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SOME NOTES ON NOUN INCORPORATION

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Despite recent claims to the contrary, noun incorporation has an undeniable syntactic reality in some languages. In Greenlandic Eskimo and Southern Tiwa, the incorporated nominal displays many syntactic, semantic, and discourse-functional features of independent nominals—features which much recent work would lead us to doubt could characterize proper subparts of words. Linguistic theory must therefore allow for some limited interpenetration of the two modules of syntax and morphology.*

1. FLIGHTLESS BIRDS AND LINGUISTIC THEORY. We should not be at all surprised to find that, in a particular language, some word-building process displays all the characteristics that we have come to expect of lexical relationships: incomplete productivity, phonological and semantic unpredictability, syntactic identity with underived forms, and discourse opacity to the word-internal morphemes. We should not even be surprised if these traits show up in noun incorporation (hereafter NI), a word-building process which would seem to be amenable to a syntactic treatment, if any is—for by now the null hypothesis surely must be that any individual word-building process does not interact with the syntax. Mithun 1984 (hereafter M) argues that this null hypothesis holds for NI in several diverse languages. Though she hedges considerably on all crucial points, she apparently wishes us to believe that NI is always devoid of syntactic interest—as when she says, in her abstract: ‘where syntax and morphology diverge, incorporation is a solidly morphological device that derives lexical items, not sentences.’

The thesis which M apparently seeks to defend is much like the claim that there are no flightless birds in New Zealand. It is far more interesting and important than the weaker claim that most birds fly; but we cannot establish it by citing instance after instance of positive examples, since the existence of the kiwi renders the thesis simply false. The preponderance of evidence is such that, when confronted with a kiwi, we might be tempted to argue either that some of its longer leaps are to count as flying, or else that it is not a bird at all (for if it were, it would fly). But to surrender to the first temptation so weakens the real content of our thesis as to make it of little interest, and to surrender to the second temptation reduces the argument to circularity. Surely the most serious threat to the importance of any such universal pronouncement is the temptation to close our eyes whenever an apparent counter-example

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shows up—to delude ourselves into thinking that we did not see the kiwi that just trotted by.

A few years ago, I provided a description of just such a linguistic *rara avis* in the pages of this journal (Sadock 1980). The species had been discovered and described before (Rischel 1971, 1972); but its importance to linguistic theory was such that I felt that a more detailed account of its habits and habitat should be given in a more prominent place, in order to bring it to the attention of the linguistic community at large. Apparently I failed to achieve this goal, for the relevance of the facts of Greenlandic NI for M's thesis seems to have escaped her attention.

Now it might be that M assumed, along with Sapir 1911, that the Eskimo morphological process called 'noun incorporation' is a completely different sort of phenomenon (the equivalent of the proposal not to count the kiwi as a bird).¹ Indeed, the morphological technique for incorporating noun stems in Eskimo is quite distinct from that of the majority of M's cases: Eskimo incorporation is a matter of denominal verb formation, whereas the only processes that Sapir was willing to include under this rubric involved compounding.² But M's real point is that syntax is syntax, and morphology is morphology; and this would be falsified by derivational incorporation just as easily as by the compositional type. If anything, syntactic interactivity in straightforward cross-categorial derivation should be more surprising than in compounding—since compounding is a morphological phenomenon which, *prima facie*, seems to straddle the border between the two major components of grammar.

In what follows, I will show that virtually every characteristic which M ascribes universally to NI does not hold in certain languages. I will, in other words, repeat the point of my earlier paper: the linguistic equivalents of the flightless birds of New Zealand do exist, and must be recognized as exceptions to preconceived notions of linguistic structure.

2. OBLIGATORINESS. M begins with the claim that

'... all languages which exhibit such morphological structures [as NI] also have syntactic paraphrases ... The fact that productive morphological constructions of this type never exist in a language without syntactic analogs indicates that the morphologization itself must be functional ... speakers always incorporate for a purpose.'

However, the last footnote of Sapir's famous article includes a reference to Harrington 1910 on the Taos dialect of Tiwa, a Tanoan language of the American Southwest. In these languages, Sapir observes (following Harrington) that

'... both direct and indirect noun objects may be incorporated in the verb complex, coming between the pronominal prefix and verb stem; such incorporation is obligatory for singular direct objects ...'

Just recently the factors surrounding the obligatoriness of NI in a related di-

¹ This possibility is rendered unlikely by the fact that my article is cited once, in M's fn. 1—where it occurs in a list of 'other works dealing specifically with the topic'.

² M does cite Wakashan as illustrating her principles. As Tony Woodbury (p.c.) has pointed out to me, it would be very difficult to argue that these languages involve synchronic compounding in incorporation.

lect, Southern Tiwa, have been investigated in detail in a revealing article by Allen, Gardiner & Frantz 1984 (hereafter AGF).

The fact of the obligatoriness of incorporation in certain languages immediately creates a problem for any theory that fails to recognize the syntactic reality of the process. It is difficult to imagine how one could even state a generalization such as Harrington's for Tiwa if the morphological process were seen as having no connection with the syntax. Moreover, several other features of NI which M lists in her conclusions might seem reasonable for a morphological process that stands in contrast to a syntactic alternative, but strike me as totally unreasonable where the process is obligatory.

In particular, M asserts (889) that 'NI may be highly productive, but it is not free in the sense that syntactic operations can be.' But in a language that offers no alternative to NI in certain instances, how could it be any less free (i.e. any less productive) than the syntactic process whose functions it obligatorily assumes? M also says that, in Mohawk, 'Speakers know not only whether a derivationally complex word is possible, but also whether they have heard it before.' If this characterized obligatory NI, then speakers of such a language would have to have memories sufficient to store an open-ended set of expressions, in contrast to the presumed linguistic abilities of speakers of other sorts of languages.

Based on her data, M claims (890) that, 'When an entity is first introduced into a discussion, it is identified by an independent NP ... In subsequent discourse, the I[ncorporated] N[oun] alone is sufficient to qualify V's, and to retain the entity within the scope of the discussion.' But if this were true in general, then in a language where incorporation is obligatory, certain nominal notions could not be introduced into the discourse at all! Because of the importance of this claim, I will discuss the referentiality and discourse transparency of incorporated nominals at length in §3, below.

M claims (891) that NI 'is always functional ...' But to be functional, a linguistic device must contrast with another. An obligatory function is not a function in the intended sense at all.

Finally, M says (*ibid.*) that NI 'can be a difficult process ... Speakers who do it well may be especially admired, while marginal speakers may not be able to do it at all.' For speakers of a language where the NI process is not just an option, this would be like claiming that certain speakers are better at using transitive verbs than others—a claim which I doubt could be defended, at least if we restrict our attention to non-impaired language users.

Thus the available literature points to at least one group of languages besides Eskimo in which NI fails to conform to the principles which M puts forward. Importantly, Tiwa employs the compounding style of incorporation.

Now it is not even the case that strict grammatical obligatoriness, as found in Tiwa, is required to cast doubt on M's characterization of NI. It is sufficient for NI to be the only normal, idiomatic form (in the sense of Searle 1975)—for then it is not the case that 'speakers ... incorporate for a purpose', but rather that they REFRAIN from incorporating for a purpose. It is not the case that the incorporated form is marked as having properties which we would not

expect of a normal syntactic construction, but rather than the NON-incorporated form takes on a special significance. Thus the whole constellation of features which M associates with the phenomenon changes dramatically.

Two more very important characteristics are associated universally by M with NI: (a) the incorporated nominal is lacking in referentiality and discourse salience, and (b) the external syntax of an incorporating form is identical to that of basic verbs in the language. In 1980, I specifically pointed to the striking fact that Greenlandic NI has neither of these characteristics. Though I was very clear on both these points, and provided several examples of each, I will recapitulate the discussion here, to keep the record straight. I turn to these points in order.

3. REFERENTIALITY. We do not expect pieces of words to have independent referential or discourse properties; for this reason, I pointed out in 1980 that incorporated nominals in Greenlandic DO have such properties. Although M hedges somewhat as to the exact correlation of her four types of NI with referentiality and discourse salience, it seems to be her view (866) that the incorporated nominal never has the full range of discourse activity that independent nominals do:

'... the IN's themselves are not, strictly speaking, referential. An extensive examination of texts shows that they are not used to establish discourse referents as independent N's are ... In those relatively rare cases where entities first appear in discourse as IN's, any subsequent mention of them regularly includes a restatement of the N, either incorporated or independent.'

Hopper & Thompson 1984 make similar, but less equivocal claims, citing M and the superficial sketch of Mardirussian 1975; but they fail to note the clear counter-examples in my 1980 paper.³ They go so far as to collapse NI with noun-noun compounding, and they say (714):

'Just as with incorporation into V's, the compounded N in such examples is non-referring; it can play no further discourse role unless it is re-introduced with full categorial status. It is insulated from reference to syntactic processes or anaphoric rules.'

In 1980, I offered two Eskimo examples of incorporated nominals that served to introduce new topics which were subsequently referred to with ordinary anaphoric devices, exactly as they would have been if the first mention had been made in terms of independent nominals. Those examples were drawn from a children's book—the idea being to illustrate that such a thing is possible in quite simple Greenlandic styles. Lest this be taken as an accident of that particular genre, or that particular text, consider the following five examples

³ The case for functional determinism, like that of the kiwi, depends for its success on the absolute universality of the assumed correlations. Surely no one would deny that there is a strong tendency, based on discourse influence on grammar, for less typically nominal forms to serve less typically nominal functions. We expect, in the absence of evidence to the contrary, that the grammar of a language will be well suited to the functions that the language must serve. But if an aspect of grammar is to be reduced entirely to discourse functionality, then every single example of it must yield; otherwise, a core of cases remains where the existence of a purely grammatical instance of the phenomenon must be recognized. For an extensive discussion of this functionalist fallacy, see Newmeyer 1983, Sadock 1984.

which occur in a recent book of reminiscences,⁴ within 223 words of connected writing.⁵

This passage concerns a certain Luitivik, a man who neither smiled nor laughed. As his current wife explains, this is because so many dreadful things have befallen him during his lifetime. His first wife, she says, was called Aarnaseeraq. They had a son and they called him Mala. This is the way it goes in Greenlandic:

- (1) *Ernertaarput,* *atserlugulu* *Malamik.*
 erneq-taar-put atser-lugu-lu Mala-mik
 son-get.a.new-INDIC.3pl. name-CONTEMP.3sg.-and M.-INST
 'They had a son and called him Mala.'

The crucial thing here is the verb form *atserlugu*—a transitive, subordinate form whose subject must be coreferent with the main-clause subject, and whose inflection serves to reference features of the object. The 3sg. suffix on this verb clearly refers to the son introduced into the discourse in incorporated form in *ernertaarput*.

Luitivik has plans for his son Mala to be a hunter as skillful as himself. So shortly before Mala's twelfth birthday, Luitivik builds him a beautiful kayak, and covers it in white sealskin. When the kayak is finished and Luitivik has greased it, he puts it away pending Mala's upcoming birthday:

- (2) *Luitiviup assut qusanartumik qaanniorpaa,*
 Luitivik-p assut qusanartoq-mik qajaq-lior-paa
 L.-ERG very beautiful-INST kayak-make.for-INDIC.3sg.3sg.
 'Luitivik made him a very beautiful kayak,'
unnermillu *amertillugu,*
 unneq-mik-lu amertit-lugu
 white.sealskin-INST-CONJ COVER-CONTEMP.3sg.
 'and covered it with white sealskin,'
inermallu *orsoreerlugu,*
 iner-mat-lu orsor-reer-lugu
 finished-PAST.SUB.3sg.-CONJ grease-PERF-CONTEMP.3sg.
 'and when it was finished, he greased it,'
inuissiormissaanut utaqqisilerpaa.
 inuissiorneq-ssaq-anut utaqqi-tit-ler-paa
 birthday-FUT-3sg.ALLAT wait-cause-begin-INDIC.3sg.3sg.
 'and put it away for his [Mala's] birthday.'

Here reference to the kayak, introduced in the incorporated form *qaanniorpaa*, is picked up anaphorically no fewer than four times in the subsequent discourse: in *amertillugu*, *inermallu*, *orsoreerlugu*, and *utaqqisilerpaa*. (The 3sg. inflection in *inuissiormissaanut* refers to Mala.) What is especially striking here is that the stem *qaannior-* 'to make a kayak for' is lexicalized: though it is formed from the noun *qajaq* and the productive incorporating affix *-lior(paa)* 'to make for', the phonology is unproductive (see Rischel 1974:194). But the fact that the form is clearly listed is no barrier in Greenlandic to the full referentiality and discourse 'deployability' (to use a term from Hopper & Thompson) of the incorporated nominal.

This tale has a sad ending: Mala dies before his birthday, and Luitivik is plunged into depression. Two more of his children die, as well as two wives.

Despite these misfortunes, Luitivik finds one thing amusing, namely tales of people eating a great deal. Paliitsit was one such notorious over-eater. Once he had been out for three days and had caught nothing; but when he did catch a seal, he ate and ate:

⁴ The passage in question is from Lyngé 1978. It begins with the first full paragraph on p. 110, and runs through the last full paragraph on p. 113. The book is written in the older orthography, but I have transcribed it into the newer spelling for consistency with the examples in Sadock 1980.

⁵ Since a Greenlandic word is considerably more information-packed than a corresponding English word, this text is longer in real terms than this number might be taken to indicate.

- (3) ... *puisikkaangamili*,
 puis-i-t-gaanga-mi-li
 seal-catch-when-ever-4sg.-CONJ
 '... but whenever he caught a seal,'
orsuata ilaa nerisarpa.
 orsoq-ata ila-a neri-tar-paa
 fat-ERG.3sg. PART-3sg. eat-HAB-INDIC.3sg.3sg.
 'he would eat some of its fat.'

Here the 3sg. reference in *orsuata* is to the seal; the phrase *orsuata ilaa* means 'some of its fat', and the 3sg. suffix in *ilaa* refers to the fat.

The next eating story concerns two men who went on a trip to a fjord, and found the beach strewn with what appeared to be candles. It begins: 'Once my father accompanied the priest Schultz-Lorentzen the elder on a trip to a fjord,⁶ and when they arrived ...':

- (4) ... *kangerluliaqatigisimavaa*,
 kangerluk-liar-qat-gE-sima-vaa
 fjord-go.to-companion.in-have.as-PERF-INDIC.3sg.3sg.
 '... he accompanied him going to the fjord,
tikikkamillu, ...
 tikit-ga-mik-lu
 arrive-PAST.SUB-4pl.-CONJ
 and when they arrived, ...'

Though no pronominal reference is involved here, the verb 'to arrive', used without an explicit indication of the goal, demands a discourse-reconstructible entity indicating the goal—just like the English verb of similar meaning. Note also that the morpheme meaning 'fjord' occurs two levels of NI down inside the verb *kangerluliaqatigisimavaa*.⁷

It seems that the men of the area had gone caribou-hunting in kayaks. When they had gotten some quarry, they filled their kayaks with only the tallow of the animals, because they did not have room to carry the meat as well:

- (5) ... *pisaqamasimallutillu*,
 pisaq-qar-ma-sima-llu-tik-lu
 quarry-have-be.such.that-PERF-CONTEMP-4pl.-CONJ
 '... and when they had gotten some quarry,'
neqaat nassarsinnaannginnamikkit,
 neqE-it nassar-sinnaa-nngit-ga-mikkit
 meat-3pl.PL carry-be.able-not-PAST.SUB-4pl.3pl.
 'since they were unable to carry their [the quarry's] meat, ...'

It is clear that *neqaat* must refer to the meat of the animals for two reasons. First, the bare form of the stem indicates inalienable possession; a derived stem would be required to indicate alienable possession. Second, the 3rd person form of the suffix cannot be coreferent with the subject of the clause; a special, so-called 4th person form is reserved for that purpose.⁸

This story ends with an incorporating form, though not one that clearly illustrates my present point. I include it for the sake of completeness. It turns out that—since the people of the area had only tallow to eat for several days—lo and behold,

- (6) ... *qaallorinnik anaqalerlutik*.
 qaallorik-nik anaq-qar-ler-llu-tik
 glistening-INST.PL turd-have-begin-CONTEMP-4pl.
 '... they began to have glistening turds.'

⁶ Reference is to the father of a well-known grammarian and lexicographer of Greenlandic.

⁷ However, a fairly good argument can be made that *-qatigaa* is now a lexicalized, deverbal verb-forming suffix that is not to be analysed in terms of nominalizing and denominal verb-forming affixes (cf. Fortescue 1980:275).

⁸ The form *neqaatitik* < *neqi* 'meat' + *ut* 'owned' + *itik* '4pl.PL' would be used if the reference were to the hunters rather than the animals.

The reason that incorporated nominals in Greenlandic can so easily introduce discourse topics is that, in many cases, the language provides no non-incorporated form of equal or lesser complexity and idiomaticity. Thus we should not be surprised that in Tiwa, where incorporation is sometimes grammatically obligatory, the incorporated nominal can also introduce a discourse topic. Even in Harrington's brief Tiwa text, we find one very clear instance. The internal nominal is an inanimate object, an argument type that is obligatorily incorporated (cf. AGF and Sadock 1985b).

The story concerns Old She-Wolf and Old She-Deer. She-Wolf goes to where She-Deer lives, and suggests to her that they live together. One day, as they are out gathering wood, She-Wolf playfully bites She-Deer, who realizes that the reciprocal arrangement is fraught with danger, and tells her little ones that she might soon be killed by the wolf. She warns them that, if the wolf brings them some pieces of meat—and if, when they roast it, it makes a sizzling sound—then they should not eat it. This last part goes as follows, with Harrington's notation and glosses:

- (7) *Hu xu 'aixã'n hi ja*
 So then in.case perhaps hither
'uma'na'm-tüã-ka'la' n,
 them.2 + INAN.she.for.you.2 + -meat-brings when
ma'n-xa-k'üi k 'iiliti-m-töja-mã'n,
 you.2-roast-put when sss.sound-be.in.state-sizzle-PROG.
'ãitã'n xu ma'n-na-k'al-pu'.
 in.that.case then you.2-not-eat-shall

Here reference to the meat, introduced as an incorporated stem, is continued in terms of zero-pronominal anaphors, the normal anaphoric device for definite 3rd person subject and object reference.⁹ Harrington lists the root *xa* as a verb, so the reference in the next two verbs must also be to the meat.

Even in Mohawk—where, according to M, incorporation 'is not free in the sense that syntactic operations can be'—there are cases where incorporated nominals introduce discourse topics. She explains this as having to do not with the nature of NI, but with the way the referential system works. The idea is that, in English, anaphoric devices require linguistic antecedents; but in Mohawk, a pragmatic antecedent is sufficient. M asserts (871): 'It is the pronominal system of polysynthetic languages that differs from English, not the word formation processes.' This remarkable claim, made on the basis of evidence from a single language, strikes me as something like asserting that kiwis really do fly, but that their flight is different from what it is among winged species. Even if M's assertion were true, M's universal connection between a feature of the word-building systems of polysynthetic languages and their pronominal systems would cry out for explanation.

But there is every reason to doubt M's claim. It is well known that the English definite pronouns require only a pragmatic antecedent, as Hankamer & Sag 1976 have pointed out. Thus we find perfectly acceptable English examples like 8, which entirely parallel the Mohawk example 9 (M's 112), to which she

⁹ When 'meat' is introduced in an incorporated form, it is plural, as indicated by the first affix on the verb. When the reference is continued, it is singular. Note that this switch is also perfectly natural in English: *I bought some nice chunks of meat and cooked it with potatoes.*

At any rate, the point is simply that the incorporated nominal introduces a discourse topic that is referred to subsequently without explicit mention—not that there is any grammatical connection between antecedent and anaphoric device.

attaches so much significance:

(8) *I dined at the Homard Rouge. It was much too salty.*

(9) *K-atenún-hah-kwe. Áh tsi yehétkv.*

I-watch-HAB-PAST ah how she.ugly

'I was baby-sitting. Boy, is she ugly!'

The remarkable thing is that many speakers of English cannot comfortably say anything quite like 10—although in certain polysynthetic languages, most particularly Eskimo and Tiwa, this is perfectly normal, as shown by the examples discussed above:

(10) *I went baby-sitting last night. Boy, was she ugly!*

This is surprising since the pronominal system of English OTHERWISE allows for the pragmatic antecedents, as has been amply demonstrated. Genuine lexical items in a non-polysynthetic language can count as anaphoric islands (Postal 1969), even for pragmatically sanctioned anaphora; but they do not do so in languages with more robust morphologies. This is clearly a fact concerning the nature of word-building in the two sorts of languages—rather than, pace M, the nature of their anaphoric processes.

4. EXTERNAL SYNTAX. Grammatically or pragmatically obligatory NI virtually demands that modifiers of the incorporated nominal be allowed to occur outside the verb form. Even in languages where incorporation is not obligatory, it is sometimes the case that constituents outside the verb are understood as modifying the internal nominal. Confronted with examples of this type, M suggests that the free element is always a potential argument of a basic verb in the language; thus no syntactic reality need be attributed to an NP consisting of the incorporated nominal and the external modifier. But in my 1980 article I laid great emphasis on the fact that the external syntax of Greenlandic verbs with incorporated nominals is not identical to that of basic verbs of the language, and in particular that §§4.1–4.4 are unique properties of incorporating verbs.

4.1. Incorporating verbs alone may have external possessors in the ergative case:

(11) *Kunngip panippassuaqarpoq.*

kunngi-p panik-passuaq-qar-poq

king-ERG daughter-many-have-INDIC.3sg.

'There are many king's daughters (i.e. princesses).'

(12) **Kunngip takuvunga (takuara).*

kunngi-p taku-vunga (taku-vara)

king-ERG see-INDIC.1sg. (see-INDIC.1sg.3sg.)

'I saw the king's.'

4.2. Incorporating verbs alone may impose restrictions on the formal plurality of an external NP, in case the internal NP is lexically specified as to formal plurality. Though some verbs may select a semantically plural complement, only incorporating verbs select for syntactic plurality:

- (13) *Ataatsinik qamuteqarpoq.*
 ataaseq-nik qamut-qar-poq
 one-INST.PL sled.PL-have-INDIC.3sg.
 'He has one sled.'
- (14) **Ataatsimik qamuteqarpoq.*
 ataaseq-mik qamut-qar-poq
 one-INST.SG sled.PL-have-INDIC.3sg.
 'He has one sled.'

4.3. Though I did not state it quite this way in 1980, it is clear that verbal affixes which incorporate a predicate nominal also have syntax unlike that of any non-incorporating verb. Such forms, and no others, may have an additional absolutive NP associated with them which obligatorily follows the verb, and which is not understood as a modifier of the subject phrase:

- (15) *Joorut palasinngorpoq tusaamasoq.*
 J. palasi-nngor-poq tusaama-soq
 Jørgen priest-become-INDIC.3sg. famous-NOM
 'Jørgen became a famous priest.'
- (16) *Joorut tusaamasoq palasinngorpoq.*
 'The famous Jørgen became a priest.'
- (17) ??*Joorut toquvoq tusaamasoq.*
 toqu-voq
 die-INDIC.3sg.
 'The famous Jørgen died.'
- (18) *Joorut tusaamasoq toquvoq.*
 'The famous Jørgen died.'

4.4. To these examples I may now add the following fact. Sporadically, Greenlandic has what must be considered the polysynthetic analog of gapping:¹⁰ Here the incorporating stem is understood as occurring in a second conjunct. Because the incorporated form is unmarked for case, the second conjunct con-

¹⁰ Tony Woodbury reports that gapping of an incorporating suffix is also possible in Yup'ik Eskimo. In Yup'ik the gapped conjuncts occur in the instrumental case; e.g.,

Kass' a-lla-meng mat' u-meng, waten taw',
 whiteman-thing.of-INST.SG this-INST.SG like now
 'This whiteman's food, like this now,
kass' a-llar-tu-tu-llru-ukut
 whiteman-thing.of-eat-always-PAT-INDIC.1pl.
 'we used to always eat whiteman's food
tamaani, mukaa-meng, caayu-meng,
 then flour-INST.SG tea-INST.SG
 'back then, (like) flour, tea,
ilini-ll' caarrala-meng, ilini-ll' taw'
 sometimes-and sugar-INST.SG sometimes-and then
 'and sometimes sugar, and then sometimes
caala-ngqerr-naur-tukut.
 shortening-have-HAB-INDIC.1pl.
 'we would have shortening.' (Woodbury 1984:38)

sists just of an absolutive NP introduced by a conjunction. No non-incorporating verb can possibly occur with such a stranded conjunct.

The following is an example of this remarkable process drawn from the same section of text from which exx. 1–5 are drawn:

- (19) ... *Paliitsit 276-inik ammassattortoq*
Paliitsit 276-inik ammassak-tor-toq
 P. 276-INST.PL sardine-eat-NOM.PART.3sg.
 '... that Paliitsit ate 276 sardines
nipisallu ilivitsut marluk.
nipisa-t-lu ilivitsoq-t marluk
lumpfish-PL-CONJ whole-PL two
 and two whole lumpfish.'

4.5. A revealing fact which I failed to mention in 1980, for some reason, is that an incorporated nominal in Greenlandic is incompatible with a simultaneous external occurrence of the same nominal. This strongly suggests that the incorporated nominal is indeed the actual syntactic head of a phrase—and causes problems for any theory which claims that stranded modifiers, demonstratives etc. are just ordinary NP's with null heads:

- (20) **276-inik ammassannik ammassattorpoq.*
276-inik ammassak-nik ammassak-tor-poq
 276-INST.PL sardine-INST.PL sardine-eat-INDIC.3sg.

In Yup'ik Eskimo, which otherwise presents data very similar to Greenlandic, such doubling is possible. (An instance is given in fn. 10.)

5. SEMANTICS. According to M, an external argument to an incorporating verb represents a more specific entity of the kind indicated by the incorporated noun stem. The idea is that the IN can be taken as a qualifier of the activity expressed by the verb, and the external argument as the real argument; the effect of modification of the incorporated nominal is then a product of the semantics, rather than the syntax. If we have a clause of the form $NP_1 N_2 + V$, we take $N_2 + V$ to signify the class of actions of V-ing restricted to things of type N_2 , and the patient of this action to be NP_1 . Thus the patient must both be in the set denoted by N_2 and in the range of potential denotata of NP_1 .

Such a semantic theory might be plausible where the incorporated nominal is quite general, and the external argument is necessarily a more specific entity of the same kind—as in Eng. *compose a cantata*, *sing an aria*, or *diagonalize a matrix*. But it is much less plausible where the two sets have no necessary relationship to one another. This is the case in M's Mohawk example 106, repeated here as 21—and in general where the external nominal is a quantifier, as in M's Caddo example 81 (repeated here as 22), in my Greenlandic example 19 above, or in the Southern Tiwa example 23 (from AGF):

- (21) *Kanekwarúnyu wa'-k-akya'tawi'tsher-ú:ni.*
 it.dotted.DIST PAST-I-dress-make
 'I made a polka-dotted dress.'

- (22) *Wayah hák-k' uht-'i'-sa'*.
 a.lot PROG-grass-be/grow-PROG
 'There is a lot of grass.'
- (23) *Wisi ibi-musa-tuwi-ban.*
 two AGR-cat-buy-PAST
 'They bought two cats.'

Normally, when the extension of the nominal object of a clause is not necessarily a subset of the range of possible objects of the verb—as is regularly the case when the object is a free adjective or quantifier—it must have a discourse antecedent. Thus Eng. *I sang three*, or German *Ich habe ein Schönes gesungen* are quite grammatical; but they cannot begin discourses, even though we know from the meaning of the verb what sort of entity the object must be. For these sentences to occur appropriately, the song (or *Lied*, or aria) must already have been introduced into the discourse.

In Greenlandic, this is also generally true. Thus a sentence like 24 can be used appropriately only if the sort of thing to which the object is supposed to refer has already been established as a discourse topic:

- (24) *Marlunnik nerivunga* 'I ate two.'
 marluk-nik neri-vunga
 two-INST.PL eat-INDIC.1sg.

The sole exception of which I am aware is provided by NĪ. Ex. 25 can be used to initiate a discourse—in other words, under exactly the same circumstances as 26, which has a free object:

- (25) *Marlunnik ammassattorpunga.*
 marluk-nik ammassak-tor-punga
 two-INST.PL sardine-eat-INDIC.3sg.
 'I ate two sardines.'
- (26) *Amassannik marlunnik nerivunga.*
 ammassak-nik marluk-nik neri-vunga
 sardine-INST.PL two-INST.PL eat-INDIC.1sg.

M's glosses and discussion suggest that exactly the same collection of facts characterizes Mohawk too. Her gloss of 21 as 'I made a polka-dotted dress' suggests that no prior antecedent is required, while her gloss of the syntactically parallel 27 (her 107) suggests the opposite. In fact, M states, just below this example (p. 870), that it 'would be appropriate any time the type of object (here a dress) was clear from context':

- (27) *Kanekwarúnyu wa'katkáhtho.*
 it.dotted.DIST PAST.I.see
 'I saw a polka-dotted (one).'

The upshot is that existing semantic rules simply will not account for the interpretation of sentences with external modifiers of incorporated nominals. We would minimally require a special rule of interpretation that gives a complete interpretation to free quantifiers and adjectives as complements of all and only those verbs which contain such a nominal.

Thus the semantic account of external modifiers needs to be complicated in order to account for those whose extension is not a proper subset of the extension of the incorporated nominal; but the theory collapses utterly when the external modifier is what in the semantic literature (cf. Lewis 1976) is called a non-extensional adjective. Thus, while a polka-dotted dress is a dress, counterfeit money is not money at all. Yet adjectival nouns with meanings like 'counterfeit' can perfectly well occur external to an incorporating verb in Greenlandic, with precisely the same semantic effect as when they occur as modifiers of independent nouns:

- (28) *peqquserluutiniq aningaasiortoq* (Bugge et al. 1960:122)
 peqquserluut-nik aningaasaq-lior-toq
 false-INST.PL money.PL-make-NOM
 'one who makes false money, a counterfeiter'

In such a case, the suggestion that the incorporated modifier simply restricts the range of arguments of the verb will, like the kiwi, simply not fly.

6. CONCLUSIONS. I have no doubt that, in most instances, NI is a 'solidly morphological device'. Nor do I doubt that most birds of most places very clearly can fly. But the kiwi exists—and so do languages in which the syntactic relevance of NI cannot be denied, regardless of functional and grammatical prejudice. Thus linguistic theory can not exclude this possibility in principle, just as biological theory must not exclude flightless birds as impossible in principle. We must, in other words, seek to construct a constrained theory of syntax and morphology that allows for the kind of impurity of levels seen in languages like Eskimo and Tiwa, but which does not admit kinds of mixings of syntax and morphology which do not exist. (For an attempt at constructing just such a theory, see Sadock 1985a.)

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