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NOUN INCORPORATION AND DISCOURSE REFERENCE IN MODERN NAHUATL

FRANCESCA MERLAN

TULANE UNIVERSITY

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of noun incorporation for the investigation of the relationship between underlying semantic configurations and surface expression of these at the propositional and lexical levels is undeniable (see 3 below), I wish to discuss a different aspect of the problem. My purpose here is to examine noun incorporation as a discourse phenomenon in the modern Nahuatl dialect of Huauhtla, Hidalgo, Mexico.² In terms of discourse, it is possible to show that incorporated nouns serve to maintain definiteness of discourse reference by functioning as anaphors which maintain coreference with previously introduced lexical nouns. Because lexical properties of nouns are preserved under incorporation, noun incorporation functions as a strong reference-maintaining device intermediate between complete repetition of the co-referential adjunct and complete anaphoric pronominalization.

0. A number of recent papers indicate a growing interest in noun incorporation in American Indian languages.¹ Although different approaches are taken to the problem of noun incorporation in these works, all the works share an emphasis on the contribution of incorporation to propositional reference within syntactically defined units. While the theoretical significance

I begin by reviewing briefly earlier definitional statements of noun incorporation in American languages generally, and statements regarding noun incorporation

¹ Recent references include: Wallace Chafe, "A Semantically Based Sketch of Onondaga," *IJAL Memoir* 25 (1972); W. Chafe, "The Caddoan, Iroquoian and Siouan Languages" (manuscript, 1973); Bruce Riggsby, "Nass-Gitksan: An Analytic Ergative Syntax," *IJAL* 41 (1975): 346-54; C. F. Voegelin and F. M. Voegelin, "Some Recent (and Not So Recent) Attempts to Interpret Semantics of Native Languages in North America," in *American Indian Languages* (The Hague: Peter de Ridder Press, in press), sec. 2; H. Christoph Wolfart, "Plains Cree Internal Syntax and the Problem of Noun Incorporation," *Proceedings of the Thirty-eighth International Congress of Americanists* 3 (1968): 511-18; and Hanni Woodbury, "Onondaga Noun Incorporation: Some Notes on the Interdependence of Syntax and Semantics," *IJAL* 41 (1975): 10-20.

² Modern Nahuatl material presented here was elicited over a two-month period from Srta. Antonia Osorio Naranjo, who came to Tulane University to serve as assistant in a course on Spoken Nahuatl. She is from the rancho of Huazalinguillo in the Huauhtla area. Her perceptions about many instances of noun incorporation (e.g., her observation that many instances of incorporation could not be discourse-initial) led us to discourse- and text-oriented elicitation.

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in Nahuatl languages in particular. Next, I examine instances of incorporation in Huauhtla Nahuatl (hereafter HN) and discuss the discourse value of incorporation in the language. Finally, I suggest that the use of noun incorporation in HN is comparable to means used in other languages to signal coreference at the discourse level. My conclusions are based only on data from HN, but I suggest that they may be of comparative interest to students of other modern Nahuatl languages and to the documentation of the varying functions of noun incorporation in American languages generally.

1. Despite its great theoretical interest, noun incorporation remains a sketchily explored area of morphosyntax in American Indian languages. The early papers of Kroeber and Sapir still constitute the major theoretical discussions of the process in American languages.³ A brief summary of the Kroeber-Sapir exchange serves to characterize noun incorporation and to place in perspective the following discussion of the process in Nahuatl. Less space is devoted to Kroeber's essentially negative and unperceptive views on the subject.

In "Noun Incorporation in American Languages," Kroeber asserts that incorporation, which he defines as "the combination into one word of the noun object and the verb functioning as the predicate of a sentence," has mistakenly been alleged to exist in North America.⁴ Kroeber is skeptical of the existence of noun incorporation for two reasons. First, he claims that the principal reason for

³ Alfred Kroeber, "Noun Incorporation in American Languages," *Proceedings of the Sixteenth International Congress of Americanists* (1909): 569-76; and Edward Sapir, "The Problem of Noun Incorporation in American Languages," *American Anthropologist* 15 (1913): 250-82.

⁴ Kroeber, p. 569.

belief in objective noun incorporation has been the erroneous conception held regarding pronominal incorporation in many American languages.⁵ He observes that what has commonly been called "pronominal incorporation" is not the introduction into the verb of independent pronouns, but is rather an inflectional process. Kroeber reasons that if it can be shown that independent pronouns are not introduced into the verb, there is no cause to suppose that nouns may be either.

Kroeber's second argument against the existence of noun incorporation is "the fact that no one has affirmed incorporation of the subject."⁶ However, this claim is decisively refuted by Sapir.⁷

The common use of body-part affixes in American languages forces Kroeber to conclude that body-part terms occupy a distinctive place among noun classes and that "even the direct objective use of independent noun stems denoting parts of the body in single-word verb complexes seems dependent on the unique character of these stems."⁸

Refuting these negative claims, Sapir provides evidence of noun incorporation, both of the intransitive subject and the transitive object, in several American language families. Sapir agrees with Kroeber that "so-called pronominal incorporation and noun incorporation stand in no necessary relation to each other,"⁹ and also that the formation of denominative verbs from noun stems by means of derivational verbal affixes must be excluded as evidence of noun incorporation.¹⁰

Sapir establishes a morphological criterion of noun incorporation by observing

⁵ *Ibid.*, p. 570.

⁶ *Ibid.*, p. 573.

⁷ Sapir, p. 258.

⁸ Kroeber, p. 572.

⁹ Sapir, p. 250.

¹⁰ *Ibid.*, pp. 251-52.

that "...verbal affixes that refer to nouns, in other words, convey a substantival idea, are not instances of noun incorporation if they are etymologically unrelated to the independent nouns or noun stems with which they seem logically connected.... As long as they are lexically distinct from noun stems proper, they must be looked upon as grammatical elements pure and simple, however concrete their signification may seem. They are logically related to independent nouns of the same or allied meaning as are tense affixes to independent adverbs of time."¹¹

Sapir objects to Kroeber's definition of noun incorporation as "the compounding into one word of the noun object and the verb functioning as the predicate of a sentence." Kroeber's definition makes two separate requirements: "...a noun must combine with a verb predicate into a word-unit, and the noun so combined must function as the object of the verb. The first requirement is morphologic in character, the second purely syntactic; in other words, the first calls for a certain type of word formation, while the second demands that a particular logical relation subsist between the two independent elements that enter into word formation. Noun incorporation is primarily either a morphologic or a syntactic process; the attempt to put it under two rubrics at the same time leads to a certain amount of artificiality of treatment."¹²

Sapir proposes instead to define noun incorporation as "the process of compounding a noun stem with a verb...no matter what the function of the noun logically is."¹³ There is no need to regard body-part terms as a separate or peculiar class of nouns; they may be accepted as evidence of noun incorporation, provided

¹¹ *Ibid.*

¹² *Ibid.*, p. 255.

¹³ *Ibid.*, p. 257.

that the incorporated stem is morphologically related to the independent noun.

Although all the languages that Sapir cites may be classed as "noun incorporating," he cautions that they "often differ materially among themselves, each traveling more or less its separate way."¹⁴ Languages may differ with respect to the position of the incorporated stem, the degree of coalescence of the noun stem with the verb, and the types of syntactic relationships that are expressed by noun incorporation.

Relevant to the following discussion of noun incorporation in Nahuatl is Sapir's notion that some languages tend to use the incorporative process to express permanent or general activity, while others freely employ incorporation to express particular or single acts. "Thus 'I meat-eat' may be understood to mean either 'I eat meat, I am a meat-eater' or 'I eat the meat' (at one point in time); in its former sense it may be termed a verb of *general* application; in its latter sense one of *particular* application.... This distinction between a general and particular type of verb is of significance in so far as in some American languages verbs with incorporated noun always belong or tend to belong to the former type, single activities being expressed by the syntactic method that we are familiar with in Indo-Germanic, or by one more nearly resembling it. On the whole, general verbs with incorporated object are more often met with, or, at any rate, met with in more languages, than those of the particular class, and this fact is in striking and significant analogy with the prevailingly general character of compound nouns."¹⁵

2. Both Kroeber and Sapir cite Classical Nahuatl as a language in which noun

¹⁴ *Ibid.*, p. 258.

¹⁵ *Ibid.*, p. 259.

incorporation is alleged to occur. Kroeber, however, dismisses evidence of the process on the following grounds:

A typical case is the classic one of Nahuatl. Usually the grammars state that the noun object can be and is incorporated between the subjective pronominal prefix and the verb, but that the "more common" construction is to "replace" the noun object by its [*sic*] pronominal equivalent. When and why it is usually replaced, and when not, are passed over. The examples of actual noun-incorporation are usually limited to one or two, of the type of house-build, bread-make, hands-wash, in other words possible instances of derivation from a noun by a causative or analogous suffix, or compositional construction with adverbially used stems denoting body parts. An examination of analyzed Nahuatl texts shows occasional occurrences of what may be noun incorporation, but an infinitely greater number of instances of independence of the noun object. Until a reason is given for these instances, there must be legitimate hesitation to accept as true cases of incorporation the fewer possible or apparent instances of it.¹⁶

Sapir, relying on the work of Lehmann,¹⁷ argues that there is good evidence of noun incorporation in Nahuatl. Citing the forms *ni-c-qua nacatl*¹⁸ *I it-eat the flesh* and the corresponding incorporated *ninacaqua I flesh eat*, he remarks that "there is an important difference in meaning between these sentences. The former means 'I eat the flesh' (a particular act), the latter 'I eat flesh, I am a flesh-eater.' In other words, incorporation of the object seems to occur in Nahuatl, at any rate according to Lehmann, only in verbs of what was termed the general type."¹⁹ Sapir never-

theless points out that some instances of noun incorporation in Classical Nahuatl appear to be of particular rather than general application.

Ecker's study of Otomí and Nahuatl²⁰ provides several examples of incorporation from Classical texts and reaches the conclusion that noun incorporation functions to designate "una conexión psicológica especialmente estrecha entre el verbo y el elemento incorporado, que puede consistir en: 1) una ocupación u oficio regular, permanente o característico del sujeto; 2) un procedimiento técnico o especializado; 3) cualquier otra unidad conceptual equivalente a una "frase hecha."²¹

Requiring further investigation are Kroeber's and Lehmann's independent statements that instances of alleged incorporation are quite rare in old texts.²² Andrews²³ indicates that incorporation was an active process in Classical Nahuatl; he discusses objective, adverbial, and complement functions of incorporated nouns, although he makes no clear statement of the conditions for incorporation.

3. Of theoretical significance is the fact that there appears to be a definable, but as yet incompletely explored, relationship between semantic classes of nouns as defined by lexical content and potential for incorporation. In the Iroquoian and Caddoan languages, for example, objects of transitive verbs and subjects of intransitive verbs may incorporate, but subjects

²⁰ Lawrence Ecker, "La Incorporación del Objeto al Verbo en Otomí y Mexicano," *Proceedings of the Twenty-seventh International Congress of Americanists, Sesión de Mexico 2* (1939): 269-77.

²¹ *Ibid.*, p. 277.

²² See Lehmann, p. 65.

²³ J. R. Andrews, *Introduction to Classical Nahuatl* (Austin: University of Texas Press, 1975), pp. 161-74.

of transitive verbs may not.²⁴ Significantly, not all nouns in the surface functions of transitive object and intransitive subject may incorporate; rather, incorporation is by and large possible only for nouns that rank low on a scale of lexical feature values, the upper end of which defines naturalness of a noun phrase as the agent of a transitive verb, the lower end naturalness as the patient of a transitive verb.²⁵ The cutoff point for incorporation in most cases seems to be around the level of marking for \pm animate: NPs that are +animate are generally resistant to incorporation, NPs that are -animate are acceptable for incorporation, depending on their specification for features lower in the scale. Thus, Chafe says of Onondaga that "it is the noun root within a patient noun which is introduced post-semantically into the verb."²⁶ Chafe indicates that there are a few seemingly animate noun roots which are subject to incorporation, but suggests that these are semantically -animate or are subject to postsemantic loss of their animateness before incorporation occurs.²⁷ In Caddoan and Iroquoian, nouns of more inclusive reference show a greater tendency to

²⁴ Information on incorporation in Mohawk may be found in Paul Postal, "Some Syntactic Rules in Mohawk" (Ph.D. diss., Yale University, 1962).

²⁵ Many older sources could be cited with reference to the notions of hierarchy and markedness. Most recently, an exposition of these notions as used here is found in an unpublished paper "Nominal Hierarchies in Grammar" by Jeffrey Heath, who gives credit to recent work of Michael Silverstein.

²⁶ Chafe, "Sketch of Onondaga," p. 51. An explanation of "patient" in terms of selectional units of verbs is found in W. Chafe, *Meaning and the Structure of Language* (Chicago: University of Chicago Press, 1970), p. 102. Processes which account for postsemantic patients in Onondaga are exemplified in Chafe, "Sketch of Onondaga," pp. 46-48.

²⁷ Chafe, "Sketch of Onondaga," pp. 50-51.

incorporate than do taxonomically subordinate nouns of more specific reference.

The set of relevant features must be determined and ranked for each language by examination of instances of incorporation and other facts of surface distributions. It is possible that distinct sets of values, or more likely different cutoff points in the set of features, may be involved in determining the potential for incorporation of nouns in intransitive subject and transitive object functions. In Arikara, for example, in a limited number of cases, animate nouns may be incorporated as subjects of intransitive verbs, while these same nouns cannot incorporate when they are in the transitive object function. Other aspects of incorporation require further definition: there are some nouns that obligatorily incorporate, others that preferentially incorporate, others that cannot incorporate. In the Caddoan and Iroquoian languages at least, the incorporated noun may cross-reference a noun which is also preserved outside the verb, so that a referent is denoted by more than one adjunct in surface forms.

Thus there is some relation between semantic classes as defined by lexical content of NPs and the transformational process which results in incorporation. Although in Caddoan and Iroquoian a general principle is at work which distinguishes "agents" from "nonagents" in terms of potential for incorporation, it is nevertheless true that noun incorporation does not provide very consistent surface evidence of lexical feature values below the level of \pm animate.²⁸

²⁸ Chafe, in his 1973 manuscript, states that in Caddo, the distinction between "incorporating" and "nonincorporating" nouns is to a large extent arbitrary from a semantic point of view. However, some of the conditions on incorporation which he mentions in Caddo lend themselves to interpretation in terms of features or lexical

¹⁶ Kroeber, p. 574.

¹⁷ Walter Lehmann, *Methods and Results in Mexican Research*, trans. Seymour de Ricci (Paris: H. Clarke, 1909). Originally published in *Archiv für Anthropologie* 6 (1907).

¹⁸ These forms are given in the traditional Spanish orthography as cited by Sapir.

¹⁹ Sapir, p. 260.

4. HN, like Classical Nahuatl, exhibits an appositional surface structure in which the surface function (case marking) of every major NP constituent is shown by cross-referencing pronominals within the verb; the external NPs to which pronominals stand in apposition are not independently case marked. With a structure of this sort, when external NPs are deleted, the grammatical function of NP adjuncts is recoverable only by means of the cross-referencing pronominals.

This appositional, or cross-referencing, function must be distinguished from the anaphoric, or reference-maintaining, function of the pronominals. From a functional viewpoint, referential clarity of pronominals within the verb is absolutely assured only when the referent is a first- or second-person category. It is widely recognized that a theoretical distinction must be made between true first- and second-person pronouns, whose referent is definite by virtue of the deictic function of these categories within the speech situation, and third-person inflectional categories, whose referent depends on an underlying nominal and which arise through rules of pronominalization in the language. In HN, third-person inflectional categories contribute least to referential clarity, since the categorial oppositions expressed within the third-person pronominals are limited to patient versus nonpatient (syntactic cross-referencing function) and plural versus nonplural (semantic reference-maintaining function). In other words, the disambiguating or reference-maintaining

properties of nouns. David Rood, in his article "Agent and Object in Wichita," *Lingua* 28 (1971): 100-107, says that any patient noun can be incorporated in Wichita, although this is usually optional, thus suggesting that incorporation in Wichita is much freer than in other Caddoan languages.

contribution of third-person inflectional forms is limited.²⁹

The order of pronominal constituents within the verb is SOV. A frequent surface word order in simple transitive HN sentences with independent noun object is SVO (with cross-referencing pronominal preceding the verb). The question of underlying constituent order is not confronted here, for as Langacker³⁰ observes for Classical Aztec, Nahuatl languages exhibit many typological characteristics of verb-final languages. In particular, HN employs postpositions; relative clauses may precede the head noun, although normally they follow it; and the SOV inflectional order is an added indication of verb-final tendencies.

The inflectional order classes with the simple intransitive and transitive HN sentence are as shown in table 1.³¹ As in

²⁹ For exposition of the status of first- and second-person categories versus that of the traditional "third person," see Emile Benveniste, "Relationships of Person in the Verb" and "The Nature of Pronouns," trans. Mary E. Meek, in *Problems in General Linguistics*, Miami Linguistics Series, no. 8 (Miami: University of Miami Press, 1971). Also, after a first draft of this article was written, a recent article by Jeffrey Heath ("Some Functional Relationships in Grammar," *Language* 51 [1975]: 89-104) was brought to my attention; Heath deals more extensively with the functional value of pronominal differentiation.

³⁰ Ronald Langacker, "Relative Clauses in Classical Nahuatl," *IJAL* 41 (1975): 46-68, esp. p. 48.

³¹ Abbreviations are as follows: applic = applicative (converts a one-place transitive into a two-place transitive with indirect and direct objects, the former frequently benefactive); cond = conditional; dem = demonstrative; dir = directional; imp = imperative; impf = imperfect; indef = indefinite; ind obj = indirect object; intr subj = intransitive subject; neg = negative; pas = past; PL = plural; pres = present; PV = preverb; recip = reciprocal; refl =

TABLE 1

$\left\{ \begin{array}{l} \text{tr subj} \\ \text{intr subj} \end{array} \right\}$	(ind obj)	(tr obj)	$\left(\begin{array}{l} \text{dir} \\ \text{PV} \end{array} \right)$	VS	tense-aspect (dir)	number
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many languages, there are constraints which prevent the realization of many theoretical possibilities of direct and indirect object inflectional combinations. The optional directional order class which precedes the verb stem may be filled by two preverbs, *on* and *wa'l*. The primary reference of these indexical preverbs is spatial, *on* signaling *thither*, *away from here to there* and *wa'l* *hither*, *from there to here*. These preverbs deserve more comment than can be devoted to them here, since the primary spatial reference may be contextually transformed into secondary shadings of tense-aspect and, in the case of *on*, transitivity or completion of transfer of action from agent to patient. A primary contrast perfective versus imperfective is coded derivationally in the form of the verb stem. There is also no place here to set out the highly developed system of tense-aspect and related directional suffixes, except to remark that tremendous elaboration within these categories distinguishes HN from Classical Aztec, and this elaboration is in the direction of expression of "relative" rather than "true" tense-aspect distinctions.³²

Both the intransitive subject and the transitive object may incorporate in HN. Incorporated nouns immediately precede the verb stem in surface forms; in transitive sentences, the incorporated noun object

reflexive; SG = singular; sub = subordinator; tr obj = transitive object; tr subj = transitive subject; VS = verb stem.

³² See Jerzy Kuryłowicz, *The Inflectional Categories of Indo-European* (Heidelberg: Carl Winter Verlag, 1964), p. 26, for some discussion of the distinction between "genuine" or "absolute" aspect versus "temporal relation" or "relative" aspect.

follows the inflectional subject pronoun. Only the noun stem occurs in incorporated forms without the absolutive suffix characteristic of independent (unpossessed) nouns. Under appropriate discourse conditions, it appears that noun incorporation in HN is quite free in that almost any noun in the function of intransitive subject or transitive object may incorporate.³³

In HN, we must make a distinction between what I shall call *lexical* and *contextual*, or discourse-determined, incorporation. By lexical incorporation I mean the following: in many instances, compounds of noun stem and verb stem express lexical meanings which cannot be rendered otherwise. In the following examples, only forms with the incorporated italicized noun stem may be used to convey the meanings of the English glosses:³⁴

- (1) *tla-a-weci-0-0*
indef-water-fall-pres-SG
It is raining.
- (2) *tla-se-weci-0-0*
indef-snow-fall-pres-SG
It is snowing.

³³ Proper nouns do not incorporate in any function. In addition, some verbs with body-part subjects, such as *kokowa to ache*, *hurt*, require that the animate possessor of the body part be indexed in the verb by the objective pronoun, and that the possessed body part be expressed outside the verb, e.g., *neč-kokowa no-conteko* (1SG-hurt 1SG-head). This is undoubtedly an incomplete statement of lexical restrictions on incorporation.

³⁴ HN forms are given in broad phonetic transcription, since the phonology is relatively shallow. The stop series includes /p t k kʷ ʔ/. The phonetically curious glottal stop, which sounds much like a laryngeal continuant glide, is documented extensively in different modern dialects by B. L. Whorf, "Pitch Tone and the

- (3) *tesiwí-weci-0-0*
hail-fall-pres-SG
It is hailing.
- (4) *0-neč-pa²-maka-0-k*
3SG-1SG-medicine-give-pas-SG
He doctored me.
- (5) *ni-pac-miki-0-0*
1SG-heat-die-pres-SG
I am hot.
- (6) *ni-a-miki-0-0*
1SG-water-die-pres-SG
I am thirsty.

Some of these sentences have counterparts with independent noun, but the resulting meanings are altered. *Tesiwitl weci* no longer means *It is hailing*, but rather *Hail is falling*. The latter might be the appropriate response to the question "What is falling?" but not ordinarily to the question "What is the weather like?" The sentence *Nečmakak pa²tli*, identical to (4) except for the incorporation status of the noun, no longer means *He doctored me*, but rather *He gave me medicine*. In (1)–(6), the incorporated status of the noun clearly alters the lexical meaning of the associated verb stem.

This article is concerned with contextual, or discourse-determined, incorporation. By this is meant that there are many sentences in which incorporation does not alter the lexical meaning of the verb; instead, incorporation serves to maintain definiteness of the discourse referent by signaling coreferentiality with a previously-occurring

'Saltillo' in Modern and Ancient Nahuatl" (manuscript [ca. 1930], American Philosophical Society Library, Philadelphia). The affricate series includes /c č/ and the voiceless lateral affricate here represented by tl as in the standard Spanish orthography. Continuants are /s l š w y/; nasals are /m n/. There are eight vowel phonemes /a e i o/ and long counterparts. Vowel length is clearly distinctive, although long vowels are sometimes difficult to distinguish from short vowels.

NP adjunct. To illustrate contextual incorporation, fragments of conversations must be given. In each of the examples below, the entry of a noun in the registry of present discourse is established by some question or predication on the part of participant A. A noun thus entered into the registry of present discourse may be incorporated in subsequent stretches of discourse. The independent noun and its incorporated counterpart are italicized in the HN sentences. A precise morpheme-by-morpheme accounting is abandoned in favor of overall clarity. The English glosses attempt to convey adequately the communicative intention of the HN sentences.

- (7) A Na² ni²neki nitlapowas wa'n aš
 ni²piya mo²šti
 1SG 1SG-it-want 1SG-indef-read-sub but neg 1SG-it-have book
I want to read something but I don't have a book.
- B Na² nimicmo²štimaka
 1SG 1SG-2SG-book-give
I'll give you one (a book).
- (8) A Matyaka šočikalli, nečpaktiya
 k^watini
 imp-IPL-go-pl garden, 1SG-like trees
Let's go to the garden, I like (the) trees.
- B Na² aš ni²neki niyas, na² ipanima
 nik^watiniitta
 1SG neg 1SG-it-want 1SG-go-sub, 1SG always 1SG-tree-see
I don't want to go, I see trees all the time.
- (9) A Na² ni²neki tomi pa ni²kowas
 nokalco
 1SG 1SG-it-want money to 1SG-it-buy-sub 1SG-pants
I want (need) money to buy pants.
- B Na² nimictomimaka pa šimokowi
 tlen ti²neki

- 1SG 1SG-2SG-money-give to sub-refl-buy-applic what 2SG-it-want
I'll give you money to buy what you want.
- (10) A Kanke eltok kočillo? Na² ni²neki
 amanci
 Where 3SG-is knife? 1SG 1SG-it-want now
Where is the knife? I want (need) it now.
- B Ya² kikočillotete²ki panci
 3SG 3SG-it-knife-cut bread
He cut the bread with the knife.
- (11) A Kanke eltok kočillo
 Where 3SG-is knife
Where is the knife?
- B Na² aš nikočillomok^witlawiya
 1SG neg 1SG-knife-guard
I don't guard knives (I'm not responsible for the knives).
- (12) A Ika tla²ke kitete²ki panci
 With what 3SG-it-cut bread
What did he cut the bread with?
- B Ne² pancitete²ki ika kočillo
 3SG 3SG-bread-cut with knife
He cut the bread with a knife.
- (13) A Aške man ti²k^wa nakatl
 Never 2SG-it-eat meat
You never eat meat.
- B Na² ipanima ninakak^wa
 1SG always 1SG-meat-eat
I eat meat all the time.
- (14) A Na² nitla²tlanke a'tl wa'n aš
 nečmakake
 1SG 1SG-it-asked water but neg 3PL-1SG-gave
I asked for water but they didn't give it to me (didn't give me any).
- B Na² nia'tla²tlanke ne'pa²
 1SG 1SG-water-asked over there
I asked for water over there.
- (15) A Ne tlakatl kontlamionik noa²
 That man 3SG-it-PV-finish-drank 1SG-water
That man just drank up my water.
- B Ke'na, ne² kontlamia²onik, niyon
 ači
 Yes, 3SG 3SG-it-PV-finish-water-drank, not even a little
Yes, he just finished it (the water) off; there's not even a little bit.
- (16) A Na² nimotlane²ki se metlatl
 1SG 1SG-refl-asked for a metate
I borrowed a metate.
- B Parantle timotlane²ki seyok
 metlatl? Tinečtlanewilitoskiya
 na²
 Why 2SG-refl-asked for another metate? 2SG-1SG-ask-applic-pas cond 1SG
Why did you borrow another metate? You could have asked me.
- A Aškana, aš nimicmetlane²ki
 pampa nelwe²ka tiictok
 No, neg 1SG-2SG-metate-asked for because very-far 2SG-live
No, I didn't ask you for one (a metate) because you live far away.
- (17) A Na² ni²neki čača
 1SG 1SG-it-want pitaya
I want some pitaya.
- B Ni²mačiliya, nama aš čačaonka
 1SG-it-regret, today neg pitaya-be (there)
I'm sorry, there is no pitaya today.

Noun incorporation in (7)–(17) serves two functions, the second of which appears to be a natural consequence of the first. In contrast with complete pronominalization in HN, the nature of incorporation is to permit preservation of the lexical properties of NP adjuncts previously introduced, and thus definiteness of the discourse referent is maintained. The first function of incorporation is therefore anaphoric, and we are justified in considering HN noun incorporation a form of "weak" pronominalization which insures

"strong" coreference. (It is obvious that incorporation is of functional value in precisely those cases in which discourse reference might otherwise be unclear, again emphasizing the difference between referentially definite first-and-second versus referentially indeterminate third-person inflectional categories in HN.) A consequence of incorporation is that NP adjuncts established in discourse by some first token are structurally subordinated by incorporation to constituents which convey new information and hence have a different value in carrying communication forward. In Prague school terminology, the former elements may be said to constitute the *theme* and the latter elements the *rheme* of the utterance.³⁵ Note that in the sense these terms are used here (as labels referring to communicative content), there is no necessary isomorphism between them and any given surface function of NPs such as "subject" or "object."³⁶

³⁵ H. W. Kirkwood, in "Aspects of Word Order and Its Communicative Function in English and German," *Journal of Linguistics* 5 (1969): 88-89, interprets the Prague school use of these terms as follows: "The term 'theme' is used by Prague linguists for an element or elements with low communicative value, i.e. elements that may be inferred from the context and contribute least to the development of communication, and 'rheme' for elements conveying new information and constituting the core of the utterance." P. W. Davis, in *Modern Theories of Language* (Englewood Cliffs, N.J.: Prentice-Hall, 1973), p. 221, gives a somewhat different interpretation: "The theme within the lexical level corresponds to that portion of the meaning of which something is predicated, e.g. a quality or relationship to some object is stated of some given object. The enunciation [rheme] corresponds to that portion that is the quality, relationship, and so on. Something is named (theme); then something is placed in relation to it (enunciation)."

³⁶ Although, for example, W. Mathesius argues that there is a strong tendency in English to express the sentence theme by means of the

Incorporation in (7)-(17) marks a change in the status of nouns previously entered in discourse from rhematic to thematic, that is, the reference-relations established by incorporation permit us to identify the incorporated noun as a discourse topic or, at least, as one of the thematic elements of discourse.

There are some sentences in which incorporated nouns are of more general lexical reference than preceding occurrences of the same noun, and in which incorporation might thus be said to parallel the noun + verb structure of transitive noun compounds of general reference, for example, *kal-ko²ketl house-buyer*, *mič-namakaketl fish-seller*, as Sapir suggests for Classical Aztec.³⁷ It is also true that incorporated nouns in HN cannot be marked for lexical definiteness, as may independent nouns, through the use of demonstratives *nopa*, *ni*, and *ne* (equivalent to Spanish *ese*, *este*, and *aquel*). However, it is not true that noun incorporation is used in HN only to express permanent or general activity, as some of the preceding examples have shown. At the discourse level, the use of incorporated nouns of general lexical reference frequently appears to depend upon the establishing of the concept or class of objects in the discourse. If the first token of a noun is of specific reference, incorporation of the same noun with general reference may occur by transfer from the immediate to a more general referent, as in (18).

grammatical subject in "Několik Poznámek o Funkci Podmětu v Moderní Angličtině," *ČMF* 10 (1924): 244-48; this is argued more recently by Chafe in *Meaning and the Structure of Language*, p. 212. That "surface structure subject" and "theme" are not isomorphic may be easily seen by comparing pairs of active sentences and their passive counterparts.

³⁷ Sapir, p. 259.

- (18) A *Tla²ke šočitl*
What flower
What kind of flower is it?
B *Aš nišočišmati*
Neg 1SG-flower-know
I don't know (anything about)
*flowers.*³⁸

There are some sentences in which incorporated noun + verb constitutes the semantically unmarked expression of certain concepts or actions, as in (19)-(20). In these cases, incorporation must be regarded as lexical rather than contextual.

- (19) *Ne² kalla²po²ki*
3SG 3SG-door-opened
He opened the door.
(20) *Ne² kalca²ki*
3SG 3SG-door-closed
He closed the door.

These sentences are neutral in communicative value and would be used in cases where no especial interest attaches to the opening or closing of the door. One may say *Ne² kitlapo²ki kalcaktli* (3SG 3SG-it-indef-opened door) *He opened the door*, if, for example, the speaker is surprised that some third person opened the door. Similarly, the sentence *Ne² kica²ki kallaktli* (3SG 3SG-it-closed door) *He closed the door*, corresponding to (20) except for the incorporation status of the noun, implies, for example, that some third person closed the door in such a way that it cannot be opened, or that the closing of the door was in some other way unusual.

³⁸ According to the informant, in this context, the B response is ambiguous between the meaning given and *I don't know the (previously indicated) flower*. A referentially less ambiguous response could be: *Aš ni²mati tla²ke šočitl I don't know what kind of flower it is*. This example and the preceding comments suggest that under incorporation, definiteness of discourse referent takes precedence over expression of lexical definiteness.

Thus, while incorporation is the norm in some cases, the general principle that independent nouns are rhematic compared to their incorporated counterparts still holds.

Incorporation may be used to indicate coreference across stretches of discourse of possessed kin terms, animate nouns par excellence:

- (21) A *Keni²kaca ictok ne momi ni moča,*
ti²pantiya ne kampowelli
How is dem 2SG-brother dem
2SG-home, 1PL-3SG-meetevery-
where
How is that brother of yours at
home (how does he act), we
meet him all over the place.
B *Aš tečkamawiya, sani²ki monel-*
sesiniya
Neg 3SG-1PL-speak, 3SG-appear
3SG-refl-very-angry
He doesn't talk to us, he appears
very angry.
B *Na² nimomišmati,³⁹ nika noča aš*
kamati no² sentetl kiya ne² aš
moliniya
1SG 1SG-refl-brother-know, there
1SG-home neg 3SG-talk also
sometimes thus 3SG neg 3SG-
refl-move
I know my brother (how he is),
there at my house he doesn't talk
and sometimes he doesn't (even)
move.

From (10) it can be seen that instruments may incorporate according to the same discourse principle. To a question that

³⁹ The *mo-* in (21A) is the 2SG possessive prefix. The *mo-* in the footnoted form is the reflexive prefix which marks coreference of the possessor of (older) brother with the sentence subject. Note that with incorporated nouns the verb *išmati conocer* conveys the idea of *to know someone's qualities* rather than *to be acquainted with*; the stem *mati* means *to know* with reference to facts, etc.

demands information concerning an instrument, such as Ika tla[?]ke micpokonilli *What did he hit you with?* a response with unincorporated instrument would be natural, for example, Necpokonilli ika k^wapilli *He hit me with a stick.* The informant's judgment was that a simple question Micpokonilli *Did he hit you?* might be answered with an incorporated or independent instrument noun not previously established in the discourse, depending upon communicative intent: Ke'na, neč^wapilpokonilli *He stick-hit me* implies that his hitting me was unintentional;⁴⁰ while Ke'na, nečpokonilli ika k^wapilli *Yes, he hit me with a stick* emphasizes the instrument and implies that the hitting was deliberate. Sentences constructed with incorporated instrument and direct object such as *Neč^wapilcontekopokonilli (3SG 1SG-stick-head-hit) *He hit me on the head with a stick* were understood without difficulty but were considered ungrammatical for the reason that "you would already have to know what you are talking about."⁴¹

Body parts incorporate more frequently in HN than other noun classes. Body parts are obligatorily possessed; the possessive pronouns used are the same as those which occur with other noun classes. In many cases, sentences with incorporated body parts constitute the normal, if not the

only possible, expression of certain meanings. In (22)–(24), only sentences with incorporated body parts are grammatical.

- (22) Nicontekok^wa[?]k^walo
1SG-head-ache
My head aches.
- (23) Niyo[?]hotomoka
1SG-heart-beat
My heart is beating.
- (24) Nimonenepilk^wa[?]ki
1SG-refl-tongue-ate
I bit my tongue.

In other cases, expressions with incorporated body parts and closely allied nouns are the ordinary statements of certain concepts, although in discourse these nouns may occur in unincorporated form depending on communicative intent, as in the contrasting sentences (25)–(26).

- (25a) Nečik[?]šiwite[?]ki
3SG-1SG-foot-hit
It hit my foot.
- (25b) Ni[?]temowiyaya se tlamamalli wa'n
nečwite[?]ki noikšī
1SG-3SG-lower-impf a load and
3SG-1SG-hit 1SG-foot
I was lowering a load and it hit me on the foot (contrastive, as opposed to elsewhere).
- (26a) Nitosišmati
1SG-3SG-voice-know
I know his voice.
- (26b) Nikiišmati itos
1SG-it-know 3SG-voice
I know him by his voice (as opposed to otherwise).

In incorporating languages, body parts seem to exhibit the greatest tendency to incorporate of all noun classes; in some languages, body parts may be the only noun class that can incorporate.⁴² This

⁴² See Mary Haas, "Noun Incorporation in the Muskogean Languages," *Language* 17 (1941): 311–15.

⁴⁰ It seems the informant had a situationally established context in mind, because at the time this was said we were walking down the street and reference was to a blind person's accidentally hitting her with his cane.

⁴¹ Examples here are limited to incorporation of nouns. It is apparently possible in HN to incorporate noun + (certain kinds of) modifier if both constitute thematic elements in the sentence: A Ta[?] tikoni a'tl k^walli *You are drinking good water.* B Na[?] ipanima nia:k^wallioni *I always drink good water.* The extent to which this normally occurs in discourse remains unclear, and I am led to believe it may be of fairly low frequency.

tendency is probably influenced by at least two factors: first, body-part nouns are nonagents, that is, they do not ordinarily constitute acceptable transitive subjects. The use of body-part nouns normally implies a two-place possessor-possessed relationship, and in many languages, possession of body parts (along with kinsmen and possibly some other nouns) is marked with a special set of inalienable prefixes. Second, body parts constitute a fairly small, closed, and well-defined class in terms of primary reference. Body-part nouns and some verbs regularly associated with them are probably mutually determining in ways that other noun and verb classes are not.

Although many of the preceding examples have been of incorporation of the direct object, the intransitive subject may also incorporate, as in (17) and (27).

- (27) A Tikiišmati Katarina
2SG-3SG-know Katarina
Do you know Katarina?
- B Ke'na nikiišmati wa'n aš k^walli timoitta
Yes, 1SG-3SG-know but neg well
IPL-recipient-see
Yes, I know her but we don't get along.
- A Ti[?]matkiya yelwaya mi[?]ki iwewe
2SG-it-know yesterday 3SG-died
3SG-old man
Did you know her old man (husband) died yesterday?
- B Tla[?]ke nok^wenta tla wewemi[?]ki
What 1SG-affair if 3SG-old man-died
What do I care if her old man died!

As with direct objects, in general it may be said that intransitive subjects that are contextually independent or insufficiently determined (as is the case with nouns preceded by *se one*, which as in Spanish and many other languages functions as the

indefinite article) do not incorporate. Incorporation marks thematic status of the intransitive subject. Interesting in this regard is the contextual independence of intransitive subjects associated with such verbs as to *appear* (come on the scene) and to *arise*. In these cases, attention is focused on the person or thing, expressed by the grammatical subject, of which appearance or activity is predicated. The incorporation of nouns with these verbs always yields subject complement constructions whose referent has been previously established in discourse.

- (28a) Tlakatl neski
Man 3SG-appeared
The/a man appeared.
- (28b) Tlakaneski
3SG-man-appeared
He appeared a man, appeared manly.
- (29a) Tlakatl mokeca
Man 3SG-refl-stand up
The/a man stands up.
- (29b) Motlakakeca
3SG-refl-man-stand
He stands like a man.

5. At the discourse level, then, incorporation functions as a reference-maintaining device whose consequence is that of converting into discourse topics or themes sequential occurrences of nouns previously entered in the discourse. In order to discover over what stretches of discourse coreference can be maintained by incorporation, detailed observation of natural speech in context must be made.

Languages whose structure does not permit extensive compounding express reference-relations and distribution of communicative content by other means. In English, we must include among these anaphoric pronominalization, the use of word order and intonation, as well as certain kinds of transformations such as passivization.

Kuno⁴³ provides an analysis of the much-debated Japanese particles *wa* and *ga* in terms of the thematic and contrastive functions of *wa* versus neutral description, exhaustive listing, and other functions of *ga*. In its thematic use, the particle *wa* is anaphoric and signals that an NP has previously been referred to.

In terms of other grammatical mechanisms which play a part in the structuring of discourse, one thinks of Dixon's analysis of topic chains in Dyirbal.⁴⁴ Although there is no room here for detail, the important facts are as follows: Dyirbal is a language of so-called ergative syntactic type, with overt case-forms marking surface syntactic function in lexical nouns and pronouns. In simple transitive sentences, the surface subject is in nominative case if it is first or second person, in ergative case if it is a third-person category; the surface direct object is in accusative case if it is first or second person, and in nominative case if it is a third-person category. Thus there are ergative-nominative and nominative-accusative alternations in simple transitive surface forms, the case marking determined independently in each instance by features of the NP adjunct filling each function.

Each transitive sentence has a possible associated transformation (*-ŋay* forms) with change in voice marked on the verb in which all surface subjects appear in unmarked nominative case and surface objects normally appear in the overtly marked dative case. It is significant that these constructions are not discourse-initial; they occur under conditions of identity of some NP in a first clause or

sentence with an NP in a following clause or sentence, hence the name "topic chain." The *-ŋay* forms signal change in grammatical function of some NP coreferential with an NP in a preceding clause from intransitive subject or transitive object to transitive subject function. At the morpho-syntactic level, the *-ŋay* forms entail regularization of the common NP to nominative case, so that topic NPs appear throughout a discourse in the unmarked case form. Thus, the *-ŋay* constructions express coreference (NP identity in discourse) as well as cross-reference (sameness or difference of grammatical function across clauses).

Another topic chain construction with the verbal suffix *-ŋura* signals switch of function of cross-clause coreferential NPs in the opposite direction, from transitive subject to intransitive subject or transitive object functions.

Kendall has shown that some of the uses of the problematic */-k/*, */-m/* affixes in Yavapai are to be explained in terms of a rule of switch-reference which "indicates whether the subject of a verb is the same as or different from the subject of the next-highest verb in the sentence... */-k/* indicates same subject; */-m/* indicates different subject."⁴⁵ Voegelin and Voegelin⁴⁶ discuss the contrast in Hopi between proximate and obviative conjunct mode suffixes which function to signal sameness or difference, respectively, of the subject of a conjunct mode clause with the subject of a following clause.

Evidently, the operation of noun incorporation in Nahuatl discourse is not as complex as any of the grammatical mechanisms just cited. Incorporation sig-

nals discourse coreference, but is apparently indifferent to sameness or difference of grammatical function of the NPs so related across stretches of discourse.

In conclusion, it is clear that conditions for incorporation at the lexical level require further investigation, as does the possible interaction between lexical and discourse-determined incorporation. I have only tried to suggest that noun incorporation

cannot be realistically defined at the lexical or propositional level alone, outside an environment. It is only when the language system is investigated in the functional environment of discourse and is, so to speak, set into motion, that the full relationship between grammatical structure and discourse function will begin to emerge.

⁴³ Susumo Kuno, *The Structure of the Japanese Language* (Cambridge, Mass.: M.I.T. Press, 1973), pp. 37-61.

⁴⁴ R. M. W. Dixon, *The Dyirbal Language of North Queensland*, Cambridge Studies in Linguistics, no. 9 (Cambridge: At the University Press, 1972), pp. 70-81.

⁴⁵ Martha Kendall, "The */-k/*, */-m/* Problem in Yavapai Syntax," *IJAL* 41 (1975): 1-9, esp. p. 4.

⁴⁶ See sec. 3 of the Voegelin and Voegelin paper cited in n. 1 above.