefinite - it lacks the ‘universal’ flavor of true generics (this is in spite of the regular use of the term ‘generic’ in the descriptive literature, about which more below); 5) related to (4), the verbs that allow for incorporation are stage-level verbs, individual-level stative predicates like *hate* or *know* are systematically excluded; 6) finally, the incorporated nominal is number-neutral in interpretation, though in most languages with a singular-plural distinction the count noun forms may easily be taken for be singulars.

There is some question as to whether more characteristics should be added, and in fact I will discuss a candidate below. I am going to refer to these as the ‘stable properties’³ of the semantics of incorporation. There is every reason to believe that these

³ I borrow this terminology from Farkas and de Swart (pc).

characteristics are broadly shared, and not some accident of which few languages have been examined in formally-expressed semantic detail to date. Below is a very brief sampling of informal attempts to characterize incorporated meanings, which are entirely consistent with the stable characteristics noted above, though based on a much broader range of languages.

“...the noun no longer refers to an individuated specific or unspecific participant, and thus the whole clause shows a lesser degree of transitivity.” Mosel and Hovdhaugen (1992).

“Object-incorporated verbs mark activities in which the category of object is indicated but no specific or identifiable object is intended.” Watters (1993).

“[when incorporated] nouns become non-referential.” Sullivan (1984).

“...the noun [is] generic, nonreferential, or indefinite.” de Reuse (1994).

“Incorporation is used when objects are non-specific and non-salient.” Spencer (1995).

“An incorporated noun often refers to a generic or unspecific class.” Mithun (1984).

The point here is that such quotes can be culled almost at will from the variety of articles and grammars written on languages exhibiting incorporation. These are relentlessly typical, not isolated observations, and suggest that the stable properties are at least broadly shared.

At the same time, it’s wise to inject a cautionary note regarding the certainty with which the stable criteria can be universally invoked. For one thing, it appears that some instances of incorporated nominals can be used anaphorically (Mithun 1984), which appears inconsistent with the stable properties. Further, one simply has to be aware of the sheer number of *glosses* which make use of definites (including possessives) to give a rendering of the meanings. Examples such as (1b) and (1c) above can again be reproduced from the literature nearly at will, and simply dismissing all as truth-conditionally inaccurate glosses presents its risks. However, in the languages which have been examined microscopically for meaning, there is no evidence of any definiteness cropping up in examples anywhere. Confidence that definite interpretations are systematically excluded from incorporated interpretations is further bolstered by a systematic absence of (often implicitly) definite proper names from the construction, in the wealth of cited examples.⁴

All of the current theories of ‘semantic incorporation’ provide some account of this set of stable properties (including absence of proper names, assuming they are non-predicative). Van Geenhoven (1998) relies upon the binding of incorporated arguments by an existential quantifier in the meaning of the verb, and a property-denoting analysis of the nominal (also argued for by McNally, e.g. McNally, 1998). Chung & Ladusaw (2004) ultimately depend upon existential binding of arguments by a rule of Existential

⁴ Sadock (1980) notes that in Greenlandic, the allative affix *to go to* may in fact incorporate names:

(i) Nuuliarpoq

Godthaab-go-indic-3sg (Sadock’s (59b), p. 314).

He notes that this is peculiar to this one affix, and that all others have only an existential reading. Van Geenhoven (1998) notes that proper names may incorporate with ‘be’, though it is not clear that in this instance the use is predicative (i.e. to be called or named) rather than truly referential.

Closure applying at the level of the Verb Phrase, as proposed by Diesing (1992). Dayal (2003) makes use of Grimshaw's operation of 'theme suppression', and Bittner (2001) provides an account in terms of the verb providing the local context of interpretation of an incorporated argument. Farkas & de Swart (2003) make use of a level of 'thematic variables' associated with argument positions that are distinct from discourse referents. Landman (2004) presents a treatment of semantic incorporation relating to verbs of possession, which operates on argument structures and thematic roles. Finally, my own programmatic work (Carlson 2003a, 2003b, 2004) suggests that the parameters of interpretation themselves differ at the level relevant to the interpretation of incorporated nominals, and that the existential binding is an artifact of how one defines the homomorphism between interpretations using different parameters. This represents an interesting spectrum of theories. I make no attempt here to compare and contrast them, never mind declare one the best. I think that is for the future. At present we have a variety of secure well-understood semantic accounts of the stable properties to work from.

In discussing 'incorporation' in these terms, there is one further factor that we need to be cognizant of. In Massam (2001) it is argued that there is a category of structures called *pseudo-incorporation*, based primarily on the fact that in Niuean one can appear to incorporate full NPs, not just N⁰ (Dayal 2003 in recognition of the possibility of complex incorporated forms in Hindi uses this terminology). If in fact there is a systematic structural distinction between incorporation and pseudo-incorporation, then there is a decent chance that much of the literature draws conclusions based upon a conflation of the proposed two types of structures. An informal survey⁵ shows that a good many languages discussed as 'incorporating' languages display various types of complexity in what may be included within the verb, including adjectives, relative clauses, disjoined and conjoined structures, and others. It does appear that Niuean nonetheless exhibits many of the stable properties of incorporation. Of some interest is that fact that while relative clauses in general cannot be included in the construction, they may be if they are what Massam calls "subjunctive" relatives (she cites examples glossed as "(...) because he didn't have anything *to open it with*" or "They just looked for a place *to live*" (Massam 2001: 176, emphasis added).

As interesting as this issue remains, I need to put it aside as the proposal has not yet received the kind of scrutiny it deserves (Ball 2005 being an exception), and we cannot yet draw any firm conclusions regarding whether there should be any interpretive differences, or even formal differences between incorporated and pseudo-incorporated forms.

3. What is 'incorporated'?

When one arrives at a semantic definition of incorporation, as the 'semantic incorporation' literature can be seen as implicitly doing, it offers the opportunity for there to be some disconnect or "mismatch" between formal definitions of incorporation and the semantic definitions. So the question I wish to begin addressing in this section is whether

⁵ I thank Douglas Ball for examining grammars of a wide variety of incorporating languages and compiling an extensive report, from which I draw these conclusions.

there is reason to think that the bounds of both formal incorporation and the meanings expressed coincide.

In morphologically complex, polysynthetic languages, incorporation is widely attested and, aside from distinguishing it from compounding structures at times, relatively easy to identify. It becomes more difficult, though, when one examines bare singular noun phrases adjacent to verbs which may, or may not, be incorporated forms. The examples in (5) are of this sort (note: *[sg]* identifies the stem as non-plural in form, and does not rule out a number-neutral interpretation):

- (5) a. *anu kitaab paRh rahii hai*
 Anu book[sg] read-PROG-PR
 ‘Anu is reading a book.’
 (Hindi, Dayal 1999)
- b. *Marie verset olvasatt Petinek*
 Marie poem.acc read.past Peti.dat
 ‘Marie read poetry to Peti.’
 (Hungarian, Farkas & de Swart 2003)

In these instances, detailed argument (Mohanon 1995, Farkas & de Swart 2003) has established the incorporated status of the nominal. However, the examples in (6), at least superficially, appear of the same sort as those in (5), aside from linear order:

- (6) a. *Jeg har bestilt billett.*
 I have ordered ticket[sg]
 ‘I ordered a ticket.’
 (Norwegian, Borthen 1998)
- b. *Ana do të blejë biçikletë*
 Anna wants to buy bicycle[sg]
 ‘Anna wants to buy a bicycle.’
 (Albanian, Kallulli 1999)

Borthen (2003) expressly argues that examples such as (6a) are not exemplars of incorporated structures in Norwegian, although Asudeh & Mikkelsen (2000) argue that structures corresponding to (6a) are in fact incorporated in closely related Danish. Kallulli (1999) also argues that, while ‘semantically incorporated’ van Geenhoven-style, the Albanian bare singulars are not instances of structural incorporation, either.

Kallulli and Borthen are both very precise and detailed in their semantic examinations of the ‘bare singular’ structures in Albanian and Norwegian respectively. In their evaluations of the meanings expressed, they are very clear that the interpretations are existentially-quantified non-specific indefinites taking narrow scope only, without true generic readings or the possibilities of proper names. There is reason to believe, too, that the interpretations are number-neutral as well, and not purely singular. A similar case might be made on the basis of bare singular forms in Brazilian Portuguese (Munn & Schmitt 1999, Schmitt & Munn 1999), though these, also appearing in subject position, seem initially less likely to be considered formally incorporated forms. But here, too,

their detailed semantic evaluation appears to show that all the stable properties are fulfilled in this construction.

So there seems to be fairly good reason to think that there are structures which express the same kinds of meanings as those expressed by incorporated structures, but which are not true incorporated structures at all (i.e. they appear much more like ‘stripping’ structures). So one question we might pose at this point is whether there are other types of syntactic or morphological structures which would appear to fulfill the stable semantic properties of incorporation. And, of course, yes, there are some candidates that have emerged. One candidate is quite well-known, namely existential interpretations of bare plurals as one finds in English⁶. These explicitly fall under van Geenhoven’s original definition of ‘semantic incorporation’ but they are manifestly unincorporated structures. We are going to set these aside for the moment, since not everyone’s analysis of bare plurals includes them as semantically incorporated.

Heyd (2003) and Heyd & Matthieu (2005) have extensively and explicitly argued that the case of French *de+N*, exemplified in (7), is an instance of ‘semantic incorporation’, displaying all the relevant stable properties.

- (7) *Je n’ai pas mangé de pommes*
‘I have not eaten any apples.’

These are manifestly not structurally incorporated forms. Their definition of ‘semantic incorporation’ is slightly different from others, in that they argue that the [*de N*] structures in French introduce an existential quantifier as a part of their meaning.

Another case is that of Maori *he* (Polinsky 1992, Chung & Ladusaw, 2004). This is by appearances an indefinite article which contrasts with another indefinite article in Maori (*te:tahi*[sg]/*e:tahi*[pl]), exemplified in (8):

- (8) *Homai he wai mo-ku*
Give.pass a water T-of me
‘Give me some water.’

(Chung and Ladusaw 2004: 22)

Chung & Ladusaw present data showing that all the stable semantic properties are expressed by this construction. Their analysis is exactly the same as given for the Chamorro incorporated nominals examined in the later chapters of the same book. That is, despite lack of formal incorporation, they analyze Maori *he* as an instance of semantic incorporation.

The final instance we’ll discuss is the case of English bare singulars and certain definites (Carlson & Sussman, in press). English bare singulars have received sporadic treatment, some exceptions being Heycock & Zamparelli (2003), and Stvan (1998). The class of ‘bare singulars’ of current interest are those which combine with verbs and prepositions, as found in (9a,b) below. While the limited distribution of such bare singulars in English limits their semantic investigation somewhat, it is fairly clear that a semantic incorporation analysis works better than any competitors.

⁶ As usual, the term “bare plural” also includes mass terms

- (9) a. Mark attended *class*.
b. The ship put into *port*.

In Carlson & Sussman (in press) it is claimed that there is a restricted class of definite noun phrases in English which function exactly like bare singulars. Examples are one reading of those in (10):

- (10) a. Mary took *the train* to Brussels.
b. The accident victims were rushed to *the hospital*.

The reading of interest is the one where it doesn't seem to matter which train, or which hospital is involved. And, for that matter, whether more than one train, or more than one hospital was involved. A typical reaction is to question if it is a separate reading as the raw intuitions are not so clear. Carlson & Sussman argue that this is in fact a separate reading, and we experimentally verify our findings. When one examines the semantics of the appropriate reading of definites such as those in (10), they, too, show all the earmarks of semantic incorporation.

The range of elements 'semantically incorporated' thus may include nominals that are not entirely stripped of their morphology (e.g. Hungarian case-marking), or articles (English, Maori), or perhaps prepositions (French), and a variety of other less morphologically-marked structures not in any obvious formal sense a 'part of' the verb. If the semantics corresponded closely to the syntax, then 'semantic incorporation' would have as its formal bounds the limits of formal incorporation. However, if the line of reasoning pursued above is somewhere near correct, the meaningful and the formal bounds do not correspond, and we then might ask where, if anywhere, the syntax/semantics interface is constrained to coincide on some 'outer limit'.

We are going to use English bare plurals as a well-known 'test case', and approach them from the point of view that somehow, they ought to be excluded (pace van Geenhoven), despite the fact that they appear to fulfill all the stable properties just fine. The most questionable is whether their interpretation is indeed number neutral. Farkas (this volume) has argued that plurals do include the singular in interpretation, though a variety of authors have considered the issue of English bare plurals with inconclusive results. I've taken the point of view that bare plurals truth-conditionally include the singular but imply a plural pragmatically. In short, bare plurals display all the stable properties.

In the following section I present some reason to think that there is another stable property that has not yet entered into discussion, which we might consider as a candidate: restriction.

4. Restriction and incorporation

As mentioned above, one practical challenge in analyzing an incorporating language is to distinguish incorporated structures from instances of compounding, which can look quite

similar.⁷ I take it that the language needs to provide evidence of compounding outside the verbal domain, and, further, that if a language has ‘stranding’ or ‘doubling’ structures, these securely identify the structures as incorporated. Since their absence is not necessarily indicative of compounding, another distinguishing feature needs to be identified. Bybee (1985) suggests incorporated structures can be distinguished from compounding by the nature of the restrictions on the former:

“The semantic domain of the incorporated noun is usually restricted. For instance, in Pawnee, nouns referring to body parts, natural phenomena, foods, and cultural products are regularly incorporated. In fact, terms for body parts are almost always incorporated. On the other hand, personal names (of individuals or tribes), kinship terms, personal nouns (*man*, *child*, etc.) names of animals, and names of particular species (of tree, for example), are not usually incorporated (Parks 1976: 251-252). Further, in some languages there are restrictions on the verbs which may take certain incorporated nouns. For instance, in Tiwi, body part names can be incorporated into only three verbs, *ni-* ‘hit’, *-na* ‘grab’, and *-kuwirani* ‘burn’.” --(Bybee 1985: 107).

In contrast, root compounding structures are typically not systematically restricted in such ways. We might then ask whether restriction (however we wish to ultimately understand it) is truly typical of incorporation structures, and in particular whether it extends to semantically incorporated but structurally unincorporated structures.

Since Sapir (1911) it has been noted regularly that at least in many instances meanings of incorporated structures can differ from their unincorporated versions in certain ways, which might be described as ‘semantic enrichment’. Here is one comment on the interpretation of a Chukchi incorporated structure (Dunn 1999):

“Examples with the stem *qora-nm-at-* (‘slaughter reindeer’) can be misleading, as this stem refers to something which, in Chukchi culture, is a unitary activity and is exceptionally noteworthy as a focus of ritual activity and the high point of a day. The verb is translated here as *slaughter* rather than *kill* as this incorporation is lexicalised to the extent that it only refers to reindeer-killing in its traditional Chukchi cultural context, i.e. killing of a domestic meat reindeer with a knife in the prescribed manner with all attendant ritual.” (Dunn 1999: 223).

We might then describe the basic meaning of the syntacticized form *kill reindeer* as being enriched by the more limited and specific role which that activity plays in the culture. It turns out that, viewed from one perspective, this enrichment is endemic to work on incorporation, and receives expression in a variety of ways. Here again is a very brief sampling of comments by grammarians (*italics added*):

⁷ This issue is muddled somewhat by Mithun’s and Sapir’s characterization of incorporation as compounding type structures. However, it is clear that not every language with compounding has incorporation. For instance, English does not have incorporation, and Baker (1988) argues extensively. In the language one finds such forms as *to air-condition a room* or *to go rabbit-hunting*. There is some thought that possibly the synthetic compounds of the latter type represent nominalized incorporated forms of verbs. Yet, such forms do not show any restrictions typical of incorporation structures, and, further, do not display the stable properties of excluding generic interpretation, proper names and individual-level predicates. Such forms as *Nixon-hating* and *cat-lover* are perfectly acceptable, well-formed, and indeed common.

“...incorporation provides the lexicalized expression of a *typical activity*.” (Axelrod 1990).

“Some entity, quality, or activity is recognized sufficiently often to be considered *nameworthy*...” (Mithun 1984).

“Noun incorporation in Sm’algyax occurs when a *habitual activity* toward an object is expressed.” (Mulder 1994).

"[the incorporated form] refers to habitual, permanent, chronic, specialized, *characteristic or unintentional activities* or states, or localized events... ." (de Reuse 1994).

Such quotes can be reproduced virtually at will, though the language may vary (e.g. talk of ‘unitary concepts’, ‘genericity’, etc. all point in the same direction).

It is quite clear, too, that this type of restriction can appear beyond the formal bounds of incorporation. Borthen (2003) notes that Norwegian bare singulars (which she divides into various classes) have limited distribution:

- (11) a. *Jeg kan lese bok, jeg.*
 I can read book, I
 ‘As for me, I can read a book.’
 b. *Han anbefalte rullestol.*
 He recommended wheelchair
 ‘He recommended (that I use) a wheel-chair.’

- (12) a. **Per slo jente.*
 ‘Peter hit girl.’
 b. **Ulven drepte okse.*
 ‘Wolf-def killed bull’

Borthen’s proposed solution for this seemingly puzzling restriction is very much in keeping with the observations exemplified above. For the relevant classes, Borthen (2003) gives the following account. A V-N combination is acceptable if:

- the V-N combination designates a ‘conventional situation-type’;
- “a conventional situation-type is a property, state, or activity that occurs frequently or standardly in a contextual frame (...) and has particular importance or relevance in this frame as a recurring property-, state-, or activity-type.” (Borthen 2003: 160).

Dayal (2003) provides a similar explanation for the appearance of gaps in Hindi incorporated structures, appealing as well to semantic enrichment and understanding the incorporated form as of some cultural significance:

- (13) a. *laRkii-dekhnaa* ‘girl-seeing’ vs. **aurat-dekhnaa* ‘woman-seeing’
 b. *baccaa-kilaanaa* ‘child-tending’ vs. **laRkii-kilaanaa* ‘girl-tending’

Further, it is quite clear that English bare singulars (of the appropriate classes) and the definites of the type discussed above also show considerable restriction and enrichment. For instance, being *in bed* is not simply a locative state, but also (we believe truth-conditionally) requires that the person be using the bed as its design is intended, i.e., for sleeping or resting and not as a trampoline. Or being *in prison* is not accorded visitors who are at that location, but only those incarcerated (i.e., experiencing what a prison is for). This extends to appropriate readings of definites. Going to *the hospital* may be read as requiring treatment, not just traveling to a certain destination, or *looking at the calendar* means also gathering information a calendar can give, not simply directing one's gaze in a certain direction. Restriction is most evident when one examines near-synonyms. Compare the following:

- (14) a. Mike went to prison/*penitentiary
b. The ship is at sea/*ocean/*lake...

The same lexical restriction appears on the definite article construction as well.

On the other hand, the restriction might not rest on the noun and the kind of activity expressed but may instead be directed, as suggested by Bybee above, at the verb. In Chamorro, for instance, there appears to be virtually no restriction on the noun incorporated, but there are very heavy restrictions on the nature of the verb:

“(...) incorporation is productive. Although the verbs of possession are the only two Chamorro verbs to serve as hosts of incorporation, the construction is fully productive as far as the incorporated object is concerned. The N of the incorporated object can be any common noun at all, including relational nouns as well as a wide range of other concrete and abstract nouns, whether indigenous or borrowed words.” (Chung & Ladusaw 2004: 89-90).

And oftentimes the nature of the restrictions are not at all clear, so easily statable. Here is a note from the introduction to the Oneida dictionary:

“However, it is often more challenging to take a verb root, incorporate a noun root (...) and come up with a word that speakers recognize. Often the structure of the word is correct but the meaning - the expected meaning that results from simply combining the meanings of all the parts - is not the actual meaning. Sometimes the word sounds OK, but no one who speaks Oneida would actually use it. Even the pronunciation can be unexpected. And quite often the word just doesn't exist.” (Michelson & Doxtator 2002).

There are, logically speaking, a number of different types of restrictions that we might be dealing with, and possibly more than one might be at work at the same time in any given language. The restriction might be a grammatical, purely lexical ('arbitrary') restriction. Or the restriction can be grammatical in that certain grammatical relations can be expressed (typically, direct objects) and not others. For the French *de+N* constructions, the restriction is primarily that the N must be functioning as a direct object, which is typical of many incorporation structures. The restriction might be that semantic enrichment of some sort is required, or the slightly less strenuous restriction that some 'familiar' cultural significance be accorded the action whether there is semantic

enrichment of not. It could also well be that there are purely pragmatic restrictions that occur, that are usage-based (“no one (...) would actually use it”) that are currently difficult to articulate and identify, though these would hardly be confined to this one sector of the grammar.

If one elevates ‘restriction’ to the level of an identifying feature of semantically incorporated structures, this presents a particular challenge to articulate exactly what kinds of restrictions count and why. However, including a notion of restrictedness does have the effect of further winnowing out the candidates for semantic incorporation. The case of the English bare plurals (and quite possibly Brazilian Portuguese bare singulars) are then excluded because there are no restrictions on their appearance or combination. While this might appear intuitively satisfying, it is a much more difficult challenge than to go back and outline the precise role that ‘restriction’ plays in the semantics of the constructions that would count as incorporated, semantically.

5. Conclusion

Work within the past decade or so has turned towards a detailed examination of the semantics of incorporated nominals as arguments in verbs. A usable consensus has been reached on what kinds of semantic properties one would expect to find, and theories have been developed which provide some very detailed accounts of why those properties, rather than others, would emerge. With the development of such theories, it becomes possible to offer semantic, rather than formal definitions of what counts as ‘incorporated’. When one does this, there is strong present reason to think that the types of structures which can be used to express such meanings run well beyond the bounds of incorporation structures as defined by syntax and morphology. This enables the question of where, if anywhere, the limits stand as to what sorts of structures can express such meanings. In this paper, we have not provided an answer, but have explored the possibility that a further criterion for setting the outer limits of what counts as semantically incorporated should be considered. It is quite clear that ‘restrictiveness’ is a property regularly associated with clear instances of incorporation, as well as (plausibly) the instances of those structures beyond the formal limits. The sources of restrictiveness appear varied, but whether such varied sources can play a similar function, such as indicating a degree of grammaticization of the structure, is an open question. Whether restriction plays the meaningful role suggested here remains for future work.

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