Incorporated verbal classifiers in a predictive typology of noun incorporation

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Starting from Wiltschko's 2009 suggestion that lexical affix constructions in Halkomelem Salish instantiate √*root* (Marantz 1997) incorporation, with the √*root* functioning as a predicate modifier, we propose a radically constrained, structure-based typology of the interpretational relations that may hold between this predicate modifier and the *primary argument* (i.e. the notional absolutive) of the incorporating verbal stem-complex. Specifically, only three are possible: the former restricting the latter, giving a *hypernymic, classificational* reading; the latter restricting the former, creating a *meronymic, part-whole* reading; or neither restricting the other, causing the predicate modifier to be interpreted as an independent quasi-argument of the stem-complex predication. This restrictive typology predicts the existence of precisely the three core contrastive classes of incorporant reported by Wiltschko 2009 (after Mithun 1984 and especially Rosen 1989, inter alia): incorporated verbal classifiers/synonyms of themes; inalienably-possessed body-part incorporants; and incorporants interpreted as instrumentals, locatives, and other quasi-arguments of the stem-complex.

1 Introduction

This paper starts from the premise that syntactic structure serves as a mechanism to constrain the possible interpretations of the elements it brings together.[1] Assigning a particular set of elements into a syntactic configuration does not just link them together for any conceivable combined interpretation, but does so in a structured way that systematically excludes certain ranges of possible collective interpretations, and permits still others. The more minimal the syntax, the richer the possible range of interpretational relationships between elements. Hence nominals in bare compounds can show a variety of thematic relations: basic themes, locatives, and instrumentals, to name just a few (1).

[1]Thanks to Joris Weimar for help on basic combinatorics, to Cedric Boeckx and Martina Wiltschko for the basic inspiration, and to the Salishan- and Algonquian-family speech communities for making this evidence (and all the other interesting ideas embedded in their grammatical systems) available to us researchers. All errors are of course my own.

(1) Possible thematic relations of lexical compound nominals

a.	hand-cutting	*hand*	= instrument(al)
b.	desert-dwelling	*desert*	= locative[2]
c.	cake-baking	*cake*	= theme

A specific thematic interpretation still implies a specific syntactic configuration, however. Nominal incorporants, for example, show comparable thematic variation, precisely because their similar lack of complex functional structure allows for multiple syntactic-configurational representations of the same set of morphosyntactic elements. Bare combinatorics limit how many distinctions this sort of minimal syntax can make; identifying that small set is the aim of this paper. To do so, we begin from Wiltschko's 2009 conclusion that lexical affix constructions in Halkomelem Salish are better understood as a kind of √root incorporation, with √*root* in the sense of Marantz 1997, in which the incorporant functions as a predicate modifier rather than a direct argument, and from there propose a radically constrained, structure-based typology of the interpretational relations that may hold between this predicate modifier and the *primary argument* (i.e. the notional absolutive) of the incorporating verbal stem complex.

Specifically, we claim that only three types of interpretational relationships may hold between the predicate modifier and the primary argument. Namely:

(2) Possible interpretational relationships holding between predicate modifier and primary argument

(a) the predicate modifier restricts the primary argument, giving rise to a *hypernymic, classificational* relation between predicate modifier and primary argument, or
(b) the predicate modifier is restricted by the primary argument, giving rise to a *meronymic, part-whole* relation between predicate modifier and primary argument, or
(c) neither element restricts the other interpretationally, in which case the predicate modifier is interpreted as an independent quasi-argument of the stem-complex predication.

We show that this restrictive typology predicts the existence of precisely the three core contrastive classes of incorporant reported by Wiltschko 2009 (building on Mithun 1984 and especially on Rosen 1989, inter alia). Respectively, these are:

(3) Resultant semantic typology of incorporants

[2]Thematic locatives, especially those naming means of conveyance, but also even locations of actions/states, could perhaps also be interpreted as metaphorical instruments.

(a) incorporated verbal classifiers/synonyms of themes
(b) inalienably-possessed body-part incorporants
(c) incorporants interpreted as instrumentals, locatives, and other quasi-arguments of the stem-complex predication

We propose that this tripartite typology is no accident, but rather comes directly from assuming that the minimal set of possible outcomes of asymmetrical binary Merge, namely, [α[β]], [β[α]], and [α] alone (i.e. no Merge), is also the maximal possible set. In short, we derive this typology from nothing more than asymmetry-constrained combinatorics as the syntactic input to semantic interpretation. This approach is inspired by the closely related observation of Boeckx 2008, that well-formed syntactic projections, being the products of minimal asymmetrical binary Merge, may project at most three local nodes: minimal, intermediate, and maximal.

To ground this theoretical account empirically, we bring in new evidence from Penobscot, an Eastern Algonquian language of central Maine, U.S.A., showing that it too unambiguously instantiates this tripartite typology. We show that its previously undescribed verbal shape-classifier system (along with those of nearby relatives) manifests exclusively via the morphosyntactic category traditionally known as the Medial (Bloomfield 1946)---the same one that also and exclusively includes body-part and quasi-argumental incorporants.

2 Minimal system of possibilities for restriction

The core observation of this paper is that the semantic restriction possibilities of nominal incorporants are constrained to three basic relations. These three relations, given below, come directly from the simple combinatorics of asymmetrically Merging two elements, with the assumption that that asymmetric Merge is the necessary precursor for interpreting a restriction relation between the two.

(4) Possible (semantic-) syntactic outcomes of a Merging of two elements α and β

(a)	α restricts β	= [α[β]]
(b)	β restricts α	= [β[α]]
(c)	neither restricts the other=[α]...[β]	= not Merged locally

A fourth possibility is still logically possible, namely, that the two elements restrict each other. I exclude this possibility from the system on the grounds that it is an active type of relational symmetry (rather than the vacuous symmetry of (c)'s "neither" option). This being precisely the kind excluded by the demand, argued for in Boeckx 2008, among many others, that syntactic-merge relations must always be asymmetric.

I do not attempt to offer any kind of formalization for the notion of

restriction, or indeed for precisely how semantics is read off of and thus constrained by syntax. I proceed under the premise that the core point is maintainable even with this informal notion of restriction (combined with an assumption that syntax-to-semantics mapping is consistent), and should hold across any number of formalizations thereof.

The crucial constraining assumption of this system is a narrow type of locality: that the input to this kind of restriction interpretation is this minimal Merge pairing; it does not wait for further structure to be built. This limits the range of possible [α]-to-[β] relations to the set above. The fact that this system can contrast only three options is a property shared with many other components of grammar, e.g. X-bar structure, person-feature contrasts, basic tense contrasts, most deictic distality contrasts, and so on, and is explained by Boeckx 2008:ch.4 as a direct outcome of a system that can only build representations via binary Merge.

When we look at how this sort of system plays out at the minimal-syntax structural scale of √root incorporation, what we see emerging are two kinds of part-whole relations, and one "elsewhere" category, as follows.

When the nominal incorporant as predicate modifier restricts the primary argument, it limits the range of possible primary arguments to the semantic class denoted by the nominal incorporant. This is the hypernymic, classificational relation between the predicate modifier and primary argument. Here the part-whole relation is between the class established by the hypernym (or effective synonym, this being taken to be just a subtype of hypernym) and the primary argument as a token thereof.

The other type of part-whole relation is the more salient one; here it is the primary argument that restricts the reference of the nominal incorporant. The latter is defined only within the domain established by the former, giving rise to a meronymic relation, a canonical case of the incorporant as the part to the primary argument's whole.

Finally, when neither argument restricts the other, the nominal incorporant necessarily is interpreted neither as a hypernymic nor a meronymic extension of the primary argument. Instead it interprets as a separate quasi-argument, typically a notional oblique, that is, an instrumental or locative element that is involved in the same event as the primary argument, but is not in a restriction relation with it.

These three possibilities translate directly into the three core contrastive categories of incorporant reported by Wiltschko 2009 (building on Mithun 1984 and especially on Rosen 1989, inter alia):

(5) Three categories of incorporant

- (a) incorporated verbal classifiers/synonyms of themes
- (b) inalienably-possessed/body-part incorporants
- (c) incorporants interpreted as instrumentals, locatives, and other quasi-arguments of the stem-complex predication

An incorporant in a hypernymic/synonymic relation to the primary argument is a verbal classifier (a); one in a meronymic relation is an inalienably-possessed/body-part incorporant (b); and finally, one that interprets into the event structure as an independent element, neither restricting nor being restricted by the primary argument, accounts for the more heterogenous elsewhere-class set of incorporants that interpret as instrumentals, locatives, and other quasi-arguments of the stem-complex predication (c).

In the next section, we examine these three categories as they emerge from Wiltschko's 2009 discussion of Salishan lexical affixes.

3 A tripartite typology of incorporant interpretation: Wiltschko 2009

In her arguments in support of Salishan lexical suffixes as bare √root predicate modifiers, Wiltschko 2009 identifies two types of selectional restrictions that the incorporant can place on the Theme argument of the stem. First is that the incorporant doubles or is a hypernym to the primary argument DP, as in (6a). Second is as possessee of the primary argument DP, as in (6b). It is important to note that Wiltschko 2009 speaks from the viewpoint of the primary argument, and so refers to these relationships in equivalent converse terms.

(6) Hypernymic and meronymic relationships between incorporant and primary argument (Wiltschko 2009:214:(39))

a. th'éxw-wíl-tes te lo:thel
wash-dish-trans-3s det dish
'He washed the dish.'

→ DP = *hyponym to the lexical suffix*

b. th'éxw-xál-tes te Strang te Konrad
wash-foot-trans-3s det Strang det Konrad
'Strang washed Konrad's foot/feet.'
lit.: 'Strang foot-washed Konrad'

→ DP = *possessor of lexical suffix*

These two categories of Theme (= primary argument) restriction are readily explained under the present minimal structural model.

The first, the doubling or classificational incorporant, instantiates the case of the incorporant predicate modifier restricting the semantic range of possible primary arguments to either a synonym or hyponym of the classificational element.

The second, the possessor-raising or possessor-binding construction, sets up the incorporant as the part to the primary argument's whole. Its role in the event structure is as a meronymic element, dependent on and acting as an

extension of the primary argument. That is, the primary argument restricts the meaning of the incorporant to being strictly a subcomponent of the primary argument with regard to thematic interpretation.

Wiltschko 2009:215 argues that the possessor interpretation of the direct object (in present terms, the primary object) is a possessor-binding effect, driven by the need for an incorporated √root denoting an inalienable possessee such as a body part to be construed with an appropriate possessor. This is nicely compatible with the present model, which captures that construal (at least to this informal extent) as a meronymic restriction by the possessor Merged above it.

Wiltschko 2009:216 further notes that because √roots lack the functional structure necessary to project syntactic argument structure, the possessor-binding effect implies that inalienable possessors are semantic rather than syntactic arguments. With some mild adjustment, this too aligns with the present claim; in the absence of additional mediating functional structure, Merge alone can only create contrasts from its ordering, and so admits of only two direct restriction relations between the incorporant and the primary argument, namely, the hypernymic and the meronymic. The semantic-argument relation of meronymy is simply than the semantic effect of one of the barest possible syntactic relations.

We now turn to the third option: that neither element restricts the other. Citing Mithun 1984:861, Wiltschko 2009:214 observes that "[p]atients of transitive and intransitives, locatives, and instruments are incorporated." Here as before we treat patients (= themes) as cases of synonymy with the primary argument under classificational-doubling: (6a).

But the locative (7) and instrumental (8) uses of incorporants remain to be explained.

(7) Locative uses of incorporants (Wiltschko 2009:214:(37), cited from Suttles, 2004:290)

a. ʔəɬtən-áθən (Downriver Halkomelem)
eat-margin
'eat along the way'

b. xʷ-qə-wíl-t
inward-accompany-canoe-trans
'go with him in a canoe'

(8) Instrumental uses of incorporants (Wiltschko 2009:214:(38), cited from Suttles, 2004:290)

a. k'ʷc-áləs (Downriver Halkomelem)
see-eyes
'see with one's eyes'

b. xʷ-ʔəw-cəs-t

obl-understand-hand-trans
'show him with the hands how something is done'

Here again the categories cited by Wiltschko 2009 fall directly out of the minimal syntactic structure analysis. These two types of incorporant together instantiate the third logical possibility of such limited structures: that the incorporant bears no local relation at all to the primary argument. As such, it neither restricts or is directly restricted by the primary argument, but still interprets as a component of the same event structure. These are the quasi-argument-like relations that locatives and instrumentals hold with the overall predication.

This, then, establishes that the tripartite typology of incorporant semantics laid out in §2 on model-internal grounds actually does match the categories empirically attested for Salishan lexical affixes. In the following section, we demonstrate that this typology can also be found much further afield, in the incorporation structures of Eastern Algonquian languages such as Penobscot and Passamaquoddy-Maliseet.

4 Verification from the other side of the continent: Penobscot and Passamaquoddy-Maliseet Medials

The striking fact is that this analysis does not hold just for Salishan languages. The same tripartite categorization is found on the other end of the continent, in the Eastern Algonquian languages of Penobscot and Passamaquoddy-Maliseet, and appears to be shared across the Algonquian family.[3]

Here the candidates for incorporated nominal status are the morphological class known as *Medials* (Bloomfield 1946, Denny 1989, Goddard 1990, O'Meara 1990, Valentine 2001, Rhodes 2003, Drapeau 2009, Dunham and Barrie 2009, Mathieu 2009). Their status as incorporated nominals has been controversial on occasion (cf. especially Denny 1989), precisely because they are so deeply lexicalized, and do not participate in the easy and productive alternations between freestanding stem and morphologically related incorporant reported for Northern Iroquoian languages (Baker 1988, 1996, 1997), nor the evident referential interpretations taken to support a standard movement analysis of incorporation (Baker 1988; 1996:289, 307). These features already point to a √root incorporation analysis, and indeed, Medials do exhibit an identical set of core incorporant properties. Specifically, these fall into precisely the same three categories as Salishan lexical affixes.

First off, we find classificational Medials (9), showing the same distinctions of shape-classification familiar from East/Southeast-Asian-areal

[3]Despite the vast distances between the present locations of these source languages, Algonquian languages may well have been historically adjacent to Salishan ones (and at least one still is), and indeed efforts have been made to show evidence of early contact (Bakker 2007). Even if we attribute this system to such contact, its stability over time and space suggests that it is more than just an areal-contact quirk.

languages such as Mandarin, Hmong Daw, and Thai. Notably, Algonquian shape-classifying Medials are morphologically separate from verbal √roots of handling and stance/positionality, unlike in Athabaskan languages, even as they form much the same lexical collocations. Hence in Penobscot we find classificational Medials contrasting the same basic features of dimensional rigidity (STICK vs. CORD vs. SHEET vs. LUMP/ROUND OBJECT), as well as negative dimensionality (HOLE) and textural manifestation (GRANULAR vs. SOFT/STICKY MASS vs. LIQUID).

(9) Classificational (shape-classifier) Medials

-αhk^{w}- '1D RIGID OBJECT' (< 'tree, stick')
cf. Mandarin *枝 zhī*, Hmong Daw *tus*

-aht.ak- '1D NON-RIGID OBJECT' (< 'cord, string')
cf. Mandarin *條 tiáo*, Hmong Daw *txoj*

-ek- '2D NON-RIGID OBJECT' (< 'skin, hide')
cf. Mandarin *張 zhāng*, Hmong Daw *daim*

-αhpəsk- '3D/ROUND OBJECT/LUMP' (< 'rock'); cf. Thai *lûuk*
-αl.ak- 'HOLE' (< 'hole'); cf. Hmong Daw *qhov*

-αmk- 'GRANULAR MASS' (< 'sand, gravel')
-əč.ak- 'SOFT/STICKY MASS' (< 'excrement')
-əp.ek- 'LIQUID' (< 'water'); cf. Thai *náam*

a. *-αhk^{w}-* '1D RIGID OBJECT' (< 'tree, stick')

nətésahk^{w}təhα[4] 'I pierce him, run him through with a spear' (PD:453)
kinahk^{w}álane 'he (bird) has a long tail' (PD:207)

b. *-aht.ak-* '1D NON-RIGID OBJECT' (< 'cord, string')

sαkhahtákihle 'he (snake, worm) squirms, wriggles into view' (PD:417)
matehtakíhtehsən 'there is the sound of throbbing (as when a bowstring flutters)' (PD:255)
cf. matéhtehsən 'it makes the sound of an impact' (PD:255)

c. *-ek-* '2D NON-RIGID OBJECT' (< 'skin, hide')

mαtékəlαmsən 'it (fabric, sheet, hide, tent) is moved by the wind' (PD:262)

[4]Possibly a mistranscription of /nətesáhk^{w}təhα/.

cf. mátəlαmsən 'it (a solid object, stick, twig, door) is moved by the wind' (PD:262)

d. *-αl.ak-* 'HOLE' (< 'hole')

nəkəpαlákəhα 'I close the opening of him, close the hole in him' (PD:190)
cf. nəkə̀pahα 'I close him' (PD:191)

e. *-αhpəsk-*'3D/ROUND OBJECT/LUMP' (< 'rock')

wəsαkháhpskohsαn 'she came waddling forth (Sbd)' (S:30:7)
kináhpskαtəpe 'he has a big round head' (PD:207)

f. *-αmk-* 'GRANULAR MASS' (< 'sand, gravel')

kətəwámkihpo 'he eats with a sandy or grinding noise' (PD:201)
pəmámkihle 'II: it is a stretch, an extent of sandy, gravelly beach; AI: he goes along the beach, proceeds along the beach' (PD:374)

g. *-əč.ak-* 'SOFT/STICKY MASS' (< 'excrement')

kəlaməčákihle 'he/it is sticky, viscous' (PD:187)
cf. kəlámihle 'he/it is adhesive, clinging, adherent' (PD:187)
matečákihpo 'he makes an unpleasant noise in eating' (PD:255)

h. *-əp.ek-* 'LIQUID' (< 'water')

nəmαtəpékənəmən 'I stir it (water)' (PD:262)
cf. nəmátənəmən '1) I fight it, 2) I move my hand, I move it with my hand' (PD:262)

matepékəlαmsən 'there is rippling of the water by the wind (audible)' (PD:255)
aləpektáhike 'he splashes (so)' (PD:47)

These are the instances of hypernymic relations between incorporant and primary argument. Effectively synonymic relations (again, a subtype of hypernymy) are found in cases where the incorporant names the notional object being acted upon, i.e. the Theme, often the object that names the activity (10).

(10) Medials: Theme/notional object of activity

talahkəlosənáhike 'he is making a fence, stockade' (PD: 449)
alahkáhike '1) he tills, cultivates the soil, 2) he hoes' (PD:32)

alaskə́sαwe	'he mows, cuts grass' (PD:35)
alihkʷekátike	'he chews gum, pitch' (PD:50)

The meronymic relation is richly attested in the robust and evidently productively used set of body-part Medials, a familiar and well-established type of incorporant (Mithun 1984:858; Baraby et al. 2002). In (11) we see examples of body-part Medials participating in part-whole relationships with the primary argument of the stem, be it transitive (11a) or intransitive (11b):

(11) Medials as incorporated body-part nominals

a. Body-part Medials: transitive: part-whole relations with core argument

wəkʷaskʷαtəpéhtəhαn	'he struck him dead on the head (Sbd)' [CQ gloss] (PL:késihlαt:24)
cf. nəkʷáskʷtəhα	'I kill him with a blow (by axe, club, etc.)' (PD:231)
nəkələtonépilα	'I tie his mouth (with string, cord, thong)' (PD:186)
cf. nəkəlápilα	'I tie him, tie him up, tether him' (PD:186)
nəməsáləwephα[5]	'I catch him quickly by the tail, I grab him by the tail' (PD:275)
cf. nəmə̀siphα	'I catch him' (PD:275)

b. Body-part Medials: intransitive: part-whole relations with core argument

mαtαləwéhposo	'he wags his tail' (PD:262)
pilsəsítehle	'his foot is numb, becomes numb' (PD:396)
milihptinétotam	'he gestures, talks with his hands' (PD:281)
sehsαlakikʷelámsoke	'the wind makes his eyes water, his eyes water from the wind' (PD:422)

The third set, of "elsewhere" relation Medials, is also well-established: hence we have Medials naming the instrument involved in the verbal event structure (12).

(12) Medials: instrument-naming

nəməlakʷámkəhα	'I cover him with earth, soil' (PD:274)
nəməlakʷipákəhα	'I cover him with leaves' (PD:274)
nəməlakʷipisákəhα	'I cover him with bushes' (PD:274)
məlakʷaskihkəwáhoke	'he lies covered with grass' (PD:274)

[5]Ms. <nəməsáləwephpα>, an obvious typographical error.

məlakʷékhoso	'he pulls the covers over himself' (PD:274)
nəkəpáhkehkawɑ	'I block/obstruct his passage with earth, dirt' (PD:190)
nənɑ̀či-kàlapkéhtɑhɑ	'I go frighten them out' [CQ: by hitting the ground] (S:30)
cf. nəkaláptɑhɑ [*sic*][6]	'I (purposely) frighten an animal away.' [*sic*: I...him] (S:30)

Alongside these are stems with Medials naming other oblique, locative notions like an embedding medium (13).

(13) Medials: locative/embedding medium

nəketɑləyákhamən	'I remove snow from it, I uncover it from snow' (PD:183)
wəčkawɑləyákhoso	'he approaches through the snow' (PD:461)
ketəlɔ́kʷhike	'he removes something, things from the ice' (S:30)

Filling out the "elsewhere" set are Medials that name the means/medium through which the event manifests. This last case rather interestingly shows how metaphorical extension can blur the distinction between locative and instrumental (14).

(14) Medials: locative/extended instrumentals

wəsɑ̀khi-kətəwɔ́ləkʷihlɑn	'he came into view in the sound of crackling ice' (S:30)
matéləkʷihle	'the ice makes a noise in moving or cracking, the ice sounds, there is a sound of moving ice' (PD:255)
matéləkʷihtan	'the ice roars in the current, there is a sound of ice flowing in the water' (PD:255)
mɑtkamikíhpote	'the earth trembles, there is an earthquake' (PD:262)
alihkəwákihle	'he/it bleeds' (PD:50)

The categories seen for Salishan incorporants in Wiltschko 2009, which build on much earlier work in N. Iroquoian, appear to exhaustively cover all known instances of Medial usage in Penobscot. Examination of the closely related Passamaquoddy-Maliseet language so far suggests the same for that language, and indeed, a preliminary look at the family as a whole has yet to turn up any

[6] A somewhat imprecise translation obscures this form's transitive nature; <...t ɑ h ɑ> here is also likely an early mistranscription of /...təh ɑ/ in this and the preceding form.

uses of Medials at all that might fall outside of the proposed tripartite system.

5 Conclusion

We conclude from this that the three categories of incorporant listed in (15) are empirically well-supported in at least Salishan and Algonquian languages (and, evidently, several others: cf. especially Mithun 1988's survey).

(15) Three categories of incorporant

(a) incorporated verbal classifiers/synonyms of themes
(b) inalienably-possessed body-part incorporants
(c) incorporants interpreted as instrumentals, locatives, and other quasi-arguments of the stem-complex predication

These in turn emerge directly from a theoretical model based on a claim that incorporants engage a thoroughly bare syntax, using nothing more than ordered, asymmetric Merge of √roots, with no intervening functional structure, to give rise to a correspondingly rarefied set of consistently contrastive semantic restriction relations.

(16) Possible (semantic-) syntactic outcomes of a Merging of two elements α and β

(a)	α restricts β	= [α[β]]
(b)	β restricts α	= [β[α]]
(c)	neither restricts the other=[α]...[β]	= not Merged locally

The emergence of the three categories of incorporant from this simple system is a welcome result: broad empirical coverage is derived from a minimalist theoretical model.

Many questions remain, however, in this preliminary survey.

First there is the obvious need for a more rigorous and precise semantic formalism for "restriction", and its relation to actual syntax. In particular, the mechanism by which "neither restricts the other" configurations reach oblique locative/instrumental interpretations needs to be clarified.

Beyond this, we must also concede a basic methodological problem: how exactly do we find and define these classes, and how do we falsify them, particularly when there is built into the system an explicit "elsewhere" class to dump all the outliers and exceptions?

Three observations offer some solace. First, innumerable linguistic models make use of elsewhere components, since these are the logical outcomes of having true asymmetries in contrast-building representations. Secondly, the categories established are strikingly robust across at least three North American language families. Third, the existence of precisely two sharply and closely defined categories, plus one “elsewhere class”, is not stipulated post hoc but

derived from rather generally supported principles of narrow syntax.

Such macro-categories are reminiscent of Dowty 1991's macro-roles, and should be, since both are the product of the most basic possible narrow-syntactic structural relations; in the domain of polysynthesis, these relations constrain combinatorial interpretation of lexical-syntactically complex structures. So while the present model does not exclude the possibility of subcategories of nominal incorporant, it does sharply require that all fall into one of these macro-categories.

Assuming that the essence of the present analysis stands up to further empirical testing, it offers a useful rubric for structuring the range of possible meanings of incorporants. With further development, it may also offer a potential insight into the interface between narrow syntax and semantic interpretation.

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