Grammatical metonymy and the structure of noun phrases in Oneida (Northern Iroquoian)

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Since Chomsky (1970) it is assumed that the structure of NPs (or DPs) parallels that of VPs (or CPs). This parallel forms the basis of $\bar{X}$ (Jackendoff 1977) and is also found in more recent studies of the structure of DPs and CPs (Alexiadou, Haegeman & Stavrou 2007). In verb-centered languages like Iroquoian (Cuoq 1866), though, NPs have much less structure than in many languages. Quantification, for example, is expressed almost exclusively by verbs heading separate clauses (Koenig & Michelson 2020), adjectives are verbs and are not part of NPs (Chafe 2012a), and there are no articles. This raises the question of how the semantic functions of complements and specifiers within NPs (DPs) are expressed in the language. This paper shows that Oneida (Northern Iroquoian) makes use of a hitherto unreported grammatical strategy, what we call *implicit grammatical metonymy*, between the discourse referents (variables) associated with co-occurring expressions to convey what is overtly expressed (often through adpositions, modifiers, or conjunctions) in languages like English. Consider the sentence in (1) (for readability interlinear glossing is only provided for words relevant to the issues at hand).

(1) *Nʌ kyaleʔ wí· kwáh tyotyelʌ́htu uhte i·kélheʔ uk-yo·tʌ́· [lak-sótha*
So then again just the first time I think FACT:1SG.P-work:PNC 3M.SG > 1SG-grandparent
waʔ-áko-ʔ.]
FACT-1EX.PL.A:go-PNC
'I think the first time I worked we went with my grandfather.' (MD, All About Tobacco, 260(90))

The NP in the bracketed clause denotes the grandfather (Koenig & Michelson 2010), but the verb references via its pronominal prefix a first plural theme argument. Such an inclusory construction (see Lichtenberk 2000, among others, on inclusory constructions) is available with a wide variety of verbs including verbs that mean go, leave, say, meet, and several others in Michelson, Kennedy & Doxtator (2016) (we use sans serif font to refer to meanings).

Koenig & Michelson (2015) argue that the non-identity between the discourse referents of NPs and semantic arguments referenced by pronominal prefixes on verbs is due to what they call the *direct syntax* of Oneida: Oneida verbs do not include an argument structure or valence and are functionally complete (c.f. the notion of holophrasis developed for Seneca in Chafe 2012b). External NPs, in their approach, elaborate on one of the head's arguments; they do not realize arguments in the sense of Levin & Rappaport Hovav (2005). They suggest that because external NPs do not realize arguments, the relation between the discourse referent of the noun and the discourse referent of the corresponding verbal semantic argument is looser than strict identity, i.e. overlap. We show in this paper (1) that the relation between the two discourse referents is more restricted than any kind of overlap, it is one of metonymy (broadly understood, along the lines of Lakoff & Johnson 1980) and (2) that metonymy is a grammatical strategy Oneida speakers make use of to convey what is expressed syntactically via NP (DP) internal constructions in languages like English.

We list below the range of attested metonymic relations we have found. All examples come from the collection of texts in Michelson, Kennedy & Doxtator (2016) unless otherwise noted.

Container-Contained

(2) *kháleʔ s-ka-ya·l-á-t ohnaná·taʔ tekahwístake nikano·lú·*
and REP-3FZ.SG.A-bag-be.one[STV] potato two dollars it cost
'and one bag of potatoes costs two dollars.' (MD, Grocery list)

Measure–Ingredient

(3) *Kwáh tsi' niku s-ka-tshé:t-a-t o:nʌ́ste' s-w-atokwá:tsl-a-t*
Just however many REP-3FZ.SG.A-quart-be.one[STV] corn REP-3FZ.SG.A-spoon-be.one[STV]
baking soda ʌ́hsatste'.
b.s. you will use
'For one quart of corn use one tablespoon of baking soda.' (Cornelius et al. 1985, p. 63)

Part–Whole

(4) *Aʔé· kwí· n-aʔte-yo-ta·l-á· yako-naʔal-o·l-ú.*
great EMPH PART-DLC-3FZ.SG.P-brim-size:STV 3FI.P-brain-cover-STV
[=she is wearing a hat]
'And she was wearing a hat with a really broad brim.' (GN, The Flirt, 33(14))

Object–Material

(5) *Lo-t-nakt-uny-á-ni-ʔ thikʌ́ lakeʔníha o·yʌ́teʔ náhteʔ,*
3M.SG.P-SRF-bed-make-JN-DISTR-STV that my father wood what
'My father made the beds out of wood,' (GN, An Oneida Childhood, 205(40))

Species-Genus

(6) *Tóhkaʔ kʌs kwí· ni-yot-ityóhkw-a-ke osahé·taʔ.*
a few usually EMPH PART-3FZ.PL.P-crowd-JN-amount.to[STV] bean
'There would be a few varieties of beans.' (GN, An Oneida Childhood, 215(137))

Set-Member

(7) *wísk niwáshʌ nikasahé·take tayukhi·yú· ts-y-ukwé·t-a-t.*
five ten so many beans CISL-FACT-3>1DP-give:PNC REP-3FZ.SG.A-person-JN-one[STV]
'they gave each of us fifty beans.' (NK, The Bean Game, 24(13))

Sentence (8) below shows that the Set-Member relation can hold between a noun describing a kin and one of the persons that stand in that kinship relation.

(8) *[akw-at-auntieha kwí· lón-aʔ] tho wa-hy-ateʔsléhtayʌ-ʔ*
1SG.POSS-SRF-auntie EMPH 3M.DP.P-married.couple there FACT-3M.DU.A-park.a.vehicle-PNC
'my auntie and her husband parked the car' (MD, My First Christmas Tree, 121(2))

Object-Color

(9) *tho s ki? yakwanatá·leʔ seʔ tshiwahu·níseʔ tsiʔ nú· thatinákleʔ, kwáh s onikwʌ́htalaʔ*
there actually we visit too a long time ago where they reside, just red
ni-hoti-nutsist-ó·tʌ
PART-3M.DP.P-head-be.a.kind[STV].
'we used to visit there a long time ago where they lived, they had red hair.' (HC, Starting life together, 179(6))

(10) *“Tá· ni·yót kwí· ni-w-aʔswʌʔ-tó·tʌ i·wélheʔ aesaye·ná·.”*
Now look'it PART-3FZ.SG.A-black-be.a.kind[STV] it wants it should catch you
“Now look'it, this black thing wants to catch you.” (VC, Ghosts, Flirts, and Scary Beings, 72(80))

Sentences (9)-(10) show that the metonymic relation can hold not just between the verbal argument referenced by a pronominal prefix and an external NP, but also between an incorporated noun (the noun for head or hair) and an external NP (the noun for red) in (9) or between an incorporated noun (for black) and the argument of the verb want in (10).

What is critical in all the examples we just provided is that the relation between the semantic head's argument and the NP discourse referent (the bag and what it contains, the species and the genus, the part and the whole, the object and its color, …) is not expressed by overt syntactic means, such as modification by an adjective for (5) (e.g., *wooden* in English) and (9)-(10) (e.g., *red* or *black* in English) or a preposition like *of* in (2), (3), or (6)—or both an adjective and *of* in (4)—or a preposition like *with* in (1). In other words, languages like English overtly encode the presence of a semantic relation between parts of NPs, the specific (metonymic) relation involved being determined by what is being related. For example, the relation between the denotations of *bag* and *potatoes* in the NP *a bag of potatoes* is one of containment whereas that between the denotations of *varieties* and *beans* in *a few varieties of beans* is one of species to genus. In contrast to most other languages, Oneida does not overtly encode with a formative or a construction (e.g., nominal modification) the presence of a semantic relation between discourse referents. We talk of *implicit grammatical metonymy* when discussing the Oneida strategy and this term covers the entire range of relations the two discourse referents can enter into. *Referential* metonymy is typically assumed to relate the literal and the intended referents of a nominal expression (c.f. Ward 2004 on deferred reference, among others). So, in a sentence like *The saxophone has the flu*, the literal referent of the NP *the saxophone*, the instrument is mapped onto the NP's intended and deferred referent, the musician. As Lakoff & Johnson (1980: p. 35) put it “we are using one entity to refer to another that is related to it”. In the *implicit grammmatical metonymy* involved in the examples we provided above, the metonymic relations hold between a head and a non-head or even between a head and an incorporated noun (9).

Our formal model of the relevant part of Oneida grammar follows Koenig & Michelson (2012) and Koenig & Michelson (2014) in assuming that semantic combinatorics in Oneida does not follow a standard lambda-calculus mold where one expression is a λ-abstract and the other is an argument of that function. Their logic—which we adopt, although other choices are compatible with the gist of our analysis—is that if there is no syntactic argument selection in Oneida, the semantic counterpart of syntactic selection—λ-abstraction and functional application—is not applicable. (11b) is a semi-formal and simplified description of the main semantic head/non-head Oneida construction, the Argument Elaboration construction; (11a) is an English paraphrase of this semi-formal representation. (12b) and (12a) provide a similar semi-formal description of the Noun Incorporation construction and its corresponding English paraphrase. Note that the phrase-structural construction only mentions the semantics of the mother and daughters, following the arguments in Koenig & Michelson (2015) that the syntax of Oneida is direct. Our formulation of both constructions makes use of Lexical Resource Semantics (Richter & Sailer 2004). (For ease of presentation we do not distinguish in this abstract between external and internal semantic content and simply use one attribute, CONT; we also simplify the feature geometry in the statement of the constructions.) Finally, (13) lists the subsorts of metonymic relations that the sort *metonymic-rel* ranges over (we use disjunction to express sort-subsort relations for ease of presentation).

(11) Argument Elaboration construction:

a. A phrase that describes a situation or object can consist of a semantic head that describes the same situation or object and a non-head that describes an object. The overall description contains (◁) the conjunction of the descriptions contributed by the two daughters; the discourse referent (DR) (Kamp & Reyle 1993) of the non-head is in a metonymic relation with a discourse referent that is contained in the predication contributed by the semantic head.

b. $$\begin{bmatrix}\text{DR} & \boxed{1}\\ \text{CONT} & \alpha\end{bmatrix} \rightarrow \begin{bmatrix}\text{DR} & \boxed{2}e\\ \text{CONT} & \boxed{3}\end{bmatrix}^{+}, \begin{bmatrix}\text{DR} & \boxed{1}\\ \text{CONT} & \boxed{4}P(\boxed{1},\ldots\boxed{5}\ldots)\end{bmatrix}$$

metonymic-rel($\boxed{5}$, $\boxed{2}$); ($\boxed{3} \wedge \boxed{4}$) $\triangleleft\ \alpha$

(12) The Noun Incorporation (morphological) construction:

a. The concatenation of a noun stem and a verb stem is a verb stem. The discourse referent of the combination is that of the verb stem and its MAIN meaning (its lexical semantic content) is the concatenation of the values of the MAIN meaning of the noun stem and the MAIN meaning of the verb stem. The discourse referent of the nominal stem stands in a metonymic relation with one semantic argument of the verb stem.

b. $$\textit{NI-verb} \Rightarrow \begin{bmatrix}\textit{stem} & \\ \text{PHON} & \boxed{2} \oplus \boxed{3}\\ \text{MORPH} & \boxed{1}\\ \text{CONTENT} & \begin{bmatrix}\text{DR} & \boxed{4}\ s\\ \text{MAIN} & \boxed{5} \oplus \boxed{7}\end{bmatrix}\\ \text{STEM-DTR} & \begin{bmatrix}\text{PHON} & \boxed{3}\\ \text{MORPH} & \boxed{1}\\ \text{CONTENT} & \begin{bmatrix}\text{DR} & \boxed{4}\\ \text{MAIN} & \boxed{5}\left\langle \begin{bmatrix}\textit{rel} & \\ \text{F} & \boxed{8}\\ \ldots & \end{bmatrix}\right\rangle\end{bmatrix}\end{bmatrix}\\ \text{NOMINAL-DTR} & \begin{bmatrix}\text{PHON} & \boxed{2}\\ \text{CONTENT} & \begin{bmatrix}\text{DR} & \boxed{6}\ e\\ \text{MAIN} & \boxed{7}\end{bmatrix}\end{bmatrix}\end{bmatrix}$$

metonymic-rel($\boxed{6}$, $\boxed{8}$)

(13) *metonymic-rel* ⇒ *identity-rel* ∨ *container-rel* ∨ *measure-rel* ∨ *Part-Whole-ref* ∨ *Material-rel* ∨ *Species-genus-rel* ∨ *Set-member-rel* ∨ *Object-Color-rel*

To understand the role of the *metonymic-rel* statements (*metonymic-rel*($\boxed{5}$, $\boxed{2}$) in (11b) and *metonymic-rel*($\boxed{6}$, $\boxed{8}$) in (12)) that are part of the representations of the Argument Elaboration and Noun Incorporation constructions, it is important to note that NPs are much less structurally complex in Oneida than in many other languages (particularly, Indo-European languages): most of the expected structural components of NPs are not attested. For example, there are no event nominals and NP-internal instances of the Argument Elaboration construction are limited to kinship nouns (Koenig & Michelson 2010) and possessed nouns (Koenig & Michelson 2021). There are also no overt determiners (no (in)definite articles) and quantifiers are expressed by verbs heading clauses. NP-internal modification is also absent. Finally, there are no adpositions (or case-marking) in the language, which makes it impossible to encode within NPs the kinds of metonymic relations we have discussed, including mereological relations.

The structural simplicity of Oneida NPs raises a functional question: how do Oneida speakers express the semantic relations that nominal modifiers, determiners, and PP complements or adjuncts express in English. Our paper suggests that Oneida has grammaticalized metonymic relations between discourse referents to convey what adpositions and nominal modifiers express in other languages. The use of metonymy for deferred reference has long been established (since at least Aristotle's *Poetics*) and metonymic relations, broadly speaking, have also been talked about in the context of derivational morphology (c.f. the relation between the noun and verb *hammer*). But, to our knowledge, Oneida is the first language where implicit grammatical metonymy has been documented to express a broad range of metonymic relations (leaving aside the more "coordinative" interpretation of inclusory constructions discussed in, for example, Sadler & Nordlinger 2010). The absence of a structural parallel between NP/DP and CP structure in Oneida clearly raises important questions about the putative universality of the standard $\bar{X}$ schema or the nominal and verbal extended projections in the sense of Grimshaw (2000) that work as diverse as Alexiadou, Haegeman & Stavrou (2007) and Langacker (1991) propose. But it also shows an important aspect of the "genius" of the language to borrow a phrase from Sapir (2021) and recently amplified in Woodbury (2024): Oneida speakers have developed an innovative grammatical strategy to offset the functional bottleneck that stems from the simpler structure of its NPs—what we call *implicit grammatical metonymy* between discourse referents.

References

Alexiadou, Artemis, Liliane Haegeman & Melita Stavrou. 2007. *Noun phrase in the generative perspective* (Studies in Generative Grammar 71). Berlin: Mouton de Gruyter.

Chafe, Wallace. 2012a. Are adjectives universal? *Linguistic Typology* 16. 1–39.

Chafe, Wallace. 2012b. The Seneca amplification construction. *Linguistic Discovery* 10(1). 27–41.

Chomsky, Noam. 1970. Remarks on nominalization. In Roderick A. Jacobs & Peter S. Rosenbaum (eds.), *Readings in English transformational grammar*, 184–221. Boston: Ginn.

Cuoq, Jean-André. 1866. *Etudes philologiques sur quelques langues sauvages de l'Amérique*. Montréal: Dawson Brothers, reprinted 1966 by Mouton, La Hague.

Grimshaw, Jane. 2000. Locality and extended projection. In Peter Coopmans, Martin Everaert & Jane Grimshaw (eds.), *Lexical specification and insertion* (Current Issues in Linguistic Theory 197), 115–133. Amsterdam & Philadelphia: John Benjamins Publishing Company.

Jackendoff, Ray. 1977. *X-bar syntax: a study of phrase-structure* (Linguistic Inquiry Monographs 2). Cambridge, MA: MIT Press.

Kamp, Hans & Uwe Reyle. 1993. *From discourse to logic* (Studies in Linguistics and Philosophy 42). Dordrecht: Kluwer.

Koenig, Jean-Pierre & Karin Michelson. 2010. Argument structure of Oneida kinship terms. *International Journal of American Linguistics* 76(2). 169–205.

Koenig, Jean-Pierre & Karin Michelson. 2012. The (non)universality of syntactic selection and functional application. In Christopher Piñón (ed.), *Empirical studies in syntax and semantics*, vol. 9, 185–205. Paris: Centre National de la Recherche Scientifique.

Koenig, Jean-Pierre & Karin Michelson. 2014. Deconstructing SYNtax. In Stefan Müller (ed.), *Proceedings of the 21st conference on Head-driven Phrase-Structure Grammar*, 114–134. Stanford, CA: CSLI Publications.

Koenig, Jean-Pierre & Karin Michelson. 2015. Invariance in argument realization: the case of Iroquoian. *Language* 91(1). 1–47.

Koenig, Jean-Pierre & Karin Michelson. 2020. Quantification in Oneida. In Anne Abeillé & Olivier Bonami (eds.), *Constraint-based syntax and semantics* (CSLI Lecture Notes 223), 123–149. Stanford: CSLI Publications.

Koenig, Jean-Pierre & Karin Michelson. 2021. Specialized-domain grammars and the architecture of grammars: possession in Oneida. *Journal of Linguistics* 57(3). 635–674.

Lakoff, George & Mark Johnson. 1980. *Metaphors we live by*. Chicago: Chicago University Press.

Langacker, Ronald. 1991. *Foundations of cognitive grammar*. Vol. 2. Stanford: Stanford University Press.

Levin, Beth & Malka Rappaport Hovav. 2005. *Argument realization* (Research Surveys in Linguistics). Cambridge, UK: Cambridge University Press.

Lichtenberk, Frantisek. 2000. Inclusory pronominals. *Oceanic Linguistics* 39(1). 1–32.

Michelson, Karin, Norma Kennedy & Mercy Doxtator. 2016. *Glimpses of Oneida life*. Toronto: University of Toronto Press.

Richter, Frank & Manfred Sailer. 2004. Basic concepts of Lexical Resource Semantics. In *ESSLLI 2003 course material*, vol. 5 (Collegium Logicum). Kurt Gödel Society Wien.

Sadler, Louisa & Rachel Nordlinger. 2010. Nominal juxtaposition in Australian languages: an LFG analysis. *Journal of Linguistics* 46(2). 415–452.

Sapir, Edward. 2021. *Language*. Harcourt, Brace & Co.

Ward, Gregory. 2004. Equatives and deferred reference. *Language* 80(2). 262–289.

Woodbury, Anthony C. 2024. Seeing linguistic systems as intellectual, aesthetic, and expressive achievements. *Language* 100(4). 732–775.